

## APPENDIX H

### 2012 Biological Assessment, 2013 Biological Opinion, and Associated Documents

#### H3 Additional Letters

Subject or Pump Station	Sender/Receiver	Date
Big Bend to Witten	USFWS to AECOM	2012 02 08
PS 09	Big Flat to USFWS	2012 12 18
PS 09	USFWS to Big Flat	2013 02 19
PS 09	Big Flat to USFWS	2013 02 25
PS 10 11	NorVal to USFWS	2012 12 18
PS 10 11	USFWS to NorVal	2013 02 19
PS 10 11	NorVal to USFWS	2013 04 08
PS 12	McCone to USFWS	2012 03 01
PS 12	McCone to USFWS	2012 12 21
PS 12	USFWS to McCone	2013 02 19
PS 13	Tongue River to USFWS	2013 01 09
PS 13	USFWS to Tongue River	2013 02 19
PS 13	Tongue River to USFWS	2013 04 10
PS 14	MDU to USFWS	2012 12 28
PS 14	MDU to USFWS	2013 02 06
PS 14	USFWS to MDU	2013 02 19
PS 14	MDU to USFWS	2013 04 24
PS 15 16 17	Grand to USFWS	2013 01 10
PS 15 16 17	USFWS to Grand	2013 01 24
PS 18 19	West Central to USFWS	2012 12 18
PS 18 19	USFWS to West Central	2013 01 24
PS 18 19	West Central to USFWS	2013 02 25
PS 20 21	Rosebud to USFWS	2012 12 18
PS 20 21	USFWS to Rosebud	2013 01 24
PS 22 23 24	NPPD to NGPC	2012 12 27
PS 22 23 24	NPPD to USFWS	2012 12 27
PS 22 23 24 25 26	NPPD to USFWS	2013 03 04
PS 27 29	Westar Energy to USFWS	2012 12 19
PS 27 29	Westar Energy to USFWS	2013 03 04
Greater Sage-Grouse	SDGFP to TransCanada Pipelines Ltd.	2013 03 04

MDU = Montana-Dakota Utilities Co.; NGPC = Nebraska Game and Parks Commission; NPPD = Nebraska Public Power District; PS = pump station; SDGFP = South Dakota Game, Fish, and Parks; USFWS = U.S. Fish and Wildlife Service.

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501-5408



February 8, 2012

Ms. Julie Barraza, Wildlife Biologist  
AECOM  
1601 Prospect Parkway  
Fort Collins, Colorado 80525

Re: Big Bend to Witten 230-kV  
Transmission Project, Tripp County,  
South Dakota

Dear Ms. Barraza:

This letter is in response to a series of discussions about American burying beetles and the construction of the Big Bend to Witten transmission line and Witten substation. The transmission line starts in northern Tripp County and runs north to the Missouri River.

We concur with the following: Surface disturbance south of Highway 18 will be approximately 10 acres, and the majority of this property is cropland. The construction will be occurring in the northern part of the known range for American burying beetles and in habitat (cropland) unsuitable for the American burying beetle. Surveys for American burying beetles are not recommended, and we agree that this project is not likely to adversely affect this species.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the U.S. Fish and Wildlife Service (Service) should be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions regarding these comments, please contact Charlene Bessken of this office at (605) 224-8693, Extension 231.

Sincerely,

Scott V. Larson  
Field Supervisor  
South Dakota Field Office

CMB:se

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# Big Flat Electric Cooperative, Inc.



PO Box 229  
333 S 7th St E  
Malta, MT 59538  
(406) 654-2040

*Serving Blaine, Phillips, & Valley Counties*

December 18, 2012

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

Dear Mr. Cochnar:

Big Flat Electric Co-op., Inc., a power provider located in Malta, Montana, is providing electric service to Pump Station #9 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed are proposed maps of the power lines we intend to permit and build to service the Keystone XL Project. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,

Jeanne Barnard  
Manager  
Big Flat Electric Co-op., Inc.

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.



## United States Department of the Interior Fish and Wildlife Service



Ecological Services  
Montana Field Office  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287  
Phone: (406) 449-5225 Fax: (406) 449-5339

February 19, 2013

Ms. Jeanne Barnard  
Big Flat Electric Cooperative  
P.O. Box 229  
Malta, MT 59538

Dear Ms. Barnard:

This letter responds to your December 18, 2012 letter, received in our office on January 8, 2013, and your request for U.S. Fish and Wildlife Service (Service) comments on Big Flat Electric Cooperative's (Big Flat) proposed electric service line in connection with the proposed Keystone XL pipeline project Pump Site #9 through Phillips County, Montana. Your letter included proposed route maps; information regarding the proposed line configuration, etc. was not provided. Our response comments are authorized under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA)(16 U.S.C. 703 et seq.), as amended, Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*, Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), as amended, and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

We understand that the approximate 62 mile-long 115 kV line is proposed to provide power to Keystone XL's proposed Pump Site #9 in Phillips County. The proposed line would extend between the proposed Pump Site #9, which occurs northeast of Malta approximately 1 mile south of the Canadian border, and a point south of Bowdoin National Wildlife refuge, approximately 11 miles south of U.S. Highway 2. The line would cross the Milk River approximately 3 miles east of Nelson Reservoir.

Our comments and recommendations regarding listed and candidate threatened and endangered species are provided below. Additional recommendations pertaining to eagles and other migratory birds are provided for your consideration in subsequent sections.

### Threatened and Endangered Species

The United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs (DOS) completed a Biological Assessment (BA) for the proposed Keystone XL Project on December 21, 2012. General threatened and endangered species conservation measures that could be applied to power line projects proposed in conjunction with the Keystone XL Project were included in the BA. However, determinations as to which specific conservation measures would be applied to which

specific proposed power lines were not provided in the BA; such determinations were left to further consultation between Service Ecological Services Field Offices and proposed power providers in each affected state. Your December 18, 2012 letter stated that Big Flat will consult with this office on mitigation and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the whooping crane, interior least tern, and piping plover that may occur in specific areas along the proposed power line corridor. Although not specified in your letter, the listed endangered black-footed ferret (included in the BA) should also be included in this consultation. We further recommend that your consultation include the candidate greater sage-grouse and Sprague's pipit, which were also included in the BA.

In accordance with section 7(c) of the Endangered Species Act, the Service has determined that the following listed and candidate species and designated critical habitat may occur in the general proposed Pump Site #10 power line project region:

Scientific Name	Common Name	Status	Montana Range/Habitat
<i>Mustela nigripes</i>	Black-footed Ferret	LE	Prairie dog complexes; eastern Montana
<i>Charadrius melodus</i>	Piping Plover	LT	Missouri River sandbars, alkali wetlands/beaches, Fort Peck Lake; northeastern Montana
		CH	Alkali lakes in Sheridan County; riverine and reservoir shoreline in Garfield, McCone, Phillips, Richland, Roosevelt and Valley counties
<i>Grus americana</i>	Whooping Crane	LE	Wetlands; migrant eastern Montana
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	C	Eastern, central, and southwestern Montana in sagebrush, sagebrush-grasslands, and associated agricultural lands
<i>Anthus spragueii</i>	Sprague's Pipit	C	Grassland habitats with little or no shrub cover east of the Continental Divide

\*LE = Listed Endangered; LT = Listed Threatened; CH = Critical Habitat; C = Candidate Species

Most of the above species have been documented in the general project area. Based on the BA, we understand that no prairie dog towns would be traversed by the proposed route. Consequently, we anticipate no adverse effects to black-footed ferrets as a result of the proposed project. Whooping cranes may occur as rare spring and fall migrants, using suitable stopover habitat in the area. Whooping cranes have been reported in the project vicinity in wetland areas north of U.S. Highway 2 as recently as 2005. Piping plovers are known to nest at Nelson Reservoir and Bowdoin National Wildlife Refuge; the closest documented breeding record occurs along the northeast shore of Nelson Reservoir over 3 miles west of the power line route. A transitory piping plover was observed 2 miles north of the route at the south end of Whitewater Lake in 2005. Direct and indirect Sprague's pipit breeding evidence has been recorded at numerous grassland locations in the immediate project area by the Montana Natural

Heritage Program (MNHP); particularly north of Whitewater. Optimal, moderate, and low potential Sprague's pipit habitat suitability classes, as mapped by the MNHP, appear to be traversed by the proposed route. Greater sage-grouse also occur in the project area; including leks and general habitat. Based on your maps, it appears that the project would not traverse mapped core habitat. According to Appendix N of the BA, greater sage-grouse leks 588 (SG11-29), 1853 (SG11-88), 595 (SG 11-71), 594 (SG 11-73), 593 (SG 11-72), 570 (SG 11-78) occur within 3 miles of the proposed transmission line route. As shown on your project maps, an additional recently discovered lek occurs east of lek 593. Leks 1853 (1 mile), 593 (0.16 mile), unnamed lek east of 593 (0.5 mile), and 520 (0.9 mile) are closest to the proposed alignment. Based on 2010-2012 surveys and other agency data, Appendix N of the BA concludes that all of these leks are active.

Designated piping plover critical habitat occurs in the general proposed project area at the Bowdoin National Wildlife Refuge (see <http://www.fws.gov/mountain-prairie/species/birds/pipingplover/fedreg091102.pdf> for piping plover critical habitat locations), but would not be traversed by the proposed transmission line route.

Candidate species are those placed on the candidate list for future action, meaning those species do not receive statutory protection under the ESA. Candidates are reviewed annually by the Service to determine if they continue to warrant listing or to reassess their listing priority. Ideally, sufficient threats can be removed to eliminate the need for listing. If threats are not addressed or the status of the species declines, a candidate species can move up in priority for a listing proposal. Federal agencies and non-federal applicants can confer with the Service pursuant to section 7(a)(4) of ESA to ensure that their actions do not negatively impact candidate species. Some federal agencies provide the same level of protection to candidate species as proposed or listed species and take appropriate measures to avoid impacts. Candidate species are included in the BA, and it is our understanding that the DOS intends to enact this level of protection relative to the Keystone XL project, including ancillary facilities such as this proposed power line.

If a federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species or critical habitat. If the federal agency or its designated agent determines the action "may affect, is likely to adversely affect" listed species or critical habitat, the responsible federal agency shall request formal section 7 consultation with this office. If the evaluation shows a "may affect, not likely to adversely affect" determination, concurrence from this office is required. If the evaluation shows a "no effect" determination for listed species or critical habitat, further consultation is not necessary. If a private entity receives federal funding for a construction project, or if any federal permit or license is required, the federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat.

As stated above, the proposed Pump Site #9 power line project is included in the ESA section 7 consultation (as documented the BA) underway relative to the overall proposed Keystone XL pipeline project. As such, we expect that all applicable conservation measures identified in the final BA will be implemented relative to this proposed power line project. The following conservation measures are included in the BA and are applicable and recommended relative to this proposed power line project.

Repetitive measures (per the BA) are only listed once. Recommended additions or revisions to these measures pertaining to this power line project, as well as other comments, are indicated in italics:

**Black-footed Ferret:**

- Workers would not be allowed to keep domestic pets in construction camps and/or worksites.
- Workers would be made aware of how canine distemper and sylvatic plague diseases are spread (domestic pets and fleas).
- Workers would not be allowed to feed wildlife.
- Concentrations of dead and/or apparently diseased animals (prairie dogs, ground squirrels, others) would be reported to the appropriate state and federal agencies.

**Whooping Crane:**

- Outside the 95-percent migration corridor: mark new lines within 1 mile of potentially suitable habitat at the discretion of the local Ecological Services Field Office, based on the biological needs of the whooping crane. *Marking is recommended within 0.25 mile of the Milk River and all other open water or emergent wetland areas traversed by the route. We recommend line marking in compliance with the Avian Power Line Interaction Committee's (APLIC) Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*

*We also recommend the following measure:*

- *During construction, if whooping cranes are sighted during spring (approximately April through May) or fall (approximately September through October) migration periods, Big Flat would immediately contact the Service and Montana Fish, Wildlife and Parks (MFWP) for further instruction and require that all human activity and equipment start-up be delayed. Work could proceed if whooping crane(s) leave the area.*

**Piping Plover:** *(the first seven measures would also facilitate potential impact avoidance and minimization relative to the whooping crane):*

- All equipment maintenance and repairs would be performed in upland locations at least 100 feet from waterbodies and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland, if possible.
- Equipment would not be washed in streams or wetlands.
- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials.
- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible, the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup.
- Keystone would mark and maintain a 100-foot area from these river crossings, free from hazardous materials, fuel storage, and vehicle fuel transfers.
- Distribution lines supplying power to pump stations should be marked with bird *diverters*

~~deflectors~~ where within 0.25 mile of the Milk River and all other open water or emergent wetland areas traversed by the route ~~they cross rivers and within 0.25 mile of each side and between rivers and sand and gravel mining areas~~ to reduce potential injury or mortality to piping plovers. We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art in 2012.

- Reroute power lines to avoid construction within 0.5 mile of piping plover nesting areas in alkali wetlands in Montana. We are currently not aware of such nesting areas within 0.5 mile of the proposed route. If such nests are determined to be present, we recommend implementation of this measure.
- Mark new power lines with bird flight diverters (preferably Swan Spiral diverters or Firefly diverters) within 0.25 mile of piping plover nesting sites ~~on river systems and commercial sandpit areas~~. See recommendations under the eighth Piping Plover bullet above for recommended line marking locations.
- If power line construction occurs during the piping plover nesting season (May 1 through August 15), survey potential ~~riverine or sand-pit~~ piping plover nesting areas within 0.25 mile of new power lines and within 2 weeks of (prior to) construction to determine presence of nesting piping plovers. If nesting piping plovers are present, construction would cease until all piping plover chicks fledge from the site. This measure should be applied in suitable wetland habitats within 0.25 mile of the proposed route.

**Greater Sage-Grouse:** The BA includes conservation measures that apply to Keystone project features in Montana. However, it is unclear in the BA as to which measures may apply to proposed pump station power line routes. Similar measures are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 Montana Department of Environmental Quality (MDEQ) Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities.

We recommend that, at a minimum, the following conservation measures be implemented relative to greater sage-grouse. Some are modifications to measures in the BA, some are modifications to measures in the Environmental Specifications, and some are unique to this letter. Big Flat should inform the Service as to any additional potential conservation measures listed in the BA that it intends to enact, including any elements of the sage-grouse mitigation plan in the BA Appendix O.

- The Service generally recommends that transmission lines not be sited within four miles of leks. Where this is not feasible, power lines should be sited to avoid and minimize encroachment on greater sage-grouse leks and important habitats to the extent possible on a case-by-case basis. As feasible, facilities should: 1) be topographically screened from leks, and; 2) be buried where proposed within sight of leks or traversing important habitats.
- Prior to the start of construction, surveys should be conducted to determine the locations and activity of greater sage-grouse leks within three miles of the facility. Survey methods should be approved by the Service, MFWP and Bureau of Land Management (BLM). Results of the surveys should be presented to the Service, MFWP and BLM.
- Incorporating the provisions in BA Appendix O and the MDEQ Environmental Stipulations, construction should be prohibited from March 1 to June 15: 1) within three miles of active greater sage-grouse leks: a) not screened by topography, or b) within suitable nesting habitat

regardless of screening; and 2) within no closer than one mile of any active lek, with the following exceptions:

- a. Equipment may pass as a single group along the permitted right-of-way or approved location through a restricted lek buffer area.
  - b. Equipment should only pass through a restricted lek buffer between 10:00 am and 2:00 pm, to avoid disturbing displaying birds during critical times of the day.
  - c. If major grading is required to pass equipment along the permitted right-of-way or approved location, this grading should take place outside of the March 1 through June 15 restriction period.
  - d. As the equipment passes through the areas, if any large hummocks or rocks impede the travel lane, the lead dozer will lower its blade on the way through to move the obstruction to the side and/or smooth out any larger hummocks or rocks.
- Monitor active leks (displaying males) within 3 miles of the project during any construction between March 1 and June 15; suspend construction until June 16 if construction-related disturbance is noted.
  - Pole and span configurations should be designed to maximize distances between poles and leks.
  - Big Flat should contact BLM, MFWP, and the Service to determine what mitigation measures are needed for a (currently unknown) lek found within the proposed construction ROW and implement those measures.
  - Big Flat should implement reclamation measures (e.g., application of mulch or compaction of soil after broadcast seeding, and reduced seeding rates for non-native grasses and forbs) that favor the establishment of silver sagebrush and big sagebrush in disturbed areas, where compatible with the surrounding land use and habitats, unless otherwise requested by the affected landowner.
  - Unless requested by the affected landowner, Big Flat should use locally adapted sagebrush seed, collected within 100 miles of the areas to be reclaimed, in any sagebrush reclamation.
  - Big Flat should implement measures to reduce or eliminate colonization of reclaimed areas by noxious weeds and invasive annual grasses such as cheatgrass, to the extent that these species do not exist in undisturbed areas adjacent to the right-of-way.
  - Big Flat should comply with all additional measures stipulated by BLM in conjunction with future easement or other authorizations associated with this project in compliance with BLM Instruction Memorandum No. 2012-043, Greater Sage-Grouse Interim Management Policies and Procedures. Such measures may include more restrictive site-specific buffers and timing restrictions, line marking, and perch inhibitor installation.

#### **Sprague's Pipit:**

- Seed disturbance areas in native range with a native seed mix after topsoil replacement.
- Control unauthorized off-road vehicle access to the construction ROW through the use of Signs, fences with locking gates, slash and timber barriers, pipe barriers, boulders lined across the construction ROW; or plant conifers or other appropriate trees or shrubs in accordance with landowner or manager request where such plantings would not diminish the quality of adjacent Sprague's pipit habitat.
- If construction would occur during the April 15 to July 15 grassland ground-nesting bird nesting season, pre-construction nest-drag surveys should be completed to determine the presence or absence of nests where the proposed line traverses native prairie ~~on federal land in~~

~~eastern Montana~~. Alternatively, construction could be completed outside of the nesting season in native prairie habitats.

- Delay construction activity until young have fledged ~~from April 15 to July 15~~ within 330 feet of discovered active *Sprague's pipit* nests in eastern Montana.

We also recommend the following measure:

- The power line should be sited to avoid and minimize encroachment on native prairie habitats as feasible; particularly optimal and moderate potential *Sprague's pipit* habitat suitability classes as mapped by the MNHP (available electronically from MNHP). Where feasible, facilities should be buried where traversing such habitats is unavoidable.

### **Migratory Birds**

The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during construction of transmission lines and appurtenant infrastructure and access, even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans, avian protection plans (APPs), and bird conservation plans, and to implement those measures prior to/during construction.

Executive Order 13186 expressly requires that Federal agencies evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to NEPA "or other established environmental review process;" restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions has, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service.

To minimize the electrocution and collision hazards to birds, we generally recommend that new power lines be buried where feasible. Where this is not feasible, we recommend that any proposed newly constructed or modified overhead power lines or substations be designed and built to the APLIC standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, daytime visual markers should be installed on proposed lines within 0.25 mile of the Milk River and all other open water or emergent wetland areas traversed by the route, and all other areas as recommended during your coordination with MFWP and BLM per techniques outlined in *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012*.

To the maximum extent practicable, project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season. We recommend implementation of at least a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species. If work is proposed to take place during the breeding season or at any other time which may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service further recommends that if field surveys for nesting birds are conducted with the intent of avoiding take during construction, any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be maintained.

Certain activities may require a permit from the Service's Migratory Bird Management Division. Please contact the Region 6 Migratory Bird Permits Office if you are uncertain if activities may result in take of migratory birds, eggs, or nests. Additional information about permits can be found at <http://www.fws.gov/migratorybirds/mbpermits.html>. Service guidance regarding bird nest destruction can be found at <http://www.fws.gov/policy/m0208.pdf>.

### **Bald and Golden Eagles**

The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The BGEPA defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A permit is required for any legal take of bald or golden eagles or their nests (whether occupied or unoccupied). Limited issuance of permits to take bald and golden eagles can be authorized "for the protection of . . . other interests in any particular locality" where the take is compatible with the preservation of the bald eagle and the golden eagle, is associated with and not the purpose of an otherwise lawful activity, and cannot practicably be avoided. No one is required to seek a permit for any activity. However, where an activity results in take, it is a violation of BGEPA unless a permit authorizing that take has been obtained prior to the action.

Both bald and golden eagles occur throughout the general project area year round. Both species have been known to congregate during winter in the general Milk River and Nelson Reservoir areas.

Suspected golden eagle nesting was reported in 2011 west of Whitewater Lake approximately 3 to 5 miles northwest of the proposed line route, and other historically reported golden eagle nests occur in the general area. Based on 2013 Montana Natural Heritage Program data, we are not aware of bald or golden eagle nests within a mile of the proposed route. However, as-yet undetected nests may be present and we recommend a survey for eagle and other raptor nests be conducted within a mile of the proposed line prior to construction. Bald eagle nests are most commonly distributed in trees around the periphery of lakes and large reservoirs, and linearly along forested corridors of major rivers such as the Milk River, usually within 1 mile of shore. Golden eagles generally nest on cliffs or trees; usually in open or semi-open habitat.

During the nesting season, especially early in the season, eagles can be very sensitive to disturbance near the nest site and may abandon the nest as a result of low-level disturbance, even from foot traffic. Where construction is proposed in proximity to a bald eagle nest, concentrated foraging area, or communal roost site, we recommend that at a minimum, Big Flat comply with siting recommendations, seasonal restrictions, and distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)*. A nest buffer of at least 0.5 mile should be maintained for bald eagles. The Service's May 2007, National Bald Eagle Management Guidelines contains additional information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: <http://www.fws.gov/Migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

The Service has not issued golden eagle management guidelines. However, appropriate buffers for nests and other important use areas based on site-specific conditions should be developed in conjunction with this office if project activities are proposed in proximity to such areas. In Montana, the Service generally recommends avoidance of occupied nest site disturbance between January 1 and August 15. Depending on site-specific conditions, the typically recommended 0.5-mile buffer distance for bald eagle important use areas may be inadequate to ensure avoidance of golden eagle disturbance; larger buffers may be warranted. We therefore recommend avoidance of occupied golden eagle territories where practicable; maximizing distances between nests (including alternate nests) and the siting of proposed project features; avoidance of occupied nest site disturbance during the nesting season; and avoidance / minimization of impacts to important golden eagle habitat (e.g., shrub-steppe and native grasslands) within golden eagle territories.

Whether or not an active bald or golden eagle nest is present, we again recommend implementation of measures to address potential avian electrocution or collision along portions of the route, as discussed above, due to eagle and other potential migratory bird activity in the area.

#### **Other Comments**

We strongly recommend continued coordination with MFWP, BLM, and the MNHP. These agencies may be able to provide updated, site-specific information regarding threatened, endangered, and sensitive species; eagle and other raptor nest locations; and other fish and wildlife resources occurring in the proposed project area.

Construction timing and distance buffers for sharp-tailed grouse and several other wildlife species are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 MDEQ Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities. We recommend that Big Flat adhere to these construction timing and distance buffers where applicable and possible.

Sensitive resources that should be considered in final siting of all project facilities include threatened, endangered, and candidate species and their habitat, bald and golden eagle and other migratory bird species nesting and habitat; wetlands; ephemeral, intermittent and permanent streams; naturally wooded draws; sagebrush habitat; and native prairie. Additional general recommendations include:

- No in-stream work should be conducted in the Milk River.
- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels;
- Enact best management practices to avoid and minimize the spread of noxious weeds and other undesirable exotic plant species within the proposed project area;
- Confine the disturbed area along proposed ROWs as narrow as possible, especially in or near sensitive resources such as native prairie, sagebrush habitat, wooded draws, wetlands, and streams; and
- Revegetate disturbed areas with appropriate native species obtained from local sources, as possible.

In conjunction with ESA section 7 consultation process, we request that Big Flat provide the Service a written response regarding Big Flat's intent to apply our recommended conservation measures for listed and candidate threatened and endangered species as provided above under **Threatened and Endangered Species**. Also, as stated above, Big Flat should inform the Service in writing as to any additional potential conservation measures listed in the BA that it intends to enact, including any elements of the sage-grouse mitigation plan in the BA Appendix O. We would also appreciate notification as to what recommendations provided above under **Migratory Birds and Bald and Golden Eagles** Big Flat intends to implement.

Thank you for the opportunity to review and comment on this proposed project. Please telephone Jeff Berglund at 406/449-5225, ext. 206, if you have any questions regarding this matter.

Sincerely,



Brent Esmoil  
Acting Field Supervisor

Big Flat Electric Cooperative, Inc.



PO Box 229  
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Malia, MT 59538  
(406) 654-2040

Serving Blaine, Phillips & Valley Counties

February 25, 2013

U.S Department of Interior  
Fish and Wildlife Service  
Ecological Services  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287

RECEIVED BY

FEB 27 2013

FWS ES FIELD OFFICE

Attention: Jeff Berglund

RE: Comments and recommendations regarding listed and candidate threatened, and endangered species concerning the building of a 115KV transmission line to serve Keystone XL.

Dear Jeff:

In regards to your letter dated February 19, 2013 I offer my formal response on behalf of Big Flat Electric Cooperative.

**Threatened and Endangered Species:**

The following endangered species have been identified in the Biological Assessment (BA).

<i>Mustela nigripes</i>	Black-footed Ferret
<i>Charadrius melodus</i>	Piping Plover
<i>Grus Americana</i>	Whooping Crane
<i>Centrocercus</i>	Greater Sage
<i>Uraphasianus</i>	Grouse
<i>Anthus spragueii</i>	Sprague's Pipit

As previously stated in Big Flat Electric's letter dated December 18, 2012, Big Flat Electric will consult with your office on mitigation and protective measures that can be incorporated into the design of the power line facilities.

**Mustela nigripes Black-footed Ferret:**

There are no prairie dog towns that would be traversed by the proposed route. Please refer to Appendix C which shows the route for the 115 KV transmission line. Consequently, there are no effects to the black-footed ferret.

**Charadrius melodus Piping Plover:**

Big Flat Electric designed and located our transmission line to mitigate sensitive areas to the above species. We moved the line to the east to specifically avoid Charadrius melodus (Piping plover). The U.S. Fish & Wildlife Service Comprehensive Conservation Plan for the Bowdoin National Wildlife Refuge Complex was the blue print we used. According to the map provided (Appendix A) in this report, Big Flat Electric's transmission line is located 3 miles east of any Piping Plover nesting or habitat areas.

**Grus Americana Whooping Crane:**

While there may be a rare migrant, there have been no sightings of any Whooping Cranes in the general area of our transmission line since 2005. Big Flat Electric recognizes that as rare as this occurrence may be, Big Flat intends to use markers and deflectors within 0.25 miles of the Milk River that will be traversed by our line. We will also consult with your office on any other mitigating measures we can make. We already have on file The State of the Art in 2012: Reducing Avian Collisions with Power Lines, (Appendix B) and attended the workshop by the EEI Institute. Immediate consultation will occur with your office if a Whooping Crane is spotted at any time, especially during migration season: April through May or September through October.

**Anthus spragueii Sprague's Pipit:**

Sprague's Pipit breeding evidence has been recorded at numerous grassland locations in the project area by the Montana Natural Heritage Program north of Whitewater. The area is broad in scope and may be traversed by the line. In consultation with your office, all mitigating measures would be taken to avoid disturbance during breeding and nesting periods.

**Centrocercus urophasianus Greater Sage Grouse:**

The Greater Sage Grouse, while not an endangered species, is listed as Candidate and respected as such. Big Flat Electric has identified four areas of sensitivity. Two of those areas are located over 1 mile west of the transmission line. Two of those areas are located within 1 mile of the transmission line. (See map in Appendix C).

To mitigate any adverse effects, Big Flat Electric has taken the following steps.

1. Line Superintendent Darren Demarais has taken an Avian Interactions Workshop from the Edison Electric Institute to better understand how to build and construct power lines in sensitive habitat areas such as the Greater Sage Grouse. On file at our office is the literature for Suggested Practices for Avian Protection on Power Lines. (Appendix B).

2. Consult with local BLM Area Office for specific sites to be avoided.

**Addressing Recommendations:**

**Black Footed Ferret:** Does not apply to the area habitat of transmission line. Immediate notification of any sighting will be reported at once to your office.

**Whooping Crane:** Adopt recommendations of BA:

Outside the 95-percent migration corridor: mark new lines within 1 mile of potentially suitable habitat in consultation with your office. Markings addressed above under Whooping Crane.

**Piping Plover:** Adopt following measures (Also applies to Whooping Crane):

- All equipment maintenance and repairs would be performed in upland locations at least 100 feet from water bodies and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetlands, if possible.
- Equipment would not be washed in streams or wetlands.
- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks introduced supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials.
- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup.
- If nesting plovers are present, construction would cease until all Piping plover chicks fledge from the site.

**Greater Sage-Grouse:**

- \* To avoid and minimize any encroachments on any Sage-Grouse leks to the extent possible.
- \* Consult prior to construction survey conducted to determine the locations and activity of greater sage-grouse leks within three miles of the facility.
- \* Incorporating the provisions in BA Appendix O and the MDEQ Environmental Stipulations, construction should be prohibited from March 1 to June 15<sup>th</sup>.
- \* Big Flat Electric will contact BLM, MFWP to determine what mitigation measures are needed.
- \* Big Flat Electric has already secured a contractor to implement reclamation measures that favor the establishment of silver sagebrush (big sagebrush is not located north of the Milk) and other habitat species designed for sage grouse habitat.
- \* Areas of reclamation will be done by an established contractor in the area using only BLM approved seeds.

**Sprague's Pipit:**

- Big Flat Electric has already secured a contractor to seed disturbance areas in native range with a BLM approved native seed mix.

- Restrict unauthorized off-road vehicle access to construction ROW
- Pre-construction surveys should be coordinated with your office.

**Migratory Birds:**

All new power lines and substations will comply with the recommendations in standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. And *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012* (Appendix B).

Big Flat Electric insures compliance with MFWP, BLM and the MNHP and appreciates the guidance in the construction of our power line to serve Keystone XL. Big Flat Electric respects the sensitive species and habitat occurring in the proposed project area and will take all measures to avoid and mitigate any negative impacts.

Construction timing and distance as outlined above will be strictly enforced as well as application of the above recommendations.

Please contact me with any questions you may have at 406-654-2040.

Respectfully Submitted,



Jeanne Barnard, Manager

Enclosed for your review are the following appendixes:

Enclosed:

Appendix A: Habitat Map – Piping Plover

Appendix B: Course's attended and books

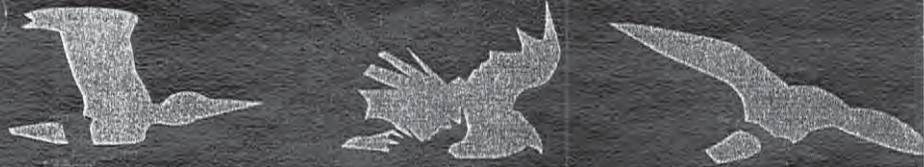
Appendix C: Map identifying sensitive sage grouse areas

# Appendix A

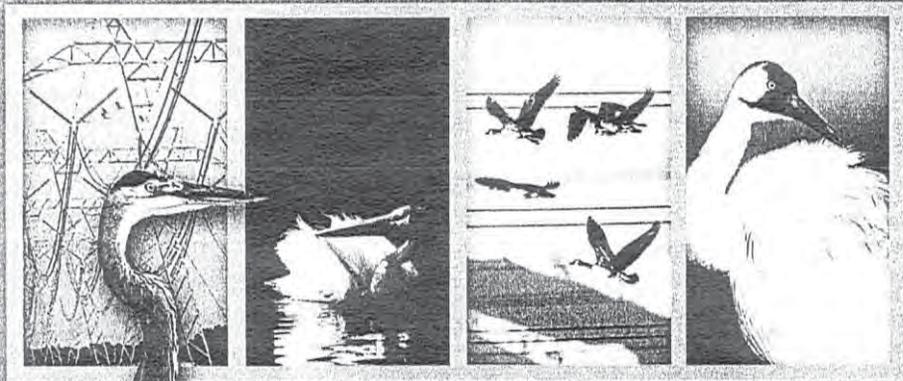
Confidential – Not United States Government classified.

This information is not included in the Final Supplemental EIS.

# Appendix B



# Reducing Avian Collisions with Power Lines



*The State of the Art in 2012*

**EET** Edison Electric  
Institute  
*Power by Association*



Avian Power Line  
Interaction Committee



## Avian Interactions With Power Lines Workshop

October 9-12, 2012 ■ Great Falls ■ Montana



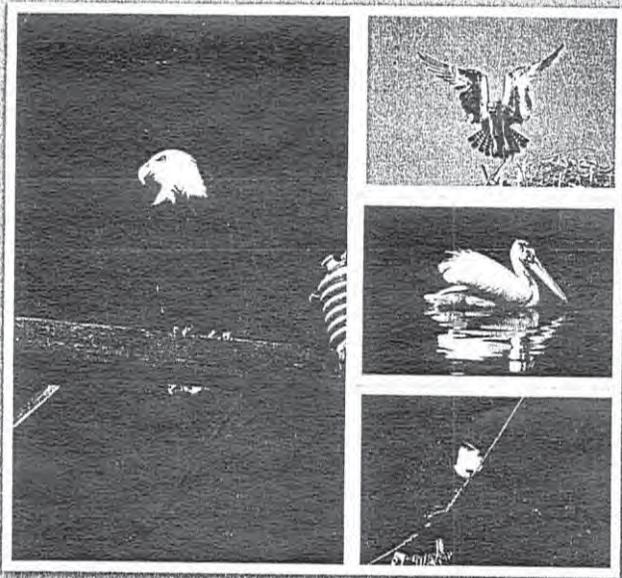
Hosted by

NorthWestern  
Energy



Montana Electric  
Cooperatives' Association  
POWER TOGETHER

# Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006



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EDISON ELECTRIC  
INSTITUTE



Avian  
Power  
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Interaction  
Committee



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**Group Discussion - Development of BMPs for electric utilities  
in sage-grouse habitat**

**Wednesday, October 10, 2012**

**APLIC Short Course**

8:00 – 8:20	<b>Welcome - (TBD)</b>
8:20 – 8:35	<b>Introductions and Course Overview</b> – <i>Peggy Jelen (Arizona Public Service)</i>
8:35 – 8:50	<b>The Issue: History of avian electrocutions, agency and utility efforts, and APLIC resources</b> – <i>Rick Longbery (Edison Electric Institute)</i>
8:50 – 9:40	<b>Laws and Permits: An overview of laws protecting avian species and applicable permits</b> – <i>Terry Thebaud (US Fish &amp; Wildlife Service)</i>
9:40 – 10:10	<b><u>BREAK</u></b>
10:10 – 10:55	<b>Electricity 101: An introduction to electrical systems</b> – (TBD)
10:55 – 11:40	<b>Biological Aspects of Avian Electrocution: An overview of biological factors influencing electrocution risk</b> – <i>Kara Donahue (Southern California Edison &amp; Shreeve Egnoff PacificCorp)</i>
11:45 – 1:00	<b><u>Lunch</u></b>
1:00 – 2:15	<b>Power Line Design and Avian Safety: Avian-safe structure designs for new construction and retrofitting of poles and substations</b> – <i>Bird Loveless (Waste Energy) &amp; Sam Milindragavich (Northwestern)</i>
2:15 – 3:15	<b>Bird Nests on Utility Poles: Species that nest on power poles, reliability impacts, and nest management; vegetation management</b> – <i>Haley Edwards (Purco Sound Energy) &amp; Kara Donahue</i>
3:15 – 3:35	<b><u>Break</u></b>

- 3:35 – 4:20      **Collisions: Causes of avian collisions with power lines and methods for collision reduction** – *Mel Walters (Pge&E) and Energy & Brad Lovelass*
- 4:20 – 4:50      **Avian Protection Plan Guidelines: History of cooperative Utility/agency efforts to reduce bird mortality and improve service reliability** – *Misti Schirmer (Western) & Sherry Liguori*
- 4:50 – 5:00      **Conclusion and Wrap-up for Day 1**
- 5:30 – 7:30      **RECEPTION, POSTER SESSION, AND VENDOR TRADE SHOW (GET YOUR CARD STAMPED FOR A CHANCE AT A FABULOUS DOOR PRIZE)**

**Thursday, October 11, 2012**

**APLIC Short Course (continued), Eagle Session, and Open Business Meeting**

Call-in Number: 1-800-882-3610 passcode 5986041

- 8:00 – 8:10      **Welcome**
- 8:10 – 9:00      **Construction Activities: Minimizing avian impacts associated With utility construction** – *Mike Best (Pacific Gas & Electric) & Misti Schirmer*
- 9:00 – 9:30      **Roundtable: Open discussion and questions on APPs and other and other approaches, development, and implementation**
- 9:30 – 12:00      **Eagle session:**  
 Presentations and Updates by:  
 USFWS *Jeff Berglund, Beth Millspaugh, and Tim Brown: Eagle Conservation Plan Guidelines, Wind Energy Guidelines, Take Permit Applications, Power pole retrofitting (9:30 – 10:40)*

*Spring Oct. 25<sup>th</sup>*

Audubon (*Janet Ellis*) and NaturEner Energy Canada/NaturEner  
USA (*Wesley Capeland*): Rimrock Wind Farm Turbine  
Relocation (10:40 – 11:10)  
APLIC (*Mike Best & Jim Lindbeck*): PG&E & FPL Pole  
Retrofitting Projects (11:10 – 11:40)  
Creating a Montana Avian Protection Working Group: (*Sam  
Mihodragovich*) (11:40 – 12:00)

12:00 – 1:00 **Lunch**

### **Thursday Afternoon - October 11, 2012**

#### **APLIC Open Business Meeting**

Call-in Number: 1-800-882-3610 passcode 5986041

1:00 -1:10      **Welcome – Peggy Jelen**

1:10-1:30      **APLIC 2011 Collision Manual Announcement** (*Dave Bonchard,  
Karin Hill*)

1:30-1:45      **APLIC Webinar Training and Education Workshops** *ALL  
Follow us your thoughts*

1:45- 2:00      **Nest Data Results/SCE Transmission Project** (*Karin Donohue*)

2:00-2:15      **Trumpeter Swan Reintroduction Conservation Plan and Utility  
Involvement** (*Sherry Lignon, Sam Mihodragovich*)

2:15–2:30      **Whooping Crane Sub Committee Update** (*Jim Donohue, Dave  
Bonchard, Misti Schirmer, Brad Lovelace*)

2:30-2:40      **Lesser Prairie Chicken Listing** (*Dave Bonchard-Executive*)

2:40-3:15 Sage Grouse Initiative & APLIC Support *(Live Nudge)*

3:15-4:00 Questions, Concerns, Feedback – On Workshop, Presentations and Discussions - *ALL*

**Friday, October 12, 2012**  
**APLIC Closed Business Meeting**

8:00 – 1:00 *APLIC Members Only*

# Appendix C

Confidential – Not United States Government classified.

This information is not included in the Final Supplemental EIS.



**NorVal Electric  
Cooperative, Inc.**

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December 18, 2012

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

Dear Mr. Cochnar:

NorVal Electric Cooperative, Inc., a power provider located in Glasgow, MT, is providing electric service to Pump Stations 10 and 11 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed are proposed maps of the power lines we intend to permit and build to service the Keystone XL Project. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,

Craig Herbert  
General Manager  
NorVal Electric Cooperative, Inc

POINT OF INTERCONNECTION  
AND COOPERATIVE INTERCONNECTION FACILITIES

Point of Interconnection:

The Point of Interconnection between the NorVal and TransCanada Electrical Facilities at Pump Station #10 shall be at the 115/6.9 kilovolt substation, herein referred to as the Black Coulee Substation. An air break switch (ABS) on the 6.9 kV bus shall be established as the demark point between the two entities.

NorVal shall construct 51.0 miles of 115 kilovolt transmission line from the Fort Peck substation to the pump location (PS #10) located in Section 01, Township 31N, Range 37E.

The NorVal Coal Hill 230Kv / 6.9 kV substation, located at or near Customer pump station #11, and all associated substation electrical equipment required under RUS specifications and approved engineering design standards.

The NorVal 230Kv substation interconnecting the Western Area Power Administration 230 Kv line from Fort Peck to Glendive Montana. This shall be near the Customer's pump station #11 located in Township 25 North, Range 42 East, Section 01.

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.

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## United States Department of the Interior Fish and Wildlife Service



Ecological Services  
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February 19, 2013

Craig Herbert  
NorVal Electric Cooperative  
P.O. Box 951  
Glasgow, MT 59230

Dear Mr. Herbert:

This letter responds to your December 18, 2012 letter, received in our office on January 8, 2013, and your request for U.S. Fish and Wildlife Service (Service) comments on NorVal Electric Cooperative's proposed Black Coulee power line in connection with the proposed Keystone XL pipeline project through Valley County, Montana. We also received a Black Coulee project and past correspondence synopsis (dated December 4, 2012) from Randy Fisher of Heberly and Associates. Our response comments are authorized under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA)(16 U.S.C. 703 et seq.), as amended, Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*, Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), as amended, and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

We understand that the approximate 50 mile-long 115 kV line is proposed to provide power to Keystone XL's proposed Pump Site #10 in Valley County. The line would be constructed using a horizontal post insulator configuration. The proposed line would extend between the proposed Pump Site #10, which occurs approximately 23 miles northwest of Glasgow and 8 miles north of U.S. Highway 2, and the north end of Fort Peck Lake. Wetlands would be spanned, and the line would cross the Milk River east of Glasgow. Portions of the line would parallel Bear Creek Road, U.S. Highway 2, Cut Across Road, and Galpin Road.

Your December 4, 2012 synopsis also indicated that you intend to place a substation adjacent to an existing 230kV transmission line in order to provide power for Keystone XL's proposed Pump Site #11 in McCone County. Provided anti-electrocution measures are provided at the substation, we anticipate no adverse effects to wildlife trust resources to result from its construction.

Our comments and recommendations regarding listed and candidate threatened and endangered species pertaining to the Black Coulee project are provided below. Additional recommendations pertaining to eagles and other migratory birds are provided for your consideration in subsequent sections.

### Threatened and Endangered Species

The United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs (DOS) completed a Biological Assessment (BA) for the proposed Keystone XL Project on December 21, 2012. General threatened and endangered species conservation measures that could be applied to power line projects proposed in conjunction with the Keystone XL Project were included in the BA. However, determinations as to which specific conservation measures would be applied to which specific proposed power lines were not provided in the BA; such determinations were left to further consultation between Service Ecological Services Field Offices and proposed power providers in each affected state. Your December 18, 2012 letter stated that NorVal will consult with this office on mitigation and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the whooping crane, interior least tern, and piping plover that may occur in specific areas along the proposed power line corridor. Although not specified in your letter, the listed endangered black-footed ferret and pallid sturgeon (included in the BA) should also be included in this consultation. We further recommend that your consultation include the candidate greater sage-grouse and Sprague's pipit, which were also included in the BA.

In accordance with section 7(c) of the Endangered Species Act, the Service has determined that the following listed and candidate species and designated critical habitat may occur in the general proposed Black Coulee power line project region:

Scientific Name	Common Name	Status	Montana Range/Habitat
<i>Mustela nigripes</i>	Black-footed Ferret	LE	Prairie dog complexes; eastern Montana
<i>Scaphirhynchus albus</i>	Pallid Sturgeon	LE	Bottom dwelling; Milk, Missouri, Yellowstone rivers, Fort Peck Lake
<i>Charadrius melodus</i>	Piping Plover	LT	Missouri River sandbars, alkali wetlands/beaches, Fort Peck Lake; northeastern Montana
		CH	Alkali lakes in Sheridan County; riverine and reservoir shoreline in Garfield, McCone, Phillips, Richland, Roosevelt and Valley counties
<i>Sterna antillarum athalassos</i>	Interior Least Tern	LE	Yellowstone, Missouri River sandbars, beaches, Fort Peck Lake; eastern Montana
<i>Grus americana</i>	Whooping Crane	LE	Wetlands; migrant eastern Montana
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	C	Eastern, central, and southwestern Montana in sagebrush, sagebrush-grasslands, and associated agricultural lands
<i>Anthus spragueii</i>	Sprague's Pipit	C	Grassland habitats with little or no shrub cover east of the Continental Divide

\*LE = Listed Endangered; LT = Listed Threatened; CH = Critical Habitat; C = Candidate Species

Most of the above species have been documented in the general project area. Based on the BA, we understand that no prairie dog towns would be traversed by the proposed route. Consequently, we anticipate no adverse effects to black-footed ferrets as a result of the proposed project. The pallid sturgeon occurs in the Yellowstone and Missouri River systems, and in 2011 was documented in the Milk River approximately 36 miles upstream from the Milk / Missouri River confluence. Whooping cranes may occur as rare spring and fall migrants, using suitable stopover habitat in the area. A single adult whooping crane was reported in October 1993 in a large, shallow wetland northwest of Fort Peck Lake approximately 7 miles west of the proposed transmission line route. Piping plovers are known to nest along the Missouri River and Fort Peck Lake; the closest documented breeding record occurs along the north shore of Fort Peck Lake within a mile of the south project terminus. Least terns also use these areas; the closest documented breeding record occurs along the northeast shore of Fort Peck Lake approximately 2.5 miles southeast of the south project terminus. Indirect Sprague's pipit breeding evidence has been recorded at several grassland locations in the immediate project area by the Montana Natural Heritage Program (MNHP). Optimal, moderate, and low potential Sprague's pipit habitat suitability classes, as mapped by the MNHP, appear to be traversed by the proposed route. Greater sage-grouse also occur in the project area; leks and core areas occur in the general vicinity. According to Appendix N of the BA, greater sage-grouse leks 1982 (SG20-106), 753 (SG20-060), and 1734 (SG41-014) occur within 3 miles of the proposed transmission line route. Based on inactivity observed during 2010-2012 surveys and other agency data, Appendix N of the BA concludes that leks 753 and 1734 are inactive.

Designated piping plover critical habitat occurs in the general proposed project area along the Missouri River and at Fort Peck Lake (see <http://www.fws.gov/mountain-prairie/species/birds/pipingplover/fedreg091102.pdf> for piping plover critical habitat locations), but would not be traversed by the proposed transmission line route.

Candidate species are those placed on the candidate list for future action, meaning those species do not receive statutory protection under the ESA. Candidates are reviewed annually by the Service to determine if they continue to warrant listing or to reassess their listing priority. Ideally, sufficient threats can be removed to eliminate the need for listing. If threats are not addressed or the status of the species declines, a candidate species can move up in priority for a listing proposal. Federal agencies and non-federal applicants can conference with the Service pursuant to section 7(a)(4) of ESA to ensure that their actions do not negatively impact candidate species. Some federal agencies provide the same level of protection to candidate species as proposed or listed species and take appropriate measures to avoid impacts. Candidate species are included in the BA, and it is our understanding that the DOS intends to enact this level of protection relative to the Keystone XL project; including ancillary facilities such as the proposed Black Coulee power line.

If a federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species or critical habitat. If the Federal agency or its designated agent determines the action "may affect, is likely to adversely affect" listed species or critical habitat, the responsible Federal agency shall request formal section 7 consultation with this office. If the evaluation shows a "may affect, not likely to adversely affect" determination, concurrence from this office is required. If the evaluation shows a "no effect"

determination for listed species or critical habitat, further consultation is not necessary. If a private entity receives federal funding for a construction project, or if any federal permit or license is required, the federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat.

As stated above, the proposed Black Coulee power line project is included in the ESA section 7 consultation (as documented the BA) underway relative to the overall proposed Keystone XL pipeline project. As such, we expect that all applicable conservation measures identified in the final BA will be implemented relative to this proposed power line project. The following conservation measures are included in the BA and are applicable and recommended relative to this proposed power line project. Repetitive measures (per the BA) are only listed once. Recommended additions or revisions to these measures pertaining to the Black Coulee power line project, as well as other comments, are indicated in italics:

**Black-footed Ferret:**

- Workers would not be allowed to keep domestic pets in construction camps and/or worksites.
- Workers would be made aware of how canine distemper and sylvatic plague diseases are spread (domestic pets and fleas).
- Workers would not be allowed to feed wildlife.
- Concentrations of dead and/or apparently diseased animals (prairie dogs, ground squirrels, others) would be reported to the appropriate state and federal agencies.

**Interior Least Tern:** *(the first seven measures would also facilitate potential impact avoidance and minimization relative to the piping plover, whooping crane, and pallid sturgeon):*

- All equipment maintenance and repairs would be performed in upland locations at least 100 feet from waterbodies and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland, if possible.
- Equipment would not be washed in streams or wetlands.
- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials.
- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible, the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup.
- Keystone would mark and maintain a 100-foot area from these river crossings, free from hazardous materials, fuel storage, and vehicle fuel transfers.
- If construction of power lines occurs during the interior least tern nesting season *(May 1 through August 15)*, surveys of potential riverine or sand pit interior least tern nesting areas within 0.25 mile of new power lines and within 2 weeks of *(prior to)* construction to determine

presence of nesting interior least terns. If nesting interior least terns are present, construction would cease until all interior least tern chicks fledged from the site. *This measure should be applied in suitable habitats within 0.25 mile of the proposed route between Fullerton Road and the south project terminus.*

- Distribution lines supplying power to Pump Station 10 ~~23 and Pump Station 24~~ should be marked with bird ~~diverters~~ *deflectors* where *within 0.25 mile of the Milk River, Fort Peck Lake, and all other open water or emergent wetland areas traversed by the route they cross rivers and within 0.25 mile of each side and between rivers and sand and gravel mining areas* to reduce potential injury or mortality to interior least terns. *We recommend line marking in compliance with the Avian Power Line Interaction Committee's (APLIC) Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*

#### Whooping Crane:

- Outside the 95-percent migration corridor: mark new lines within 1 mile of potentially suitable habitat at the discretion of the local Ecological Services Field Office, based on the biological needs of the whooping crane. *Marking is recommended within 0.25 mile of the Milk River, Fort Peck Lake, and all other open water or emergent wetland areas traversed by the route. We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*

*We also recommend the following measure:*

- *During construction, if whooping cranes are sighted during spring (approximately April through May) or fall (approximately September through October) migration periods, NorVal would immediately contact the Service and Montana Fish, Wildlife, and Parks (MFWP) for further instruction and require that all human activity and equipment start-up be delayed. Work could proceed if whooping crane(s) leave the area.*

**Pallid Sturgeon:** *We recommend implementation of the first seven measures listed above under Interior Least tern. In addition:*

- *No in-stream work should be conducted in the Milk River.*

#### Piping Plover:

- Distribution lines supplying power to pump stations should be marked with bird ~~diverters~~ *deflectors* where *within 0.25 mile of the Milk River, Fort Peck Lake, and all other open water or emergent wetland areas traversed by the route they cross rivers and within 0.25 mile of each side and between rivers and sand and gravel mining areas* to reduce potential injury or mortality to piping plovers. *We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*
- Reroute power lines to avoid construction within 0.50 mile of piping plover nesting areas in alkali wetlands in Montana. *We are currently not aware of such nesting areas within 0.5 mile of the proposed route. If such nests are determined to be present, we recommend implementation of this measure.*
- If power line construction occurs during the piping plover nesting season (May 1 through August 15), survey potential riverine or sand pit piping plover nesting areas within 0.25 mile of new power lines and within 2 weeks of (prior to) construction to determine presence of nesting

pipng plovers. If nesting piping plovers are present, construction would cease until all piping plover chicks fledge from the site. *This measure should be applied in suitable habitats within 0.25 mile of the proposed route between Fullerton Road and the south project terminus.*

**Greater Sage-Grouse:** The BA includes conservation measures that apply to Keystone project features in Montana. However, it is unclear in the BA as to which measures may apply to proposed pump station power line routes. Similar measures are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 Montana Department of Environmental Quality (MDEQ) Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities.

We recommend that, at a minimum, the following conservation measures be implemented relative to greater sage-grouse. Some are modifications to measures in the BA, some are modifications to measures in the Environmental Specifications, and some are unique to this letter. NorVal should inform the Service as to any additional potential conservation measures listed in the BA that it intends to enact, including elements of the sage-grouse mitigation plan in the BA Appendix O.

- *The Service generally recommends that transmission lines not be sited within four miles of leks. Where this is not feasible, power lines should be sited to avoid and minimize encroachment on greater sage-grouse leks and important habitats to the extent possible on a case-by-case basis. As feasible, facilities should: 1) be topographically screened from leks, and; 2) be buried where proposed within sight of leks or traversing important habitats.*
- *Consistent with the provisions in BA Appendix O, compensation at \$600 per acre should be provided for power line impacts to core greater sage-grouse habitat not already accounted for in conjunction with proposed pipeline and Pump Site #10 construction.*
- *Prior to the start of construction, surveys should be conducted to determine the locations and activity of greater sage-grouse leks within three miles of the facility. Survey methods should be approved by the Service, MFWP and Bureau of Land Management (BLM). Results of the surveys should be presented to the Service, MFWP and BLM.*
- *Incorporating the provisions in BA Appendix O and the MDEQ Environmental Stipulations, construction should be prohibited from March 1 to June 15: 1) within three miles of active greater sage-grouse leks: a) not screened by topography, or b) within suitable nesting habitat regardless of screening; and 2) within no closer than one mile of any active lek, with the following exceptions:*
  - a. Equipment may pass as a single group along the permitted right-of-way or approved location though a restricted lek buffer area.*
  - b. Equipment should only pass through a restricted lek buffer between 10:00 am and 2:00 pm, to avoid disturbing displaying birds during critical times of the day.*
  - c. If major grading is required to pass equipment along the permitted right-of-way or approved location, this grading should take place outside of the March 1 through June 15 restriction period.*
  - d. As the equipment passes through the areas, if any large hummocks or rocks impede the travel lane, the lead dozer will lower its blade on the way through to move the obstruction to the side and/or smooth out any larger hummocks or rocks.*
- *Monitor active leks (displaying males) within three miles of the project during any construction*

*between March 1 and June 15; suspend construction until June 16 if construction-related disturbance is noted.*

- *Pole and span configurations should be designed to maximize distances between poles and leks.*
- *NorVal should contact BLM, MFWP, and the Service to determine what mitigation measures are needed for a (currently unknown) lek found within the proposed construction ROW and implement those measures.*
- *NorVal should implement reclamation measures (e.g., application of mulch or compaction of soil after broadcast seeding, and reduced seeding rates for non-native grasses and forbs) that favor the establishment of silver sagebrush and big sagebrush in disturbed areas, where compatible with the surrounding land use and habitats, unless otherwise requested by the affected landowner.*
- *Unless requested by the affected landowner, NorVal should use locally adapted sagebrush seed, collected within 100 miles of the areas to be reclaimed, in any sagebrush reclamation.*
- *NorVal should implement measures to reduce or eliminate colonization of reclaimed areas by noxious weeds and invasive annual grasses such as cheatgrass, to the extent that these species do not exist in undisturbed areas adjacent to the right-of-way.*
- *Lines should be marked with bird diverters where within 0.25 mile of Buggy Creek and any additional MFWP-recommended anti-collision wire marking locations resulting from ongoing MFWP review of migratory sage-grouse movements in the project area. We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*
- *NorVal should comply with all additional measures stipulated by BLM in conjunction with future easement or other authorizations associated with this project in compliance with BLM Instruction Memorandum No. 2012-043, Greater Sage-Grouse Interim Management Policies and Procedures. Such measures may include more restrictive site-specific buffers and timing restrictions, line marking, and perch inhibitor installation.*

#### **Sprague's Pipit:**

- *Seed disturbance areas in native range with a native seed mix after topsoil replacement.*
- *Control unauthorized off-road vehicle access to the construction ROW through the use of signs; fences with locking gates; slash and timber barriers, pipe barriers, or boulders lined across the construction ROW; or plant conifers or other appropriate trees or shrubs in accordance with landowner or manager request *where such plantings would not diminish the quality of adjacent Sprague's pipit habitat.**
- *If construction would occur during the April 15 to July 15 grassland ground-nesting bird nesting season, pre-construction nest-drag surveys should be completed to determine the presence or absence of nests ~~where the proposed line traverses native prairie on federal land in eastern Montana.~~ Alternatively, construction could be completed outside of the nesting season in native prairie habitats.*
- *Delay construction activity until young have fledged ~~from April 15 to July 15~~ within 330 feet of discovered active Sprague's pipit nests in eastern Montana.*

*We also recommend the following measure:*

- *The power line should be sited to avoid and minimize encroachment on native prairie habitats as feasible; particularly optimal and moderate potential Sprague's pipit habitat suitability classes as*

*mapped by the MNHP (available electronically from MNHP). Where feasible, facilities should be buried where traversing such habitats is unavoidable.*

### **Migratory Birds**

The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during construction of transmission lines and appurtenant infrastructure and access, even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans, avian protection plans (APPs), and bird conservation plans, and to implement those measures prior to/during construction.

Executive Order 13186 expressly requires that Federal agencies evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to NEPA "or other established environmental review process;" restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions has, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service.

To minimize the electrocution and collision hazards to birds, we generally recommend that new power lines be buried where feasible. Where this is not feasible, we recommend that any proposed newly constructed or modified overhead power lines or substations be designed and built to the APLIC standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, daytime visual markers should be installed on proposed lines within 0.25 mile of the Milk River, Fort Peck Lake, all other open water or emergent wetland areas traversed by the route, and all other areas as recommended during your coordination with MFWP and BLM per techniques outlined in *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012*.

To the maximum extent practicable, project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season. We recommend implementation of at least a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species. If work is proposed to take place during the breeding season or at any other time which may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not

be removed. The Service further recommends that if field surveys for nesting birds are conducted with the intent of avoiding take during construction, any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be maintained.

Certain activities may require a permit from the Service's Migratory Bird Management Division. Please contact the Region 6 Migratory Bird Permits Office if you are uncertain if activities may result in take of migratory birds, eggs, or nests. Additional information about permits can be found at <http://www.fws.gov/migratorybirds/mbpermits.html>. Service guidance regarding bird nest destruction can be found at <http://www.fws.gov/policy/m0208.pdf>.

### **Bald and Golden Eagles**

The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The BGEPA defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A permit is required for any legal take of bald or golden eagles or their nests (whether occupied or unoccupied). Limited issuance of permits to take bald and golden eagles can be authorized "for the protection of . . . other interests in any particular locality" where the take is compatible with the preservation of the bald eagle and the golden eagle, is associated with and not the purpose of an otherwise lawful activity, and cannot practicably be avoided. No one is required to seek a permit for any activity. However, where an activity results in take, it is a violation of BGEPA unless a permit authorizing that take has been obtained prior to the action.

Both bald and golden eagles occur in the general project area year round. Both species have been known to congregate during winter at the north end of Fort Peck Lake. Based on 2013 Montana Natural Heritage Program data, we are not aware of bald or golden eagle nests within a mile of the proposed route. However, as-yet undetected nests may be present and we recommend a survey for eagle and other raptor nests be conducted within a mile of the proposed line prior to construction. Bald eagle nests are most commonly distributed in trees around the periphery of lakes and large reservoirs, and linearly along forested corridors of major rivers such as the Milk and Missouri rivers, usually within 1 mile of shore. Golden eagles generally nest on cliffs or trees; usually in open or semi-open habitat.

During the nesting season, especially early in the season, eagles can be very sensitive to disturbance near the nest site and may abandon the nest as a result of low-level disturbance, even from foot traffic. Where construction is proposed in proximity to a bald eagle nest, concentrated foraging area, or communal roost site, we recommend that at a minimum, NorVal comply with siting recommendations, seasonal restrictions, and distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)*. A nest buffer of at least 0.5 mile should be maintained for bald eagles. The Service's May 2007, National Bald Eagle Management Guidelines contains additional information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: <http://www.fws.gov/Migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

The Service has not issued golden eagle management guidelines. However, appropriate buffers for nests and other important use areas based on site-specific conditions should be developed in conjunction with this office if project activities are proposed in proximity to such areas. In Montana, the Service generally recommends avoidance of occupied nest site disturbance between January 1 and August 15. Depending on site-specific conditions, the typically recommended 0.5-mile buffer distance for bald eagle important use areas may be inadequate to ensure avoidance of golden eagle disturbance; larger buffers may be warranted. We therefore recommend avoidance of occupied golden eagle territories where practicable; maximizing distances between nests (including alternate nests) and the siting of proposed project features; avoidance of occupied nest site disturbance during the nesting season; and avoidance / minimization of impacts to important golden eagle habitat (e.g., shrub-steppe and native grasslands) within golden eagle territories.

Whether or not an active bald or golden eagle nest is present, we again recommend implementation of measures to address potential avian electrocution or collision along portions of the route, as discussed above, due to eagle and other potential migratory bird activity in the area.

#### **Other Comments**

We strongly recommend continued coordination with MFWP, BLM, and the MNHP. These agencies may be able to provide updated, site-specific information regarding threatened, endangered, and sensitive species; eagle and other raptor nest locations; and other fish and wildlife resources occurring in the proposed project area.

Construction timing and distance buffers for sharp-tailed grouse and several other wildlife species are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 MDEQ Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities. We recommend that NorVal adhere to these construction timing and distance buffers where applicable and possible.

We support the recommendations provided by MFWP in their coordination with NorVal to date. Sensitive resources that should be considered in final siting of all project facilities include threatened, endangered, and candidate species and their habitat, bald and golden eagle and other migratory bird species nesting and habitat; wetlands; ephemeral, intermittent and permanent streams; naturally wooded draws; sagebrush habitat; and native prairie. Additional general recommendations include:

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels;
- Enact best management practices to avoid and minimize the spread of noxious weeds and other undesirable exotic plant species within the proposed project area;
- Confine the disturbed area along proposed ROWs as narrow as possible, especially in or near sensitive resources such as native prairie, sagebrush habitat, wooded draws, wetlands, and streams; and
- Revegetate disturbed areas with appropriate native species obtained from local sources, as possible.

In conjunction with ESA section 7 consultation process, we request that NorVal provide the Service a written response regarding NorVal's intent to apply our recommended conservation measures for listed and candidate threatened and endangered species as provided above under **Threatened and Endangered Species**. Also, as stated above, NorVal should inform the Service in writing as to any additional potential conservation measures listed in the BA that it intends to enact, including any elements of the sage-grouse mitigation plan in the BA Appendix O. We understand that NorVal intends to enact the measures listed in their Black Coulee project and past correspondence synopsis (dated December 4, 2012). We would also appreciate notification as to what recommendations provided above under **Migratory Birds and Bald and Golden Eagles** NorVal intends to implement.

Thank you for the opportunity to review and comment on this proposed project. Please telephone Jeff Berglund at 406/449-5225, ext. 206, if you have any questions regarding this matter.

Sincerely,



Brent Esmoil  
Acting Field Supervisor

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April 8, 2013

United States Department of the Interior  
Fish and Wildlife Service  
Ecological Services  
Montana Field Office  
Attn: Jeff Berglund  
585 Shepard Way, Suite 1  
Helena, MT 59601

Re: NorVal Electric Cooperative, Inc.  
Black Coulee Transmission Line

Dear Jeff:

Thank you for your letter of February 19, 2013, commenting on the transmission line of NorVal Electric Cooperative, Inc. Let me first note that it was appreciated that the content of your letter addressed actual concerns immediately associated with the transmission line and corridor rather than every possible species for a hundred miles around. Narrowing the field and calling out specific concerns has helped greatly in our efforts to address these areas and develop a solution.

NorVal Electric accepts your letter and will follow all recommendations as closely as possible. Changes and clarifications are noted below.

**Increase Number and Locations of Bird Flight Diverters** - NorVal will increase the number of Bird Flight Diverters to include all locations where the power line comes within .25 miles on either side of the Milk River to reduce incidences of avian collisions. Additional Bird Flight Diverters will be placed for .25 miles on either side of two unnamed reservoirs

**Precautions for Black Footed Ferret** - The area suspect of being habitat for the Prairie dog and the black footed ferret has been assessed by personnel from the Glasgow office of the Montana Fish Wildlife and Parks. There is no indication of either the Prairie dog or the black footed ferret anywhere along the transmission line corridor. We accept your assessment that no adverse effect to any black footed ferrets would be anticipated. No further action will be taken.

**Precautions near Milk River for pallid Sturgeon** - The February 19, 2013 letter stated the pallid sturgeon was listed in the Biological Assessment as being in the Yellowstone and Missouri River systems, and documented occurrences in the Milk River above where the transmission line will cross. The construction practices used for crossing a small river like the Milk River will not necessitate any equipment or machinery

crossings. There will be minor foot traffic on either side, which amounts to throwing a length of mule tape, used for drawing the cable through the sheaves on the insulators, from one side of the river to the other. There will be no disturbance on either riverbank other than boot tracks. There will be no vegetation disturbed and the water will not be muddied. No further action will be taken.

**Noxious Weeds** – There are areas of noxious weed infestations indicated by the original survey. The local Weed District Supervisor has been notified of the route and of a commitment to make sure the equipment used does not contribute to the spread of any noxious weeds. He has been provided with a map of areas revealed to us and will be on hand during the initial phases of construction to assist the construction in BMP's to avoid spread. Washing of equipment will be done as needed.

**Greater Sage Grouse Concerns** - It seems the greater sage grouse garners the greatest amount of attention along the corridor of the transmission line. One issue is the proximity of the activities associated with the power line to sage grouse leks causing disturbance to their habitat. The second is the power line providing perches for birds of prey to hunt the sage grouse. Of the three leks that are within the three-mile radius of the power line, two of them have been determined to be abandoned. The third is in an area that has already been addressed by the Keystone XL pipeline. The power line in this area is only 0.5 miles from the proposed pipeline and is across a county road for a portion of this distance. This insulators listed in the letter are called out as horizontal post insulators. The insulators that will be used are actually angled upward at a twenty degree angle. It has been suggested that this angle and the type of insulator being used is less accommodating to raptor perching.

Using maps obtained from the Montana Fish Wildlife & Parks, the locations of the three leks at the north end of the transmission line were placed on Google Maps. Using features in Google Earth a profile was developed from the site of the lek to the nearest point on the proposed transmission line. In all cases, the transmission line will be hidden from view of the lek (See attachments). Other than maintaining a watch for any new activity, no additional measures will be taken.

**Additional Bird Species** – There are additional bird species listed in the letter, Whooping Crane, Piping Plover, interior least tern, migratory birds, and Sprague's pipit, that have to be addressed. However, the same measures to protect them, their flight paths, and their habitat are already being implemented on behalf of aforementioned species. In an email from the Montana Fish Wildlife and Parks, no known nesting sites were reported in the area of the transmission line. No additional measures will be taken.

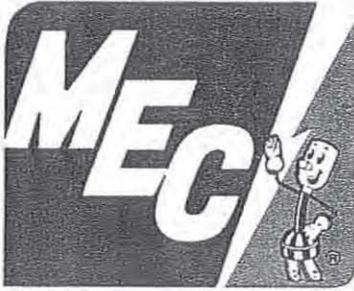
**Additional Measures** – It is not impossible that during construction additional measures may become necessary. These include but are not limited to: Additional Bird Flight Diverters if areas or flight patterns dictate. Timing of construction in certain areas may have to be adjusted to accommodate activities or discoveries.

NorVal Electric Cooperative, Inc. has and will continue to work closely with MFWP, BLM, and the Montana Natural Heritage Program (MNHP). NorVal will observe and adhere, as much as possible as it pertains to transmission line construction, to construction timing and distance buffers for sharp-tailed grouse and other wildlife species as stipulated in the 168 page Attachment 1B of the March 30, 2012 MDEQ Certificate of Compliance under the Major Facility Siting Act, and to the recommendations as outlined on page four of the February 19<sup>th</sup>, 2013 letter from the US Fish and Wildlife Service.

A handwritten signature in blue ink that reads "Craig Herbert". The signature is written in a cursive style with a large initial "C" and "H".

Craig Herbert  
General Manager  
NorVal Electric Cooperative, Inc.

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.



**McCONE ELECTRIC CO-OP., INC.**

P.O. Box 368  
CIRCLE, MONTANA 59215  
www.mcconeelectric.coop

TELEPHONE (406) 485-3430  
(800) 684-3605  
FAX (406) 485-3397

March 1, 2013

Brent Esmoil  
U.S. Fish and Wildlife Service  
Ecological Services  
585 Shepard Way, Suite 1  
Helena, MT 59601-6287

RECEIVED BY  
MAR 8 2013  
FWS ES FIELD OFFICE

Dear Mr. Esmoil:

This letter is in response to your February 19, 2013, regarding McCone Electric Cooperative's service line in connection with the proposed Keystone XL Pipeline project. McCone will comply with the environmental stipulations lined out in the Keystone EIS.

McCone Electric Cooperative intends to comply with the Services recommended conservation measures regarding the **Black Footed Ferret** as follows:

- Workers will not be allowed to keep domestic pets in construction camps and/or worksites.
- Workers will be made aware of how canine distemper and sylvatic plague disease are spread, via domestic pets and fleas.
- Workers will not feed wildlife.
- Concentrations of dead and/or apparently diseased animals will be reported to the appropriate state and federal agencies.

McCone Electric Cooperative intends to comply with the Services recommended conservation measures regarding the **Whooping Crane** as follows:

- All equipment maintenance and repairs will be performed in upland locations at least 100 feet from water bodies and wetlands
- All equipment will be parked overnight at least 100feet from a watercourse or wetland.



- Equipment will not be washed in streams or wetlands.
- Construction and restoration will be conducted to allow for prompt and effective cleanup of spills of fuel or other hazardous materials.
- Each construction and cleanup crew will have the necessary tools and materials to stop leaks, including but not limited to absorbent and barrier materials.
- Refueling and lubrication of equipment will be restricted to upland areas at least 100 feet away from streams and wetlands.
- A 100 foot area around the river crossings will be kept free from hazardous material, fuel storage, and vehicle fuel transfers.
- The line within 0.25 miles of both Buffalo Springs Creek and the Redwater River, will be marked in compliance with APLIC's *Reducing Avian Collisions with Power Lines, State of the Art in 2012*.
- If whooping cranes are sighted during spring or fall migrations periods, McCone will immediately contact the Service and Montana Fish, Wildlife and Parks for further instruction. Activity would be delayed until the whooping cranes leave the area.

McCone Electric Cooperative intends to comply with the Services recommended conservation measures regarding the **Sprague's Pipit** as follows:

- Disturbed areas will be reseeded with a native seed mix after topsoil replacement.
- Access to the ROW will be controlled, via fences with locking gates, signs, and fences.
- If active Sprague's pipit's nests are discovered, construction activity will be delayed within 330 feet of the nest, until the young have fledged.
- If possible construction activities will take place out side of the April 15 - July 15 ground nesting season.
- The power line will be sited to avoid and minimize encroachment on native prairie habitats.

McCone Electric Cooperative intends to comply with the Services recommended conservation measures regarding the **Migratory Birds and Bald Eagles** as follows:

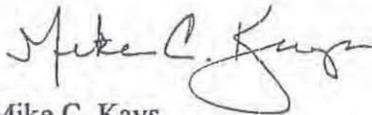
- The overhead power lines will be constructed and built to the APLIC standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Attached is an example of a pole that will be used in the construction of the line.
- Visual Markers will be installed on the lines within 0.25 miles of Buffalo Springs Creek and the Redwater River per Techniques outlined in *Mitigating Bird Collisions with Power Lines: The state of the Art in 2012*.
- If possible, construction will be scheduled to not disrupt nesting raptors or other migratory bird during the breeding season.

- If a bald or golden eagle nest is discovered during construction activities, McCone will comply with the siting recommendations, seasonal restrictions and distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plane (1994)*

McCone Electric Cooperate agrees to do the following:

- Install and maintain appropriate erosion control measures adjacent to wetlands and stream channels;
- Enact BMP's to avoid and minimize the spread of noxious weeds and other exotic plant species;
- Confine disturbed area along ROWs as narrow as possible; and
- Re-vegetate disturbed areas with appropriate native species.

Sincerely,  
McCone Electric Co-op., Inc.



Mike C. Kays  
General Manager

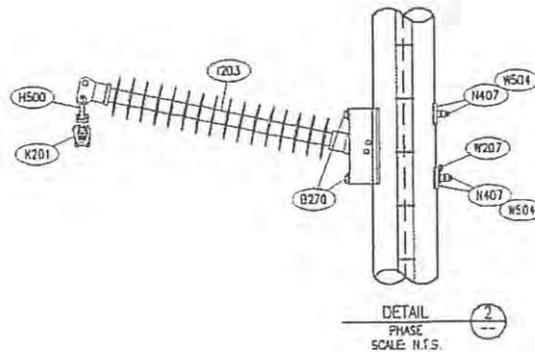
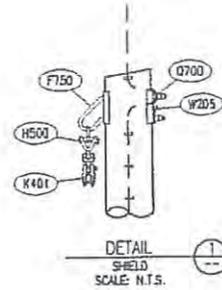
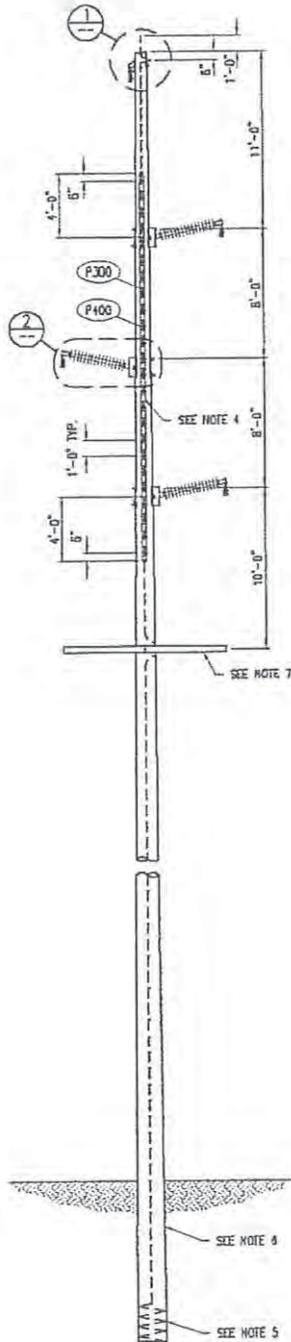
Attachment: Sample Pole Framing Construction Drawing

TP-115 LIST OF MATERIALS

ITEM	REQ.	DESCRIPTION
B270	6	BOLT, MACHINE, 7/8" X REQ'D LENGTH
F750	1	SHIELD WIRE SUPPORT, (2) 5/8" X REQ'D LENGTH THROUGH BOLTS
H500	4	BALL, Y-CLEVIS, 3 3/32" LONG, 3/4" DIA, 30K LBS
I203	3	INSULATOR, HORIZONTAL POST, 2-HOLE LONG BLADE
K201	3	CLAMP, DOUBLE GROOVE, SUSPENSION, 336 TO 477 ACSR RANGE, 25K LBS W/ SOCKET EYE
K401	1	CLAMP, IRON SUSPENSION, 0.20 - 0.46 RANGE, 16K LBS, W/ SOCKET EYE
H407	6	NUT, LOCK, WF TYPE, 7/8"
P300	3	MOULDING, GROUND WIRE, 1 11/16" X 1 3/16" X 8'-0"
P400	27	MOULDING, STAPLES, 3" X 1 11/16"
O700	1	CLAMP, GROUND BOND, FOR 5/8" BOLT, 3/16" - 3/8" WIRE RANGE
W205	1	WASHER, SPRING, 1 1/16" HOLE
W207	3	WASHER, SPRING, 1 5/16" HOLE
W504	6	WASHER, SO. CURVED, 4" X 1/4", 1 5/16" HOLE

NOTES:

- FIELD DRILLED HOLES SHALL BE THOROUGHLY TREATED.
- STRENGTH LIMITATIONS OF HORIZONTAL POST:
  - A. MAXIMUM CANTILEVER LOAD 1,625 LBS
  - B. MAXIMUM TENSILE & COMPRESSION 7,500 LBS (LOADS A & B ARE SIMULTANEOUS)
- FOR STRENGTH LIMITATIONS OF OHGW SUPPORT ASSEMBLY, SEE TM-6.
- GROUND WIRE MOULDING MUST BE FLUSH AGAINST THE POLE WITH NO GAPS BETWEEN THE MOULDING AND THE POLE.
- SEE TM-9 FOR POLE GROUNDING DETAILS.
- SEE TM-101 FOR SELECT BACKFILL SPECIFICATIONS.
- INSTALLATION OF DISTRIBUTION ASSEMBLY BY OTHERS.



TRANSMISSION LINE STRUCTURE  
TANGENT HORIZONTAL LINE POST  
DISTRIBUTION UNDERBUILD

REFERENCE SHEET  
1 OF 1  
COURTESY  
TP-115



HDR Engineering, Inc.

PROJECT TITLE

SHEET TITLE

TRANSMISSION LINE STRUCTURE  
TANGENT HORIZONTAL LINE POST  
DISTRIBUTION UNDERBUILD

PROJECT NUMBER

PROJECT MANAGER  
R. JACKSON

DATE

REFERENCE SHEET

1 OF 1

REFERENCE DOCUMENT  
TP115-T2397-002.dwg

EXHIBIT NUMBER

TP-115

December 21, 2012

Mr. John Cochnar, Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

Dear Mr. Cochnar:

McCone Electric Co-op., Inc., a power provider located in Circle, MT, is providing electric service to Pump Station 12 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed is a proposed map of the power lines we intend to permit and build to service the Keystone XL Project. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,  
McCone Electric Co-op., Inc.

Mike C. Kays  
General Manager

Enclosure:

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.



## United States Department of the Interior Fish and Wildlife Service



Ecological Services  
Montana Field Office  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287  
Phone: (406) 449-5225 Fax: (406) 449-5339

February 19, 2013

Mike C. Kays  
McCone Electric Cooperative  
P.O. Box 368  
Circle, MT 59215

Dear Mr. Kays:

This letter responds to your December 21, 2012 letter, received in our office on January 8, 2013, and your request for U.S. Fish and Wildlife Service (Service) comments on McCone Electric Cooperative's (McCone) proposed electric service line in connection with the proposed Keystone XL pipeline project Pump Site #12 through McCone County, Montana. Your letter included proposed route maps; information regarding the proposed line configuration, etc. was not provided. Our response comments are authorized under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA)(16 U.S.C. 703 et seq.), as amended, Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*, Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), as amended, and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

We understand that the approximate 5 mile-long 115 kV line is proposed to provide power to Keystone XL's proposed Pump Site #12 in McCone County. The line would cross Buffalo Springs Creek and the Redwater River. It is also our understanding that this proposed power line is subject to the provisions of the March 30, 2012 Montana Department of Environmental Quality (MDEQ) Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities, including its Attachment 1B (Environmental Stipulations). Our comments and recommendations regarding listed and candidate threatened and endangered species are provided below. Additional recommendations pertaining to eagles and other migratory birds are provided for your consideration in subsequent sections.

### **Threatened and Endangered Species**

The United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs (DOS) completed a Biological Assessment (BA) for the proposed Keystone XL Project on December 21, 2012. General threatened and endangered species conservation measures that could be applied to power line projects proposed in conjunction with the Keystone XL Project were included in the BA. However, determinations as to which specific conservation measures would be applied to which

specific proposed power lines were not provided in the BA; such determinations were left to further consultation between Service Ecological Services Field Offices and proposed power providers in each affected state. Your December 21, 2012 letter stated that McCone will consult with this office on mitigation and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the whooping crane, interior least tern, and piping plover that may occur in specific areas along the proposed power line corridor. We do not anticipate that the interior least tern or piping plover occur in the project area. Although not specified in your letter, the listed endangered black-footed ferret (included in the BA) should also be included in this consultation. We further recommend that your consultation include the candidate greater sage-grouse and Sprague's pipit, which were also included in the BA.

In accordance with section 7(c) of the Endangered Species Act, the Service has determined that the following listed and candidate species and designated critical habitat may occur in the general proposed Pump Site #12 power line project region:

Scientific Name	Common Name	Status	Montana Range/Habitat
<i>Mustela nigripes</i>	Black-footed Ferret	LE	Prairie dog complexes; eastern Montana
<i>Grus americana</i>	Whooping Crane	LE	Wetlands; migrant eastern Montana
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	C	Eastern, central, and southwestern Montana in sagebrush, sagebrush-grasslands, and associated agricultural lands
<i>Anthus spragueii</i>	Sprague's Pipit	C	Grassland habitats with little or no shrub cover east of the Continental Divide

\*LE = Listed Endangered; C = Candidate Species

Based on the BA, we understand that no prairie dog towns would be traversed by the proposed route. Consequently, we anticipate no adverse effects to black-footed ferrets as a result of the proposed project. Whooping cranes may occur as rare spring and fall migrants, using suitable stopover habitat in the area. The project occurs within the general breeding range of the Sprague's pipit, and general year-round range of the greater sage-grouse. Potential Sprague's pipit habitat suitability in the project vicinity is classified as low to not suitable by the Montana Natural Heritage Program (MNHP). According to Appendix N of the BA, no greater sage-grouse leks or core habitat occur within several miles of the proposed transmission line route.

Candidate species are those placed on the candidate list for future action, meaning those species do not receive statutory protection under the ESA. Candidates are reviewed annually by the Service to determine if they continue to warrant listing or to reassess their listing priority. Ideally, sufficient threats can be removed to eliminate the need for listing. If threats are not addressed or the status of the species declines, a candidate species can move up in priority for a listing proposal. Federal agencies and non-federal applicants can conference with the Service pursuant to section 7(a)(4) of ESA to ensure that their actions do not negatively impact candidate species. Some federal agencies provide the same level of protection to candidate species as proposed or listed species and take appropriate measures to

avoid impacts. Candidate species are included in the BA, and it is our understanding that the DOS intends to enact this level of protection relative to the Keystone XL project; including ancillary facilities such as the proposed power line.

If a federal agency authorizes, funds, or carries out a proposed action, the responsible federal agency, or its delegated agent, is required to evaluate whether the action “may affect” listed species or critical habitat. If the federal agency or its designated agent determines the action “may affect, is likely to adversely affect” listed species or critical habitat, the responsible federal agency shall request formal section 7 consultation with this office. If the evaluation shows a “may affect, not likely to adversely affect” determination, concurrence from this office is required. If the evaluation shows a “no effect” determination for listed species or critical habitat, further consultation is not necessary. If a private entity receives federal funding for a construction project, or if any federal permit or license is required, the federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat.

As stated above, the proposed power line project is included in the ESA section 7 consultation (as documented the BA) underway relative to the overall proposed Keystone XL pipeline project. Also, as an “associated facility”, the power line is subject to the provisions of the March 30, 2012 MDEQ Environmental Quality Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities, including its Attachment 1B (Environmental Stipulations). As such, we expect that all applicable conservation measures identified in the final BA and the Environmental Stipulations will be implemented relative to this proposed power line project.

The following conservation measures are included in the BA and are applicable and recommended relative to this proposed power line project. Repetitive measures (per the BA) are only listed once. Recommended additions or revisions to these measures pertaining to the power line project, as well as other comments, are indicated in italics. Measures in the Environmental Stipulations are not repeated below as they are expected to be implemented for these species where applicable.

**Black-footed Ferret:**

- Workers would not be allowed to keep domestic pets in construction camps and/or worksites.
- Workers would be made aware of how canine distemper and sylvatic plague diseases are spread (domestic pets and fleas).
- Workers would not be allowed to feed wildlife.
- Concentrations of dead and/or apparently diseased animals (prairie dogs, ground squirrels, others) would be reported to the appropriate state and federal agencies.

**Whooping Crane:**

- All equipment maintenance and repairs would be performed in upland locations at least 100 feet from waterbodies and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland, if possible.
- Equipment would not be washed in streams or wetlands.

- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials.
- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible, the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup.
- Keystone would mark and maintain a 100-foot area from these river crossings, free from hazardous materials, fuel storage, and vehicle fuel transfers.
- Outside the 95-percent migration corridor: mark new lines within 1 mile of potentially suitable habitat at the discretion of the local Ecological Services Field Office, based on the biological needs of the whooping crane. *Marking is recommended within 0.25 mile of Buffalo Springs Creek and the Redwater River. We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*

*We also recommend the following measure:*

- *During construction, if whooping cranes are sighted during spring (approximately April through May) or fall (approximately September through October) migration periods, McCone would immediately contact the Service and Montana Fish, Wildlife, and Parks (MFWP) for further instruction and require that all human activity and equipment start-up be delayed. Work could proceed if whooping crane(s) leave the area.*

**Greater Sage-Grouse:** *We recommend no additional greater sage-grouse measures to those contained in the Environmental Stipulations:*

**Sprague's Pipit:**

- Seed disturbance areas in native range with a native seed mix after topsoil replacement.
- Control unauthorized off-road vehicle access to the construction ROW through the use of signs; fences with locking gates; slash and timber barriers, pipe barriers, or boulders lined across the construction ROW; or plant conifers or other appropriate trees or shrubs in accordance with landowner or manager request *where such plantings would not diminish the quality of adjacent Sprague's pipit habitat.*
- Delay construction activity until young have fledged ~~from April 15 to July 15~~ within 330 feet of discovered active *Sprague's pipit* nests in eastern Montana.

*We also recommend the following measures:*

- *To the extent feasible, complete construction in native prairie habitats outside of the April 15 to July 15 grassland ground-nesting bird nesting season.*
- *The power line should be sited to avoid and minimize encroachment on native prairie habitats as feasible.*

## Migratory Birds

The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during construction of transmission lines and appurtenant infrastructure and access, even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans, avian protection plans (APPs), and bird conservation plans, and to implement those measures prior to/during construction.

Executive Order 13186 expressly requires that Federal agencies evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to NEPA "or other established environmental review process;" restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions has, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service.

To minimize the electrocution and collision hazards to birds, we generally recommend that new power lines be buried where feasible. Where this is not feasible, we recommend that any proposed newly constructed or modified overhead power lines or substations be designed and built to the APLIC standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, daytime visual markers should be installed on proposed lines within 0.25 mile of Buffalo Springs Creek and the Redwater River per techniques outlined in *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012*.

To the maximum extent practicable, project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season. We recommend implementation of at least a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species. If work is proposed to take place during the breeding season or at any other time which may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service further recommends that if field surveys for nesting birds are conducted with the intent of avoiding take during construction, any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be maintained.

Certain activities may require a permit from the Service's Migratory Bird Management Division. Please contact the Region 6 Migratory Bird Permits Office if you are uncertain if activities may result in take of migratory birds, eggs, or nests. Additional information about permits can be found at <http://www.fws.gov/migratorybirds/mbpermits.html>. Service guidance regarding bird nest destruction can be found at <http://www.fws.gov/policy/m0208.pdf>.

### **Bald and Golden Eagles**

The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The BGEPA defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A permit is required for any legal take of bald or golden eagles or their nests (whether occupied or unoccupied). Limited issuance of permits to take bald and golden eagles can be authorized "for the protection of . . . other interests in any particular locality" where the take is compatible with the preservation of the bald eagle and the golden eagle, is associated with and not the purpose of an otherwise lawful activity, and cannot practicably be avoided. No one is required to seek a permit for any activity. However, where an activity results in take, it is a violation of BGEPA unless a permit authorizing that take has been obtained prior to the action.

Based on 2013 Montana Natural Heritage Program data, we are not aware of bald or golden eagle nests within a mile of the proposed route. However, as-yet undetected nests may be present. During the nesting season, especially early in the season, eagles can be very sensitive to disturbance near the nest site and may abandon the nest as a result of low-level disturbance, even from foot traffic. Where construction is proposed in proximity to a bald eagle nest, concentrated foraging area, or communal roost site, we recommend that at a minimum, McCone comply with siting recommendations, seasonal restrictions, and distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)*. A nest buffer of at least 0.5 mile should be maintained for bald eagles. The Service's May 2007, National Bald Eagle Management Guidelines contains additional information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: <http://www.fws.gov/Migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

The Service has not issued golden eagle management guidelines. However, appropriate buffers for nests and other important use areas based on site-specific conditions should be developed in conjunction with this office if project activities are proposed in proximity to such areas. In Montana, the Service generally recommends avoidance of occupied nest site disturbance between January 1 and August 15. Depending on site-specific conditions, the typically recommended 0.5-mile buffer distance for bald eagle important use areas may be inadequate to ensure avoidance of golden eagle disturbance; larger buffers may be warranted. We therefore recommend avoidance of occupied golden eagle territories where practicable; maximizing distances between nests (including alternate nests) and the siting of proposed project features; avoidance of occupied nest site disturbance during the nesting season; and avoidance / minimization of impacts to important golden eagle habitat (e.g., shrub-steppe and native grasslands) within golden eagle territories.

Whether or not an active bald or golden eagle nest is present, we again recommend implementation of measures to address potential avian electrocution or collision along portions of the route, as discussed above, due to eagle and other potential migratory bird activity in the area.

#### **Other Comments**

We strongly recommend continued coordination with MFWP, BLM, and the MNHP. These agencies may be able to provide updated, site-specific information regarding threatened, endangered, and sensitive species; eagle and other raptor nest locations; and other fish and wildlife resources occurring in the proposed project area.

Construction timing and distance buffers for several wildlife species are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 MDEQ Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities. We recommend that McCone adhere to these construction timing and distance buffers where applicable.

Sensitive resources that should be considered in final siting of all project facilities include threatened, endangered, and candidate species and their habitat, bald and golden eagle and other migratory bird species nesting and habitat; wetlands; ephemeral, intermittent and permanent streams; naturally wooded draws; sagebrush habitat; and native prairie. Additional general recommendations include:

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels;
- Enact best management practices to avoid and minimize the spread of noxious weeds and other undesirable exotic plant species within the proposed project area;
- Confine the disturbed area along proposed ROWs as narrow as possible, especially in or near sensitive resources such as native prairie, sagebrush habitat, wooded draws, wetlands, and streams; and
- Revegetate disturbed areas with appropriate native species obtained from local sources, as possible.

In conjunction with ESA section 7 consultation process, we request that McCone provide the Service a written response regarding McCone's intent to apply our recommended conservation measures for

listed and candidate threatened and endangered species as provided above under **Threatened and Endangered Species**. Also, McCone should inform the Service in writing as to any additional potential conservation measures listed in the BA that it intends to enact. We would also appreciate notification as to what recommendations provided above under **Migratory Birds and Bald and Golden Eagles** McCone intends to implement.

Thank you for the opportunity to review and comment on this proposed project. Please telephone Jeff Berglund at 406/449-5225, ext. 206, if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Brent Esmoil", with a long horizontal flourish extending to the right.

Brent Esmoil  
Acting Field Supervisor



January 9, 2013

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Dear Mr. Cochnar:

Tongue River Electric Cooperative, Inc. (TRECO), a power provider located in Ashland, MT is providing electric service to Pump Station 13 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with to power lines being constructed by all power providers has to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed are proposed maps of the power lines we intend to permit and build to service the Keystone XL Project. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Please feel free to contact me at 406-784-2341 with any questions or comments you may have. My address is also shown below:

Tongue River Electric Cooperative  
PO Box 138  
Ashland, MT 59003

Sincerely,

Alan See, General Manager  
Tongue River Electric Cooperative

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.



## United States Department of the Interior Fish and Wildlife Service



Ecological Services  
Montana Field Office  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287  
Phone: (406) 449-5225 Fax: (406) 449-5339

February 19, 2013

Alan See  
Tongue River Electric Cooperative  
P.O. Box 138  
Ashland, MT 59003

Dear Mr. See:

This letter responds to your January 28, 2013 letter, received in our office on February 4, 2013, and your request for U.S. Fish and Wildlife Service (Service) comments on Tongue River Electric Cooperative's (TREC) proposed power line in connection with the proposed Keystone XL pipeline project through Prairie County, Montana. Your letter included a proposed route map; information regarding the proposed line configuration, etc. was not provided. Our response comments are authorized under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA)(16 U.S.C. 703 et seq.), as amended, Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*, Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), as amended, and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

We understand that the approximate 15.2 mile-long 115 kV line is proposed to provide power to Keystone XL's proposed Pump Site #13 in Prairie County. Our comments and recommendations regarding listed and candidate threatened and endangered species are provided below. Additional recommendations pertaining to eagles and other migratory birds are provided for your consideration in subsequent sections.

### **Threatened and Endangered Species**

The United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs (DOS) completed a Biological Assessment (BA) for the proposed Keystone XL Project on December 21, 2012. General threatened and endangered species conservation measures that could be applied to power line projects proposed in conjunction with the Keystone XL Project were included in the BA. However, determinations as to which specific conservation measures would be applied to which specific proposed power lines were not provided in the BA; such determinations were left to further consultation between Service Ecological Services Field Offices and proposed power providers in each affected state. Your January 28, 2013 letter stated that TREC will consult with this office on mitigation and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the whooping crane, interior least tern, and piping plover that may occur in specific

areas along the proposed power line corridor. We do not anticipate that the piping plover occurs in the project area. Although not specified in your letter, the listed endangered black-footed ferret and pallid sturgeon (included in the BA) should also be included in this consultation. We further recommend that your consultation include the candidate greater sage-grouse and Sprague's pipit, which were also included in the BA.

In accordance with section 7(c) of the Endangered Species Act, the Service has determined that the following listed and candidate species and designated critical habitat may occur in the general proposed power line project region:

Scientific Name	Common Name	Status	Montana Range/Habitat
<i>Mustela nigripes</i>	Black-footed Ferret	LE	Prairie dog complexes; eastern Montana
<i>Scaphirhynchus albus</i>	Pallid Sturgeon	LE	Bottom dwelling; Milk, Missouri, Yellowstone rivers, Fort Peck Lake
<i>Sterna antillarum athalassos</i>	Interior Least Tern	LE	Yellowstone, Missouri River sandbars, beaches, Fort Peck Lake; eastern Montana
<i>Grus americana</i>	Whooping Crane	LE	Wetlands; migrant eastern Montana
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	C	Eastern, central, and southwestern Montana in sagebrush, sagebrush-grasslands, and associated agricultural lands
<i>Anthus spragueii</i>	Sprague's Pipit	C	Grassland habitats with little or no shrub cover east of the Continental Divide

\*LE = Listed Endangered; C = Candidate Species

Most of the above species have been documented in the general project area. Based on the BA, we understand that no prairie dog towns would be traversed by the proposed route. Consequently, we anticipate no adverse effects to black-footed ferrets as a result of the proposed project. The pallid sturgeon and interior least tern occur in the Yellowstone River system. Whooping cranes may occur as rare spring and fall migrants, using suitable stopover habitat in the area. The project occurs within the general breeding range of the Sprague's pipit, and general year-round range of the greater sage-grouse. Potential Sprague's pipit habitat suitability in the project vicinity is classified as low to not suitable by the Montana Natural Heritage Program (MNHP). According to Appendix N of the BA, no greater sage-grouse leks or core habitat occur within several miles of the proposed transmission line route.

Candidate species are those placed on the candidate list for future action, meaning those species do not receive statutory protection under the ESA. Candidates are reviewed annually by the Service to determine if they continue to warrant listing or to reassess their listing priority. Ideally, sufficient threats can be removed to eliminate the need for listing. If threats are not addressed or the status of the species declines, a candidate species can move up in priority for a listing proposal. Federal agencies and non-federal applicants can conference with the Service pursuant to section 7(a)(4) of ESA to ensure that their actions do not negatively impact candidate species. Some federal agencies provide the same

level of protection to candidate species as proposed or listed species and take appropriate measures to avoid impacts. Candidate species are included in the BA, and it is our understanding that the DOS intends to enact this level of protection relative to the Keystone XL project; including ancillary facilities such as the proposed power line.

If a federal agency authorizes, funds, or carries out a proposed action, the responsible federal agency, or its delegated agent, is required to evaluate whether the action “may affect” listed species or critical habitat. If the federal agency or its designated agent determines the action “may affect, is likely to adversely affect” listed species or critical habitat, the responsible federal agency shall request formal section 7 consultation with this office. If the evaluation shows a “may affect, not likely to adversely affect” determination, concurrence from this office is required. If the evaluation shows a “no effect” determination for listed species or critical habitat, further consultation is not necessary. If a private entity receives federal funding for a construction project, or if any federal permit or license is required, the federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat.

As stated above, the proposed power line project is included in the ESA section 7 consultation (as documented the BA) underway relative to the overall proposed Keystone XL pipeline project. Consequently, we expect that all applicable conservation measures identified in the final BA will be implemented relative to this proposed power line project. The following conservation measures are included in the BA and are applicable and recommended relative to this proposed power line project. Repetitive measures (per the BA) are only listed once. Recommended additions or revisions to these measures pertaining to the power line project, as well as other comments, are indicated in italics:

**Black-footed Ferret:**

- Workers would not be allowed to keep domestic pets in construction camps and/or worksites.
- Workers would be made aware of how canine distemper and sylvatic plague diseases are spread (domestic pets and fleas).
- Workers would not be allowed to feed wildlife.
- Concentrations of dead and/or apparently diseased animals (prairie dogs, ground squirrels, others) would be reported to the appropriate state and federal agencies.

**Interior Least Tern:** *(the first seven measures would also facilitate potential impact avoidance and minimization relative to the whooping crane and pallid sturgeon):*

- All equipment maintenance and repairs would be performed in upland locations at least 100 feet from waterbodies and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland, if possible.
- Equipment would not be washed in streams or wetlands.
- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid

containment and recovery of spilled materials.

- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible, the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup.
- Keystone would mark and maintain a 100-foot area from these river crossings, free from hazardous materials, fuel storage, and vehicle fuel transfers.

**Whooping Crane:** *We recommend the following measure:*

- *During construction, if whooping cranes are sighted during spring (approximately April through May) or fall (approximately September through October) migration periods, TREC would immediately contact the Service and Montana Fish, Wildlife, and Parks (MFWP) for further instruction and require that all human activity and equipment start-up be delayed. Work could proceed if whooping crane(s) leave the area.*

**Pallid Sturgeon:** *We recommend implementation of the seven measures listed above under Interior Least Tern.*

**Greater Sage-Grouse:** *We have no specific recommendations relative to greater sage-grouse.*

**Sprague's Pipit:**

- Seed disturbance areas in native range with a native seed mix after topsoil replacement.
- Control unauthorized off-road vehicle access to the construction ROW through the use of signs; fences with locking gates; slash and timber barriers, pipe barriers, or boulders lined across the construction ROW; or plant conifers or other appropriate trees or shrubs in accordance with landowner or manager request *where such plantings would not diminish the quality of adjacent Sprague's pipit habitat.*
- Delay construction activity until young have fledged ~~from April 15 to July 15~~ within 330 feet of discovered active *Sprague's pipit* nests in eastern Montana.

*We also recommend the following measures:*

- *To the extent feasible, complete construction in native prairie habitats outside of the April 15 to July 15 grassland ground-nesting bird nesting season.*
- *The power line should be sited to avoid and minimize encroachment on native prairie habitats as feasible.*

## **Migratory Birds**

The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during construction of transmission lines and appurtenant infrastructure and access, even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective

steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans, avian protection plans (APPs), and bird conservation plans, and to implement those measures prior to/during construction.

Executive Order 13186 expressly requires that Federal agencies evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to NEPA "or other established environmental review process;" restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions has, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service.

To minimize the electrocution and collision hazards to birds, we generally recommend that new power lines be buried where feasible. Where this is not feasible, we recommend that any proposed newly constructed or modified overhead power lines or substations be designed and built to the Avian Power Line Interaction Committee (APLIC) standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*.

To the maximum extent practicable, project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season. We recommend implementation of at least a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species. If work is proposed to take place during the breeding season or at any other time which may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service further recommends that if field surveys for nesting birds are conducted with the intent of avoiding take during construction, any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be maintained.

Certain activities may require a permit from the Service's Migratory Bird Management Division. Please contact the Region 6 Migratory Bird Permits Office if you are uncertain if activities may result in take of migratory birds, eggs, or nests. Additional information about permits can be found at <http://www.fws.gov/migratorybirds/mbpermits.html>. Service guidance regarding bird nest destruction can be found at <http://www.fws.gov/policy/m0208.pdf>.

### Bald and Golden Eagles

The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The BGEPA defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A permit is required for any legal take of bald or golden eagles or their nests (whether occupied or unoccupied). Limited issuance of permits to take bald and golden eagles can be authorized "for the protection of . . . other interests in any particular locality" where the take is compatible with the preservation of the bald eagle and the golden eagle, is associated with and not the purpose of an otherwise lawful activity, and cannot practicably be avoided. No one is required to seek a permit for any activity. However, where an activity results in take, it is a violation of BGEPA unless a permit authorizing that take has been obtained prior to the action.

Both bald and golden eagles occur in the general project area year round. Based on 2013 Montana Natural Heritage Program data, we are not aware of bald or golden eagle nests within a mile of the proposed route. During the nesting season, especially early in the season, eagles can be very sensitive to disturbance near the nest site and may abandon the nest as a result of low-level disturbance, even from foot traffic. Where construction is proposed in proximity to a bald eagle nest, concentrated foraging area, or communal roost site, we recommend that at a minimum, TREC comply with siting recommendations, seasonal restrictions, and distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)*. A nest buffer of at least 0.5 mile should be maintained for bald eagles. The Service's May 2007, National Bald Eagle Management Guidelines contains additional information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: <http://www.fws.gov/Migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

The Service has not issued golden eagle management guidelines. However, appropriate buffers for nests and other important use areas based on site-specific conditions should be developed in conjunction with this office if project activities are proposed in proximity to such areas. In Montana, the Service generally recommends avoidance of occupied nest site disturbance between January 1 and August 15. Depending on site-specific conditions, the typically recommended 0.5-mile buffer distance for bald eagle important use areas may be inadequate to ensure avoidance of golden eagle disturbance; larger buffers may be warranted. We therefore recommend avoidance of occupied golden eagle

territories where practicable; maximizing distances between nests (including alternate nests) and the siting of proposed project features; avoidance of occupied nest site disturbance during the nesting season; and avoidance / minimization of impacts to important golden eagle habitat (e.g., shrub-steppe and native grasslands) within golden eagle territories.

Whether or not an active bald or golden eagle nest is present, we again recommend implementation of measures to address potential avian electrocution along the entire route, as discussed above, due to eagle and other potential migratory bird activity in the area.

### **Other Comments**

We strongly recommend continued coordination with MFWP and the MNHP. These agencies may be able to provide updated, site-specific information regarding threatened, endangered, and sensitive species; eagle and other raptor nest locations; and other fish and wildlife resources occurring in the proposed project area.

Construction timing and distance buffers for several other wildlife species are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 Montana Department of Environmental Quality Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities. We recommend that TREC adhere to these construction timing and distance buffers where applicable and possible.

Sensitive resources that should be considered in final siting of all project facilities include threatened, endangered, and candidate species and their habitat, bald and golden eagle and other migratory bird species nesting and habitat; wetlands; ephemeral, intermittent and permanent streams; naturally wooded draws; sagebrush habitat; and native prairie. Additional general recommendations include:

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels;
- Enact best management practices to avoid and minimize the spread of noxious weeds and other undesirable exotic plant species within the proposed project area;
- Confine the disturbed area along proposed ROWs as narrow as possible, especially in or near sensitive resources such as native prairie, sagebrush habitat, wooded draws, wetlands, and streams; and
- Revegetate disturbed areas with appropriate native species obtained from local sources, as possible.

In conjunction with ESA section 7 consultation process, we request that TREC provide the Service a written response regarding TREC's intent to apply our recommended conservation measures for listed and candidate threatened and endangered species as provided above under **Threatened and Endangered Species**. We would also appreciate notification as to what recommendations provided above under **Migratory Birds and Bald and Golden Eagles** TREC intends to implement.

Thank you for the opportunity to review and comment on this proposed project. Please telephone Jeff Berglund at 406/449-5225, ext. 206, if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Brent Esmoil", with a long horizontal flourish extending to the right.

Brent Esmoil  
Acting Field Supervisor



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## TONGUE RIVER ELECTRIC COOPERATIVE, INC.

P.O. BOX 138 • ASHLAND, MT 59003-0138 • OFFICE: 406-784-2341 • FAX NUMBER: 406-784-2279

April 10, 2013

Mr. Robert R. Harms  
Fish and Wildlife Biologist  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

RE: Tongue River Electric Cooperative's (TRECO's) 115 kV Transmission Line to support  
Keystone XL Pump Station No. 13.

Dear Mr. Harms:

Tongue River Electric Cooperative, Inc. (TRECO), a power provider located in Ashland, MT is providing electric service to Pump Station 13 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

On December 23, 2010 R. Mark Wilson, Field Supervisor with the Montana Field Office of the USFWS issued a response to our request for information on the potential impacts associated with our proposed overhead power line. This letter indicated that the federally listed threatened, endangered, candidate or proposed species that may be affected by this project include whooping crane (*grus americana*), an endangered species, greater sage-grouse (*Centrocercus urophasianus*), and Sprague's pipit (*Anthus spragueii*), both candidate species.

The proposed alignment for the 115 kV Transmission line is approximately 50 miles west of the established Whooping Crane migratory corridor which generally traverses North and South Dakota. The line will not cross the Yellowstone River. The first 3 miles of the proposed line crosses cultivated agricultural ground and areas adjacent to the developed town of Fallon, MT. The remaining 12.3 miles lay south of and parallel to the Yellowstone River. As a vast majority of Whooping Crane sitings occur within the migratory corridor, no mitigation measures are proposed for Whooping Crane along the PS 13 Transmission Line.

Greater sage-grouse habitat is found in generally native, non-segmented lands. Avoidance is the proposed mitigation for the PS 13 Transmission Line project. The route has been sited to follow existing land segmentation (interstates, railroads, urban development) or areas of cultivated agricultural land generally avoiding any areas of potential habitat. See attached route map. No other mitigation measures are proposed for sage-grouse.

According to a study on the Effects of Management Practices on Grassland Birds: Sprague's Pipit [1], the proposed alignment for the 115 kV Transmission line exists south of the areas identified as having less than 5% of any individuals detected per route per year [2]. As the area of the proposed project does not represent an area of frequently occupied habitat, no mitigation measures are proposed for Sprague's Pipit along the PS 13 Transmission Line.

Please feel free to contact me at 406-784-2341 with any questions or comments you may have. My address is also shown below:

Tongue River Electric Cooperative  
PO Box 138  
Ashland, MT 59003

Sincerely,

A handwritten signature in blue ink that reads "Alan See". The signature is fluid and cursive, with a horizontal line extending to the right.

Alan See, General Manager  
Tongue River Electric Cooperative

Citations:

[1] Study reference from Dechant, J.A., M.L. Sondreal, D.H. Johnson, L.D. Igl, C.M. Goldade, M.P. Nenneman, and B.R. Euliss. 1988 (Revised 2001). Effects of management practices on grassland birds: Sprague's Pipit. Northern Prairie Wildlife Research Center, Jamestown, ND. 15 pages.

[2] Map reference from Price, J., S. Droege, and A. Price. 1995. The summer atlas of North American birds. Academic Press, London, England. 364 pages.



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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400 North Fourth Street  
Bismarck, ND 58501  
(701) 222-7900

December 28, 2012

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

Dear Mr. Cochnar:

Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. (Montana-Dakota), a utility providing electric power service in Montana, intends to provide electric service to Pump Station 14 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers on this project have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act. .

As such, we have consulted with the USFWS and Montana Fish, Wildlife and Parks and agreed to reroute a portion of the power line to minimize wildlife impacts. Montana-Dakota agrees to continue consultation with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed are proposed maps of the power lines showing the updated route we intend to permit and build to service the Keystone XL Project. If there are any additional comments from the USFWS on required mitigative measures and where they need to be incorporated, or if the agency would like to discuss the project in further detail, please contact me at 701-222-7844.

Sincerely,

A handwritten signature in black ink, appearing to read 'Abbie Krebsbach', with a long horizontal flourish extending to the right.

Abbie Krebsbach  
Environmental Manager

Enclosure

cc: Henry Ford, Transmission Manager  
Andrea Stomberg, Vice President of Electric Supply

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

400 North Fourth Street  
Bismarck, ND 58501  
(701) 222-7900

February 6, 2012

John Ensign  
Regional Wildlife Manager  
Montana Fish, Wildlife & Parks  
PO Box 1630  
Miles City, MT 59301

Dear Mr. Ensign:

We appreciated visiting with Howard Burt on June 21 near Plevna, MT to discuss the route Montana-Dakota Utilities Co.'s (Montana-Dakota) had proposed for the transmission line to serve electricity to TransCanada's Keystone XL Pipeline Pump Station #14. Montana-Dakota had been contacted by TransCanada regarding sage grouse lek concerns included in the Montana Department of Environmental Quality Environmental Impact Statement review of concerns for the Keystone XL Pipeline project. There were two identified active sage grouse leks in close proximity to the proposed transmission line routed on private property in Section 35 of Township 9N Range 58E.

During our meeting with Mr. Burt on the transmission line route near Plevna, Montana-Dakota proposed a reroute that appeared acceptable to the MT Fish, Wildlife and Parks for minimizing impacts to sage grouse leks in the area. The attached map illustrates the reroute, showing an approximate minimum 0.3 mile distance between the proposed transmission line and the leks. There is also a hill between the transmission line and the leks that we believe reduces the ability of raptors to prey on sage grouse at the leks.

We would like to receive concurrence on the proposed reroute of the transmission line from the MT Fish, Wildlife and Parks by March 1. Please call me at (701) 222-7844 if you have any questions or would like to discuss.

Sincerely,

Abbie S. Krebsbach  
Environmental Manager

Enclosure

cc: Henry Ford – Montana-Dakota Utilities Co. Transmission Manager  
Larry Sibbald – TransCanada  
Craig Jones – MT DEQ Major Facility Siting Program

Confidential – Not United States Government classified.  
This information is not included in the Final Supplemental EIS.



## United States Department of the Interior Fish and Wildlife Service



Ecological Services  
Montana Field Office  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287  
Phone: (406) 449-5225 Fax: (406) 449-5339

February 19, 2013

Ms. Abbie Krebsbach  
Montana-Dakota Utilities Co.  
400 North Fourth Street  
Bismarck, ND 58501

Dear Ms. Krebsbach:

This letter responds to your December 28, 2012 letter, received in our office on January 8, 2013, and your request for U.S. Fish and Wildlife Service (Service) comments on Montana-Dakota Utilities' (MDU) proposed electric service line in connection with the proposed Keystone XL pipeline project Pump Site #14 through Fallon County, Montana. Your letter included a proposed route map; information regarding the proposed line configuration, etc. was not provided. Our response comments are authorized under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA)(16 U.S.C. 703 et seq.), as amended, Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*, Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), as amended, and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

We understand that the approximate 6.3 mile-long 115 kV line is proposed to provide power to Keystone XL's proposed Pump Site #14 in Fallon County. The line would cross Pennel Creek. It is also our understanding that this proposed power line is subject to the provisions of the March 30, 2012 Montana Department of Environmental Quality (MDEQ) Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities, including its Attachment 1B (Environmental Stipulations). Our comments and recommendations regarding listed and candidate threatened and endangered species are provided below. Additional recommendations pertaining to eagles and other migratory birds are provided for your consideration in subsequent sections.

### Threatened and Endangered Species

The United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs (DOS) completed a Biological Assessment (BA) for the proposed Keystone XL Project on December 21, 2012. General threatened and endangered species conservation measures that could be applied to power line projects proposed in conjunction with the Keystone XL Project were included in the BA. However, determinations as to which specific conservation measures would be applied to which specific proposed power lines were not provided in the BA; such determinations were left to further

consultation between Service Ecological Services Field Offices and proposed power providers in each affected state. Your December 28, 2012 letter stated that MDU will consult with this office on mitigation and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the whooping crane, interior least tern, and piping plover that may occur in specific areas along the proposed power line corridor. We do not anticipate that the interior least tern or piping plover occur in the project area. We further recommend that your consultation include the candidate greater sage-grouse and Sprague's pipit, which were also included in the BA.

In accordance with section 7(c) of the Endangered Species Act, the Service has determined that the following listed and candidate species and designated critical habitat may occur in the general proposed Pump Site #10 power line project region:

Scientific Name	Common Name	Status	Montana Range/Habitat
<i>Grus americana</i>	Whooping Crane	LE	Wetlands; migrant eastern Montana
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	C	Eastern, central, and southwestern Montana in sagebrush, sagebrush-grasslands, and associated agricultural lands
<i>Anthus spragueii</i>	Sprague's Pipit	C	Grassland habitats with little or no shrub cover east of the Continental Divide

\*LE = Listed Endangered; C = Candidate Species

Whooping cranes may occur as rare spring and fall migrants, using suitable stopover habitat in the area. The project occurs within the general breeding range of the Sprague's pipit, although potential Sprague's pipit habitat suitability in the project vicinity is classified as low to not suitable by the Montana Natural Heritage Program (MNHP). Greater sage-grouse also occur in the project area, including leks and general habitat. Based on your maps, it appears that the project would not traverse mapped core habitat. According to Appendix N of the BA, greater sage-grouse leks 1430 (FA-33) and 1485 (FA-44) occur within three miles (approximately 0.4 and 0.3 mile, respectively) of the proposed transmission line route. Based on 2010-2012 surveys and other agency data, Appendix N of the BA concludes that both of these leks are active.

Candidate species are those placed on the candidate list for future action, meaning those species do not receive statutory protection under the ESA. Candidates are reviewed annually by the Service to determine if they continue to warrant listing or to reassess their listing priority. Ideally, sufficient threats can be removed to eliminate the need for listing. If threats are not addressed or the status of the species declines, a candidate species can move up in priority for a listing proposal. Federal agencies and non-federal applicants can conference with the Service pursuant to section 7(a)(4) of ESA to ensure that their actions do not negatively impact candidate species. Some federal agencies provide the same level of protection to candidate species as proposed or listed species and take appropriate measures to avoid impacts. Candidate species are included in the BA, and it is our understanding that the DOS intends to enact this level of protection relative to the Keystone XL project; including ancillary facilities such as this proposed power line.

If a federal agency authorizes, funds, or carries out a proposed action, the responsible federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species or critical habitat. If the federal agency or its designated agent determines the action "may affect, is likely to adversely affect" listed species or critical habitat, the responsible federal agency shall request formal section 7 consultation with this office. If the evaluation shows a "may affect, not likely to adversely affect" determination, concurrence from this office is required. If the evaluation shows a "no effect" determination for listed species or critical habitat, further consultation is not necessary. If a private entity receives federal funding for a construction project, or if any federal permit or license is required, the federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat.

As stated above, the proposed power line project is included in the ESA section 7 consultation (as documented the BA) underway relative to the overall proposed Keystone XL pipeline project. Further, as an "associated facility", the power line is subject to the provisions of the March 30, 2012 MDEQ Environmental Quality Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities, including its Attachment 1B (Environmental Stipulations). Consequently, we expect that all applicable conservation measures identified in the final BA and the Environmental Stipulations will be implemented relative to this proposed power line project.

The following conservation measures are included in the BA and are applicable and recommended relative to this proposed power line project. Repetitive measures (per the BA) are only listed once. Recommended additions or revisions to these measures pertaining to the power line project, as well as other comments, are indicated in italics. Measures in the Environmental Stipulations are not repeated below as they are expected to be implemented for these species where applicable.

#### **Whooping Crane:**

- All equipment maintenance and repairs would be performed in upland locations at least 100 feet from waterbodies and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland, if possible.
- Equipment would not be washed in streams or wetlands.
- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials.
- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible, the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup.
- Keystone would mark and maintain a 100-foot area from these river crossings, free from hazardous materials, fuel storage, and vehicle fuel transfers.
- Outside the 95-percent migration corridor: mark new lines within 1 mile of potentially

suitable habitat at the discretion of the local Ecological Services Field Office, based on the biological needs of the whooping crane. *Marking is recommended within 0.25 mile of Pennel Creek and all other open water or emergent wetland areas traversed by the route. We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art in 2012.*

*We also recommend the following measure:*

- *During construction, if whooping cranes are sighted during spring (approximately April through May) or fall (approximately September through October) migration periods, MDU would immediately contact the Service and Montana Fish, Wildlife, and Parks (MFWP) for further instruction and require that all human activity and equipment start-up be delayed. Work could proceed if whooping crane(s) leave the area.*

**Greater Sage-Grouse:** The BA includes conservation measures that apply to Keystone project features in Montana. However, it is unclear in the BA as to which measures may apply to proposed pump station power line routes. Similar greater sage-grouse measures are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 MDEQ Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities. In addition to the greater sage-grouse measures specified in the Environmental Stipulations, we recommend the following:

- *The Service generally recommends that transmission lines not be sited within four miles of leks. Where this is not feasible, power lines should be sited to avoid and minimize encroachment on greater sage-grouse leks and important habitats to the extent possible on a case-by-case basis. As feasible, facilities should: 1) be topographically screened from leks, and; 2) be buried where proposed within sight of leks or traversing important habitats.*
- *Incorporating the provisions in BA Appendix O and the MDEQ Environmental Stipulations, construction should be prohibited from March 1 to June 15: 1) within three miles of active greater sage-grouse leks: a) not screened by topography, or b) within suitable nesting habitat regardless of screening; and 2) within no closer than one mile of any active lek, with the following exceptions:*
  - a. *Equipment may pass as a single group along the permitted right-of-way or approved location through a restricted lek buffer area.*
  - b. *Equipment should only pass through a restricted lek buffer between 10:00 am and 2:00 pm, to avoid disturbing displaying birds during critical times of the day.*
  - c. *If major grading is required to pass equipment along the permitted right-of-way or approved location, this grading should take place outside of the March 1 through June 15 restriction period.*
  - d. *As the equipment passes through the areas, if any large hummocks or rocks impede the travel lane, the lead dozer will lower its blade on the way through to move the obstruction to the side and/or smooth out any larger hummocks or rocks.*
- *Monitor active leks (displaying males) within three miles of the project during any construction between March 1 and June 15; suspend construction until June 16 if construction-related disturbance is noted.*
- *Pole and span configurations should be designed to maximize distances between poles and leks.*

#### **Sprague's Pipit:**

- Seed disturbance areas in native range with a native seed mix after topsoil replacement.
- Control unauthorized off-road vehicle access to the construction ROW through the use of signs; fences with locking gates; slash and timber barriers, pipe barriers, or boulders lined across the construction ROW; or plant conifers or other appropriate trees or shrubs in accordance with landowner or manager request *where such plantings would not diminish the quality of adjacent Sprague's pipit habitat.*
- Delay construction activity until young have fledged ~~from April 15 to July 15~~ within 330 feet of discovered active *Sprague's pipit* nests in eastern Montana.

*We also recommend the following measures:*

- *To the extent feasible, complete construction in native prairie habitats outside of the April 15 to July 15 grassland ground-nesting bird nesting season.*
- *The power line should be sited to avoid and minimize encroachment on native prairie habitats as feasible.*

#### **Migratory Birds**

The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during construction of transmission lines and appurtenant infrastructure and access, even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans, avian protection plans (APPs), and bird conservation plans, and to implement those measures prior to/during construction.

Executive Order 13186 expressly requires that Federal agencies evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to NEPA "or other established environmental review process;" restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions has, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service.

To minimize the electrocution and collision hazards to birds, we generally recommend that new power lines be buried where feasible. Where this is not feasible, we recommend that any proposed newly

constructed or modified overhead power lines or substations be designed and built to the APLIC standards in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, daytime visual markers should be installed on proposed lines within 0.25 mile of Pennel Creek and all other open water or emergent wetland areas traversed by the route, and all other areas as recommended during your coordination with MFWP per techniques outlined in *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012*.

To the maximum extent practicable, project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season. We recommend implementation of at least a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species. If work is proposed to take place during the breeding season or at any other time which may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service further recommends that if field surveys for nesting birds are conducted with the intent of avoiding take during construction, any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be maintained.

Certain activities may require a permit from the Service's Migratory Bird Management Division. Please contact the Region 6 Migratory Bird Permits Office if you are uncertain if activities may result in take of migratory birds, eggs, or nests. Additional information about permits can be found at <http://www.fws.gov/migratorybirds/mbpermits.html>. Service guidance regarding bird nest destruction can be found at <http://www.fws.gov/policy/m0208.pdf>.

### **Bald and Golden Eagles**

The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The BGEPA defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A permit is required for any legal take of bald or golden eagles or their nests (whether occupied or unoccupied). Limited issuance of permits to take bald and golden eagles can be authorized "for the protection of . . . other interests in any particular locality" where the take is compatible with the

preservation of the bald eagle and the golden eagle, is associated with and not the purpose of an otherwise lawful activity, and cannot practicably be avoided. No one is required to seek a permit for any activity. However, where an activity results in take, it is a violation of BGEPA unless a permit authorizing that take has been obtained prior to the action.

Based on 2013 Montana Natural Heritage Program data, we are not aware of bald or golden eagle nests within a mile of the proposed route. However, as-yet undetected nests may be present. During the nesting season, especially early in the season, eagles can be very sensitive to disturbance near the nest site and may abandon the nest as a result of low-level disturbance, even from foot traffic. Where construction is proposed in proximity to a bald eagle nest, concentrated foraging area, or communal roost site, we recommend that at a minimum, MDU comply with siting recommendations, seasonal restrictions, and distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)*. A nest buffer of at least 0.5 mile should be maintained for bald eagles. The Service's May 2007, National Bald Eagle Management Guidelines contains additional information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: <http://www.fws.gov/Migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

The Service has not issued golden eagle management guidelines. However, appropriate buffers for nests and other important use areas based on site-specific conditions should be developed in conjunction with this office if project activities are proposed in proximity to such areas. In Montana, the Service generally recommends avoidance of occupied nest site disturbance between January 1 and August 15. Depending on site-specific conditions, the typically recommended 0.5-mile buffer distance for bald eagle important use areas may be inadequate to ensure avoidance of golden eagle disturbance; larger buffers may be warranted. We therefore recommend avoidance of occupied golden eagle territories where practicable; maximizing distances between nests (including alternate nests) and the siting of proposed project features; avoidance of occupied nest site disturbance during the nesting season; and avoidance / minimization of impacts to important golden eagle habitat (e.g., shrub-steppe and native grasslands) within golden eagle territories.

Whether or not an active bald or golden eagle nest is present, we again recommend implementation of measures to address potential avian electrocution or collision along portions of the route, as discussed above, due to eagle and other potential migratory bird activity in the area.

#### **Other Comments**

We strongly recommend continued coordination with MFWP and the MNHP. These agencies may be able to provide updated, site-specific information regarding threatened, endangered, and sensitive species; eagle and other raptor nest locations; and other fish and wildlife resources occurring in the proposed project area.

Construction timing and distance buffers for raptors, sharp-tailed grouse and several other wildlife species are stipulated in Attachment 1B (Environmental Stipulations) of the March 30, 2012 MDEQ Certificate of Compliance under the Major Facility Siting Act for the Montana portion of the Keystone XL Pipeline and associated facilities. We recommend that MDU adhere to these construction timing and distance buffers where applicable.

Sensitive resources that should be considered in final siting of all project facilities include threatened, endangered, and candidate species and their habitat, bald and golden eagle and other migratory bird species nesting and habitat; wetlands; ephemeral, intermittent and permanent streams; naturally wooded draws; sagebrush habitat; and native prairie. Additional general recommendations include:

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels;
- Enact best management practices to avoid and minimize the spread of noxious weeds and other undesirable exotic plant species within the proposed project area;
- Confine the disturbed area along proposed ROWs as narrow as possible, especially in or near sensitive resources such as native prairie, sagebrush habitat, wooded draws, wetlands, and streams; and
- Revegetate disturbed areas with appropriate native species obtained from local sources, as possible.

In conjunction with ESA section 7 consultation process, we request that MDU provide the Service a written response regarding MDU's intent to apply our recommended conservation measures for listed and candidate threatened and endangered species as provided above under **Threatened and Endangered Species**. Also, as stated above, MDU should inform the Service in writing as to any additional potential conservation measures listed in the BA that it intends to enact. We would also appreciate notification as to what recommendations provided above under **Migratory Birds and Bald and Golden Eagles** MDU intends to implement.

Thank you for the opportunity to review and comment on this proposed project. Please telephone Jeff Berglund at 406/449-5225, ext. 206, if you have any questions regarding this matter.

Sincerely,



Brent Esmoil  
Acting Field Supervisor



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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400 North Fourth Street  
Bismarck, ND 58501  
(701) 222-7900

April 24, 2013

Brent Esmoil  
Acting Field Supervisor  
US Fish and Wildlife Service  
Ecological Services – Montana Field Office  
585 Shepard Way, Suite 1  
Helena, MT 59601-6287

Re: Power Line Serving Keystone XL Pipeline Pump Station #14

Dear Mr. Esmoil:

Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. (Montana-Dakota), provides this letter as a response to the February 19, 2013 letter from the United States Department of Interior, Fish and Wildlife Service (USFWS) commenting on the proposed 6.3 mile 115kV transmission line that will provide electric service to Pump Station #14 of the Keystone XL Pipeline Project in Fallon County, Montana. The USFWS requested a written response regarding Montana-Dakota's intent to apply the USFWS recommended conservation measures included in the February 19, 2013 letter. Montana-Dakota has listed the USFWS recommended conservation measures below and explains the company's intent to apply the measures during construction of the transmission line project. Montana-Dakota has expanded on the implementation of some of these measures.

### **Whooping Crane Measures:**

- All equipment maintenance repairs would be performed in upland locations at least 100 feet from water bodies and wetlands. **Response:** Montana-Dakota will apply this measure.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland, if possible. **Response:** Montana-Dakota will apply this measure.
- Equipment would not be washed in streams or wetlands. **Response:** Montana-Dakota will apply this measure.
- Construction and restoration activities would be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials. **Response:** Montana-Dakota will apply this measure.
- Each construction crew and cleanup crew would have on hand sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. **Response:** Montana-Dakota will apply this measure.
- Refueling and lubrication of construction equipment would generally be restricted to upland areas at least 100 feet away from streams and wetlands. Where this is not possible, the equipment would be fueled by designated personnel with special training in refueling, spill containment, and cleanup. **Response:** Montana-Dakota will apply this measure.

- Keystone would mark and maintain a 100-foot area from these river crossing, free from hazardous materials, fuel storage, and vehicle fuel transfers. **Response:** Montana-Dakota will apply this measure.
- Outside the 95-percent migration corridor: mark new lines within 1 mile of potentially suitable habitat at the discretion of the local Ecological Service Field Office, based on the biological needs of the whooping crane. *Marking is recommended within 0.25 mile Pennel Creek and all other open water or emergent wetland areas traversed by the route. We recommend marking in compliance with APLIC's Reducing Avian Collisions with Powerlines, The State of the Art 2012.* **Response:** Montana-Dakota will apply this measure by marking appropriate sections of the topmost transmission or static line with swan flight diverters at a spacing of approximately 50 feet. Montana-Dakota has identified line markers to be installed within 0.25 mile of Pennel Creek and within 0.25 mile of the pond in the northwest corner of Section 35, Township 9 North, Range 58 East. See attached Figure: Swan Flight Diverter Location on Proposed TransCanada Tap 115KV, TL085-2 Route for the transmission line route and marking locations.
- *(Recommended) During construction, if whooping cranes are sighted during spring (approximately April through May) or fall (approximately September through October) migration periods, MDU would immediately contact the Service and MT Fish Wildlife and Parks (MFWP) for further instruction and require that all human activity and equipment start-up be delayed. Work could proceed if whooping crane(s) leave the area.* **Response:** Montana-Dakota will apply this measure. If a whooping crane is sighted on the ground within the transmission line project area during construction, Montana-Dakota will cease construction and contact the USFWS.

### **Greater Sage-Grouse Measures:**

- *The Service generally recommends that transmission lines not be sited within four miles of leks. Where this is not feasible, power lines should be sited to avoid and minimize encroachment on greater sage-grouse leks and important habitats to the extent possible on a case-by-case basis. As feasible, facilities should: 1) be topographically screened from leks, and 2) be buried where proposed within sight of leks or traversing important habitats.* **Response:** Montana-Dakota will apply this measure as follows: Montana-Dakota met with a representative of the Montana Fish Wildlife and Parks (MFWP) on June 21, 2011 to identify an acceptable reroute of a portion of proposed transmission line that will serve Pump Station #14. There were two leks identified near the original route of the transmission line. Montana-Dakota and MTFWP agreed on a reroute that minimized encroachment and impact to the sage grouse leks. Views of transmission structures from lekking grouse would be limited by topography and distance. Also, Montana-Dakota will install perch discouragers on the structures as requested by MTFWP to minimize raptor use of structures to prey on sage grouse. A map showing the reroute is attached, including the prior correspondence and approval of the reroute from MTFWP.
- *Incorporating the provisions in BA Appendix O and MDEQ Environmental Stipulations, construction should be prohibited from March 1 to June 15: 1) within three miles of active greater sage-grouse leks: a) not screened by topography, or b) within suitable nesting habitat regardless of screening; and 2) within no closer than one mile of any active lek, with the following exceptions:*
  - a. Equipment may pass as a single group along the permitted right-of-way or approved location through a restricted lek buffer area.*
  - b. Equipment should only pass through a restricted lek buffer between 10:00am and 2:00pm, to avoid disturbing displaying birds during critical times of the day.*

c. If major grading is required to pass equipment along the permitted right-of-way or approved location, this grading should take place outside of the March 1 through June 15 restriction period.

d. As the equipment passes through the areas, if any large hummocks or rocks impeded the travel lane, the lead dozer will lower its blade on the way through to move the obstruction to the side and/or smooth out any larger hummocks or rocks.

**Response:** Montana-Dakota will work with TransCanada to avoid any construction of the electric transmission line from March 1 to June 15, however, the most recent communication from TransCanada is that electric service is requested to be available for Pump Station #14 by July 2014. Depending on final approval received by TransCanada to construct the Keystone XL pipeline project, Montana-Dakota may not be able to avoid constructing the transmission line in the March 1 to June 15 time period. If construction is projected to occur during the period of March 1 to June 15 within three miles of active greater sage-grouse leks that are not screened by topography or that are within suitable nesting habitat regardless of screening, Montana-Dakota proposes the following alternative: Montana-Dakota would minimize disturbance to lekking sage grouse by avoiding construction within 1 mile of leks from 8 pm until 2 hours after sunrise the following day on a daily basis and monitor active leks (displaying males) within three miles of the project during construction between March 1 and June 15. Montana-Dakota would contact the USFWS to obtain additional guidance if construction-related disturbance of lekking sage grouse is noted.

- *Monitor active leks (displaying males) within three miles of the project during any construction between March 1 and June 15; suspend construction until June 16 if construction-related disturbance is noted.* **Response:** See response directly above. If construction is projected to occur within March 1 and June 15, Montana-Dakota will monitor the active leks and contact USFWS to obtain additional guidance if construction-related disturbance is noted.
- *Pole and span configurations should be designed to maximize distances between poles and leks.* **Response:** Montana-Dakota will apply this measure. Pole spacing is approximately 350 feet. The nearest distance from a lek to the transmission line or a pole is 0.3 miles.

### **Sprague's Pipit Measures:**

- Seed disturbance areas in native range with a native seed mix after topsoil replacement. **Response:** Montana-Dakota will apply this measure per *MDEQ Environmental Stipulations Appendix A* which stipulates using a locally adapted sagebrush seed for reclamation in sage grouse habitat and a native prairie seed mix as applicable, unless landowner requests differently.
- Controls unauthorized off-road vehicle access to the construction ROW through the use of signs; fences with locking gates; slash and timber barriers, pipe barriers, or boulders lined across the construction ROW; or plant conifers or other appropriate trees or shrubs in accordance with landowner or manager request *where such planting would not diminish the quality of adjacent Sprague's pipit habitat.* **Response:** Montana-Dakota will apply this measure as approved by the landowner.
- Delay construction activity *until young have fledged from April 15 to July 15* within 330 feet of discovered active Sprague's pipit nests in eastern Montana. **Response:** Montana-Dakota will apply this measure by mowing the right-of-way (ROW), unless landowner does not approve mowing, or

Montana-Dakota will follow requirements identified in any potential pipeline project-wide alternative obtained by TransCanada and approved by USFWS for disturbance of migratory birds and nesting. Any mowing will be completed in the fall, prior to construction, to discourage bird nesting. Montana-Dakota may determine not to mow the ROW if construction is projected to commence after July 15. Montana-Dakota will not mow sagebrush.

- *Also recommend:*
  - *To the extent feasible, complete construction in native prairie habitats outside of the April 15 to July 15 grassland ground-nesting bird nesting season. **Response:** Montana-Dakota will work with TransCanada to avoid any construction of the electric transmission line from April 15 to July 15, however, the most recent communication from TransCanada is that electric service is requested to be available for Pump Station #14 by July 2014. Depending on final approval received by TransCanada to construct the Keystone XL pipeline project, Montana-Dakota may not be able to avoid constructing the transmission line in the April 15 to July 15 time period. If construction is projected to occur in native prairie habitat during the period of April 15 to July 15, Montana-Dakota will mow the ROW, unless landowner does not approve mowing, or Montana-Dakota will follow requirements identified in any potential pipeline project-wide alternative obtained by TransCanada and approved by USFWS for disturbance of migratory birds and nesting. Any mowing will be completed in the fall, prior to construction, to discourage bird nesting. Montana-Dakota may determine not to mow the ROW if construction is projected to commence after July 15. Montana-Dakota will not mow sagebrush.*
  - *The power line should be sited to avoid and minimize encroachment on native prairie habitats as feasible. **Response:** Montana-Dakota has sited the power line to avoid and minimize encroachment on native prairie habitats as feasible. Montana-Dakota will use single pole structures and utilize temporary access roads instead of constructing permanent access roads that may fragment habitat. Further, permanent impacts of this transmission line are minimal, projected to be a total of approximately 500 square feet (4 square feet per pole).*

#### **MBTA Measures:**

- Build structures to APLIC Standards:
  - *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. **Response:** Montana-Dakota will apply this measure.*
  - *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012. **Response:** Montana-Dakota will apply marking for the whooping crane as described above.*
  - Project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the breeding season.
    - Recommend implementation of at least a 0.5-mile buffer between occupied nests and construction activities during the breeding season for most raptor species. **Response:** See response below for mowing ROW.
    - Recommend that the MDU maintain adequate buffers to protect the birds until the young have fledged. Maintain documents for any nest surveys and avoidance measures. **Response:** See response below for mowing ROW.
    - Mowing the right-of-way before the nesting/breeding season would reduce this concern. **Response:** Montana-Dakota will apply this measure, unless landowner

does not approve mowing, or Montana-Dakota will follow requirements identified in any potential pipeline project-wide alternative obtained by TransCanada and approved by USFWS for disturbance of migratory birds and nesting. Any mowing will be completed in the fall, prior to construction, to discourage bird nesting. Montana-Dakota may determine not to mow the ROW if construction is projected to commence after July 15. Montana-Dakota will not mow sagebrush.

**BGEPA Measures:**

- DOI is not aware of any bald or golden eagle nests within a mile of the project. **Response:** TransCanada's consultant, exp Energy Services Inc., coordinated surveys that confirmed no eagle, hawk or owl nests were found near this transmission line route.
- Follow seasonal restrictions and distance buffers in 2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994). **Response:** See response above.
- Avoidance of nests between January 1 and August 15. **Response:** See response above.

**General Recommendations:**

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels; **Response:** Montana-Dakota will apply this measure.
- Enact best management practices to avoid and minimize the spread of noxious weeds and other undesirable exotic plant species within the proposed project area; **Response:** Montana-Dakota will apply this measure per MDEQ Environmental Stipulations Appendix A which stipulates using a locally adapted sagebrush seed for reclamation in sage grouse habitat and a native prairie seed mix as applicable to reduce noxious weeds, unless landowner requests differently. Minimal soil disturbance will result from the transmission project. Montana-Dakota will work with landowners to determine a seed mix that minimizes the introduction of undesirable exotic plant species.
- Confine the disturbed area along proposed ROWs as narrow as possible, especially in or near sensitive resources such as native prairie, sagebrush habitat, wooded draws, wetlands, and streams; and **Response:** Montana-Dakota will apply this measure. Minimal soil disturbance will result from the transmission project.
- Revegetate disturbed areas with appropriate native species obtained from local sources, as possible. **Response:** Montana-Dakota will apply this measure per MDEQ Environmental Stipulations Appendix A which stipulates using a locally adapted sagebrush seed for reclamation in sage grouse habitat and a native prairie seed mix as applicable, unless landowner requests differently.

If you have any questions or would like to discuss the responses above, please contact me at 701-222-7844.

Sincerely,



Abbie Krebsbach  
Director of Environmental

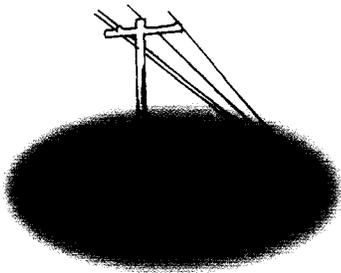
Enclosures

cc: Henry Ford, Montana-Dakota Utilities Co. Director of Electric Transmission Engineering  
Andrea Stomberg, Montana-Dakota Utilities Co. Vice President of Electric Supply  
Jeff Berglund - USFWS Montana  
Bob Harms – USFWS Nebraska  
Larry Sibbald - TransCanada

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This information is not included in the Final Supplemental EIS.

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# Grand Electric Cooperative, Inc.

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801 Coleman Ave. P. O. Box 39 Bison, SD 57620

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January 10, 2013

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

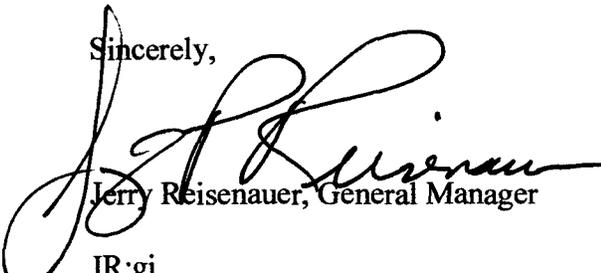
Dear Mr. Cochnar:

Grand Electric Cooperative, Inc., a power provider located in Bison, SD, is providing electric service to Pump Stations 15 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed is a map showing the location and route of the power line we intend to permit and build to service the Keystone XL Project, Pump Station 15. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,

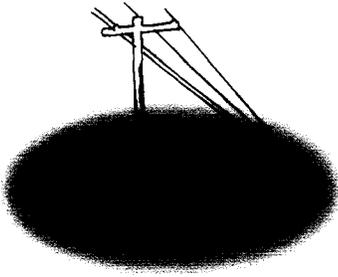


Jerry Reisenauer, General Manager

JR:gj

Enclosures





# Grand Electric Cooperative, Inc.

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801 Coleman Ave. P. O. Box 39 Bison, SD 57620

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January 10, 2013

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

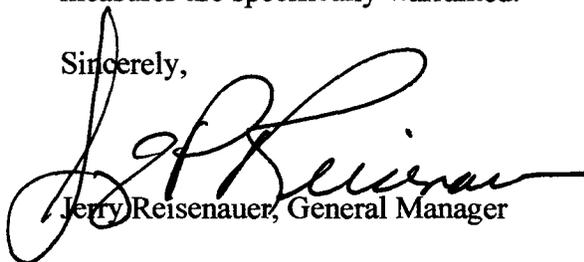
Dear Mr. Cochnar:

Grand Electric Cooperative, Inc., a power provider located in Bison, SD, is providing electric service to Pump Stations 16 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed is a map showing the location and route of the power line we intend to permit and build to service the Keystone XL Project, Pump Station 16. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

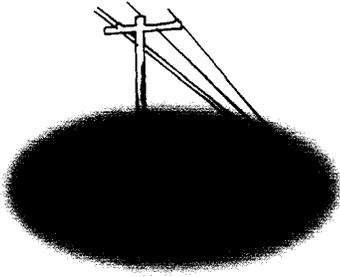
Sincerely,



Jerry Reisenauer, General Manager

JR:gj

Enclosures



# Grand Electric Cooperative, Inc.

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801 Coleman Ave. P. O. Box 39 Bison, SD 57620

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January 10, 2013

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

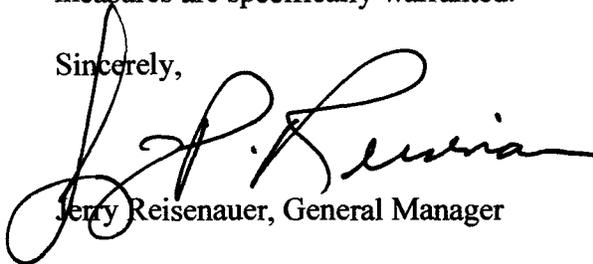
Dear Mr. Cochnar:

Grand Electric Cooperative, Inc., a power provider located in Bison, SD, is providing electric service to Pump Stations 17 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed is a map showing the location and route of the power line we intend to permit and build to service the Keystone XL Project, Pump Station 17. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,



Jerry Reisenauer, General Manager

JR:gj

Enclosures



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This information is not included in the Final Supplemental EIS.



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501-5408

January 24, 2013



Jerry Reisenauer, General Manager  
Grand Electric Cooperative, Inc.  
801 Coleman Avenue  
P.O. Box 39  
Bison, South Dakota 57620

Re: Transmission Lines for Pumping Stations  
15, 16, and 17 Along the Keystone XL  
Pipeline in Harding, Perkins, and Meade  
Counties in South Dakota

Dear Mr. Reisenauer:

This letter is in response to your request dated January 10, 2013, for environmental comments regarding the above referenced project involving the construction of new transmission lines to provide electric service to Keystone XL pumping station 15 in Harding County, pumping station 16 in Harding and Perkins Counties, and pumping station 17 in Meade County, South Dakota.

In our February 8, 2011, correspondence, our main concern was expressed for greater sage grouse, a candidate species, and game species in South Dakota. Since that time, several meetings and conversations have occurred with Keystone staff, South Dakota Department of Game, Fish and Parks (SDDGFP) staff, and U.S. Fish and Wildlife Service (Service) staff. We feel that the best conservation measures have been summarized in the November 4, 2011, letter to the SDDGFP from Richard Fristik, Rural Utilities Service, as follows:

### Proposed Conservation/Mitigation Measures

We agree with the approach that both "active" and "inactive" leks should be treated similarly in assessing potential impacts. Lines will be constructed in existing ROWs, and there would be limited if any vegetation clearance; although some of the rebuild portions of the proposals will replace overhead with underground line, it is not feasible to bury the new transmission lines due to cost, operational considerations, and RUS regulations. Although possible, we do not foresee collision being a major threat to grouse. We believe that perch deterrents would be warranted and potentially useful for those pole locations that are one mile

or less from a lek. Cones or spike-type deterrent devices seem to be most effective, but all deterrents are limited in their effectiveness, although time spent perching may be reduced (Lammers and Collopy 2007; Prather and Messmer 2010). The design of the proposed lines (i.e., armless, with insulators mounted directly to the poles) may also present challenges in affixing deterrents. While the proposed line routes are relatively final, we will work with GEC to consider adjustments to avoid priority grouse leks. We will also adhere to the extent possible to your recommended seasonal construction windows (March 1 – July 15), but please recognize that construction schedules will be largely driven by that of the pipeline.

The Service appreciates the opportunity to provide comments. If you have any questions regarding these comments, please contact Charlene Bessken of this office at (605) 224-8693, Extension 231.

Sincerely,



Scott V. Larson  
Field Supervisor  
South Dakota Field Office

cc: FWS/ES; Grand Island, NE  
(Attention: Robert Harms)  
Secretary/SDDGFP; Pierre, SD  
(Attention: Tom Kirschenmann)



A Touchstone Energy\* Cooperative



PO Box 17  
204 Main St.  
Murdo SD 57559

Phone (605) 669-2472 or 1-800-242-9232  
Fax (605) 669-2358 Email [wcec@wce.coop](mailto:wcec@wce.coop)

December 18, 2012

John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

Dear Mr. Cochnar:

West Central Electric Cooperative, Inc., a power provider located in Murdo, South Dakota, is providing electric service to Pump Stations 18 and 19 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed are proposed maps of the power lines we intend to permit and build to service the Keystone XL Project. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,

WEST CENTRAL ELECTRIC CO-OP., INC.

Steven J. Reed  
CEO/Manager

SJR:bm

Enc.

MANAGEMENT STAFF

Steve Reed – CEO/Manager

Dean Nelson – Operations Manager

Joe Connot – Member Services Director

Jeff Birkeland – Finance Manager

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This information is not included in the Final Supplemental EIS.



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501-5408



January 24, 2013

Mr. Kit Talich, Engineer  
West Central Electric Cooperative, Inc.  
204 Main Street  
P.O. Box 17  
Murdo, South Dakota 57559

Re: Transmission Lines for Pumping Stations  
17, 18, and 19 Along the Keystone XL  
Pipeline in Haakon, Jones, and Meade  
Counties in South Dakota

Dear Mr. Talich:

This letter is in response to your request dated December 31, 2012, for environmental comments regarding the above referenced project involving the construction of new 115 kV transmission lines to provide service to Keystone XL pumping station 17 in Meade County, pumping station 18 in Haakon County, and pumping station 19 in Jones County, South Dakota.

As discussed in previous conversations and correspondence, these transmission lines are on the outer edges of the whooping crane migration corridors and few wetlands exist near the pumping stations that would attract whooping cranes. This project, as described, will have no significant impact on fish and wildlife resources. It does not involve any federally listed threatened or endangered species or their habitats.

The Federal action agency or their designated representative should consider a "may affect - not likely to adversely affect" determination for this project per section 7 of the Endangered Species Act.

The U.S. Fish and Wildlife Service appreciates the opportunity to provide comments. If you have any questions regarding these comments, please contact Charlene Bessken of this office at (605) 224-8693, Extension 231.

Sincerely,

A handwritten signature in blue ink that reads "Scott Larson". The signature is written in a cursive, flowing style.

Scott V. Larson  
Field Supervisor  
South Dakota Field Office

cc: FWS/ES; Grand Island, NE  
(Attention: Robert Harms)

## Robert Harms

---

**From:** Bessken, Charlene  
**Sent:** Monday, February 25, 2013 8:50 AM  
**To:** Robert Harms  
**Subject:** Keystone XL - pump stations

Just missed your call.

For clarification, pump stations No. 17 will be serviced for electric power by Grand Electric.

There was a typo in the letter for West Central - this pump station is NOT in there service territory.

Sorry

--

Charlene "Charlie" Bessken  
TWS Certified Wildlife Biologist  
Fish and Wildlife Biologist  
USFWS South Dakota Field Office  
420 South Garfield Avenue, Suite 400  
Pierre, SD 57501  
(605) 224-8693 ext. 231  
Fax (605) 224-9974  
[www.fws.gov/southdakotafieldoffice](http://www.fws.gov/southdakotafieldoffice)

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# ROSEBUD ELECTRIC COOPERATIVE, INCORPORATED

P.O. Box 439  
512 ROSEBUD AVENUE  
GREGORY, SD 57533  
PHONE: 605-835-9624  
TOLL FREE: 1-888-464-9304  
FAX: 605-835-9649  
EMAIL: rosebudelectric.com

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Power Lines Serving Keystone XL Pipeline Pump Stations

Dear Mr. Cochnar:

Rosebud Electric, a rural electric cooperative located in Gregory SD, is providing electric service to Pump Station 20 and 21 of the Keystone XL Pipeline Project. As part of the environmental review of the Keystone XL Project, for which TransCanada filed a Presidential Permit application on May 4, 2012, we understand certain impacts associated with the power lines being constructed by all power providers have to be reviewed and approved by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act.

As such, we agree that we will consult with your office on mitigative and protective measures that can be incorporated into the design of the power line facilities in order to minimize impacts to the Whooping crane, interior least tern, and piping plover that may occur in certain specific areas along the power line corridors.

Enclosed are proposed maps of the power lines we intend to permit and build to service the Keystone XL Project. We would appreciate your comments on where the mitigative measures need to be incorporated and what measures are specifically warranted.

Sincerely,

Gary Clayton, Manager Rosebud Electric Cooperative Inc.

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# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501-5408

January 24, 2013



Mr. Gary Clayton, Manager  
Rosebud Electric Cooperative, Inc.  
512 Rosebud Avenue  
P.O. Box 439  
Gregory, South Dakota 57533

Re: Transmission Lines for Pumping Stations 20  
and 21 Along the Keystone XL Pipeline in  
Tripp and Gregory Counties, South Dakota

Dear Mr. Clayton:

This letter is in response to your request received in our office on December 31, 2012, for environmental comments regarding the above referenced project involving the construction of new transmission lines to provide electric service to Keystone XL pumping station 20 in Tripp County and pumping station 21 in Gregory County, South Dakota.

In our November 16, 2010, correspondence, we noted that these transmission lines “are unlikely to disturb American burying beetles, piping plovers, or least terns in South Dakota.”

We went on to state that “whooping cranes have been documented as colliding with transmission lines during spring and fall migration” and that “Tripp and Gregory Counties are both in the center band of the whooping crane migration corridor in which 75 percent of confirmed sightings have occurred.” Charlene Bessken of our staff provided a map with some highlighted areas that were likely potential suitable habitat areas that whooping cranes might use. We recommended marking the lines in and around those areas. To complete the section 7 review of this project, please let us know if you will be marking these lines or providing other efforts to avoid, minimize, or mitigate impacts to whooping cranes.

The Federal action agency or their designated representative should consider a “may affect - not likely to adversely affect” determination for this project per section 7 of the Endangered Species Act.

The U.S. Fish and Wildlife Service appreciates the opportunity to provide comments. If you have any questions regarding these comments, please contact Charlene Bessken of this office at (605) 224-8693, Extension 231.

Sincerely,

A handwritten signature in black ink that reads "Scott Larson". The signature is written in a cursive style with a large, prominent "S" and "L".

Scott V. Larson  
Field Supervisor  
South Dakota Field Office

cc: FWS/ES; Grand Island, NE  
(Attention: Robert Harms)



**Nebraska Public Power District**

*Always there when you need us*

December 27, 2012

Nebraska Game and Parks Commission  
Attn: Michelle Koch  
Nebraska Game and Parks Commission  
2200 N. 33<sup>rd</sup> Street  
P.O. Box 30370  
Lincoln, NE 68503-0370

Re: Nebraska Public Power District Transmission Lines  
(Keystone XL Pipeline Pump Stations #22, #23, and #24)

Dear Ms. Koch:

It is Nebraska Public Power District's (NPPD) understanding that as a result of recent conversations between the US Fish and Wildlife Service (USFWS) and TransCanada that each power provider associated with the Keystone XL Project is being asked to provide USFWS with a letter indicating the willingness of power providers to work with USFWS regarding threatened and endangered species.

Nebraska Public Power District (NPPD) is a supplier of retail and wholesale electric service in Nebraska. Pump stations associated with the Keystone XL Project will require electric service and will represent significant electric loads to the local electric service provider. While NPPD will not be providing electric service directly to these pump stations at a retail level, NPPD will provide electric service to NPPD wholesale customers, who in turn will provide electric service to the pump stations. In order for the wholesale customers to provide reliable electric service to Keystone XL Pump Stations #22, #23, and #24, NPPD must construct additional 115 kV transmission lines. Accordingly, NPPD will establish three separate 115 kV transmission line projects, one to each of the three pump stations.

NPPD follows a very structured route identification and selection process with an emphasis on public involvement, including coordination with various agencies that may have jurisdiction in the line route study areas. Such agencies include the USFWS, as well as the Nebraska Game and Parks Commission (NGPC). For these projects, NPPD is committed to continue coordination with both agencies regarding measures that may need to be incorporated into route selection, engineering/design and construction of the transmission lines to address potential impacts to threatened and endangered species that may occur in certain specific areas.

**General Office**

1414 15th Street / PO Box 499 / Columbus, NE 68602-0499

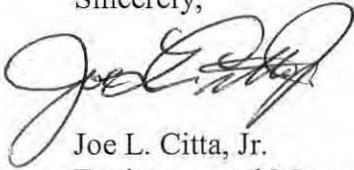
**Telephone:** (402) 564-8561 / **Fax:** (402) 563-5527

[www.nppd.com](http://www.nppd.com)

Once pump station locations and tie-in locations into NPPD's transmission system have been finalized, it is NPPD's plan to contact the USFWS and the NGPC to begin coordination efforts.

Please contact me at 402-563-5355 if you have any questions or require additional information.

Sincerely,



Joe L. Citta, Jr.  
Environmental Manager

Attachments

Cc: Robert Harms (USFWS)  
Don Veseth (NPPD)

Bc: Jedd Fischer (NPPD)  
Larry Linder (NPPD)  
Lynn Askew (POWER Engineers)  
Mike Tatterson (POWER Engineers)



**Nebraska Public Power District**

*Always there when you need us*

December 27, 2012

Mr. Michael D. George  
Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Nebraska Public Power District Transmission Lines  
(Keystone XL Pipeline Pump Stations #22, #23, and #24)

Dear Mr. George:

It is Nebraska Public Power District's (NPPD) understanding that as a result of recent conversations between the US Fish and Wildlife Service (USFWS) and TransCanada that each power provider associated with the Keystone XL Project is being asked to provide USFWS with a letter indicating the willingness of power providers to work with USFWS regarding threatened and endangered species.

Nebraska Public Power District (NPPD) is a supplier of retail and wholesale electric service in Nebraska. Pump stations associated with the Keystone XL Project will require electric service and will represent significant electric loads to the local electric service provider. While NPPD will not be providing electric service directly to these pump stations at a retail level, NPPD will provide electric service to NPPD wholesale customers, who in turn will provide electric service to the pump stations. In order for the wholesale customers to provide reliable electric service to Keystone XL Pump Stations #22, #23, and #24, NPPD must construct additional 115 kV transmission lines. Accordingly, NPPD will establish three separate 115 kV transmission line projects, one to each of the three pump stations.

NPPD follows a very structured route identification and selection process with an emphasis on public involvement, including coordination with various agencies that may have jurisdiction in the line route study areas. Such agencies include the USFWS, as well as the Nebraska Game and Parks Commission (NGPC). For these projects, NPPD is committed to continue coordination with both agencies regarding measures that may need to be incorporated into route selection, engineering/design and construction of the transmission lines to address potential impacts to threatened and endangered species that may occur in certain specific areas.

**General Office**

1414 15th Street / PO Box 499 / Columbus, NE 68602-0499

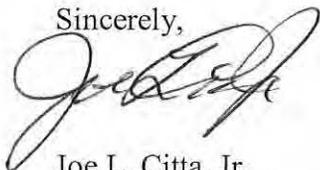
**Telephone:** (402) 564-8561 / **Fax:** (402) 563-5527

[www.nppd.com](http://www.nppd.com)

Once pump station locations and tie-in locations into NPPD's transmission system have been finalized, it is NPPD's plan to contact the USFWS and the NGPC to begin coordination efforts.

Please contact me at 402-563-5355 if you have any questions or require additional information.

Sincerely,



Joe L. Citta, Jr.  
Environmental Manager

Attachments

Cc: Robert Harms (USFWS)  
Michelle Koch (NGPC)  
Don Veseth (NPPD)

Bc: Jedd Fischer (NPPD)  
Larry Linder (NPPD)  
Lynn Askew (POWER Engineers)  
Mike Tatterson (POWER Engineers)



**Nebraska Public Power District**  
*Always there when you need us*

March 4, 2013

US Fish & Wildlife Service  
Attn: Robert Harms  
US Fish & Wildlife Service  
Nebraska Field Office  
203 West Second Street  
Federal Building, Second Floor  
Grand Island, NE 68801

Re: NPPD Keystone XL T&E Species Request Response

Dear Mr. Harms:

In December 2012, power providers were asked to provide a letter indicating their willingness to work with the U.S. Fish and Wildlife Service (USFWS) regarding threatened and endangered species. Per this request, Nebraska Public Power District (NPPD) provided a letter to USFWS dated December 27, 2012 (Attachment A). It is NPPD's understanding that as a result of recent conversations between the USFWS, the U.S. Department of State and TransCanada that each power provider associated with the Keystone XL Project is now being asked to provide USFWS with additional information related to transmission lines that may be constructed to service the pipeline pump stations.

**a) Project Actions:**

NPPD is a supplier of retail and wholesale electric service in Nebraska. Pump stations associated with the Keystone XL Project will require electric service and will represent significant electric loads to the local electric service provider. While NPPD will not be providing electric service directly to these pump stations at a retail level, NPPD will provide electric service to NPPD wholesale customers, who in turn will provide electric service to the pump stations. In order for the wholesale customers to provide reliable electric service to Keystone XL Pump Stations #22, #23, #24 and #26, NPPD must construct additional 115 kV transmission lines. Accordingly, NPPD will establish four separate 115 kV transmission line projects, one to each of the four pump stations.

NPPD follows a very structured route identification and selection process with an emphasis on public involvement, including coordination with various agencies that may have jurisdiction in the line route study areas. Such agencies include the USFWS, as well as the Nebraska Game and Parks Commission (NGPC). For these projects, NPPD is committed to continue coordination with both the USFWS and NGPC regarding possible measures that may need to be incorporated into route selection, engineering/design and construction of the transmission lines to address potential impacts to threatened and endangered (T&E) species that may occur in certain specific areas. Potential impacts or effects on T&E Species or Critical Habitat are specifically included as part of the NPPD line routing evaluation criteria. This same established process will be utilized by NPPD for these transmission line projects related to Pump Stations #22, #23, #24 and #26.

NPPD must also submit an application to the Nebraska Power Review Board (PRB) for transmission projects. The PRB has a responsibility to approve the need for transmission projects including a determination that proposed projects do not conflict with transmission systems of other utilities or represent an unnecessary duplication of facilities. The PRB does not specifically have transmission line routing authority. As a state agency however, the PRB must by statute consult with the NGPC for each transmission line project for a determination of potential impacts of transmission projects on T&E species.

**b) Project Areas:**

TransCanada has provided information to NPPD that generally indicates Keystone XL Pump Stations #22 (Holt County), #23 (Antelope County), #24 (Nance/Merrick Counties) and #26 (Jefferson County) are proposed to be located as follows:

Pump Station #22 – approximately 8 miles north and 4 miles west of O’Neill, Nebraska  
Pump Station #23 – approximately 2 miles north and 5 miles east of Neligh, Nebraska  
Pump Station #24 – approximately 11 miles north and 2 miles west of Clarks, Nebraska  
Pump Station #26 – approximately 1 ½ miles east of Steele City, Nebraska

It is NPPD’s understanding that while TransCanada has identified specific parcels of property for pump station locations #22, #23, and #24, the parcels have not been purchased, therefore the pump locations have not been finalized. Pump Station #26 will be built on property already owned by TransCanada, immediately adjacent to the existing pump station previously built for the original Keystone Pipeline. NPPD has reviewed the proposed pump station locations and completed an initial system review to determine the capabilities of NPPD-owned transmission lines in each area to determine possible interconnection locations for the new required 115 kV transmission lines. For each location, existing 115 kV transmission lines are present within relatively close proximity. This close proximity to existing transmission lines will result in the need to construct

relatively short segments of new transmission line from the existing lines to the pump station locations. Approximate length of these new segments is as follows:

Pump Station #22 – approximately 4 miles of new 115 kV transmission line

Pump Station #23 – approximately 4 miles of new 115 kV transmission line

Pump Station #24 – approximately 15 miles of new 115 kV transmission line

Pump Station #26 – approximately 300 feet of new 115 kV transmission line (one span)

The areas in which the four 115 kV lines would be constructed consist primarily of agricultural properties with a mix of irrigated and dryland operations (corn, soybeans, alfalfa), as well as pasture areas. The transmission line for Pump Station #24 near Clarks will need to cross the Platte River as well as wet meadow areas associated with smaller creeks and streams that drain to either the Platte or Loup Rivers.

**c) Species and/or Critical Habitat:**

The following federal and state-listed T&E species were identified and considered for the counties where the proposed transmission lines are likely to be built for Pump Stations #22, #23, #24 and #26 include:

**Holt County (Pump Station #22)**

American Burying Beetle (*Nicrophorus americanus*) (FE, SE)\*

Interior Least Tern (*Sternula antillarum athalassos*) (FE, SE)

Piping Plover (*Charadrius melodus*) (FT, ST)

River Otter (*Lontra canadensis*) (ST)

Small White Lady's Slipper (*Cypripedium candidum*) (ST)

Western Prairie Fringed Orchid (*Platanthera praeclara*) (FT, ST)

Whooping Crane (*Grus americana*) (FE, SE)

**Antelope County (Pump Station #23)**

River Otter (ST)

Small White Lady's Slipper (ST)

Western Prairie Fringed Orchid (FT, ST)

Whooping Crane (FE, SE)

**Merrick County (Pump Station #24)**

Finescale Dace (*Phoxinus neogaeus*) (ST)

Interior Least Tern (FE, SE)

Piping Plover (FT, ST)

River Otter (ST)

Small White Lady's Slipper (ST)

Whooping Crane (FE, SE)

**Nance County (Pump Station #24)**

Finescale Dace (ST)  
Interior Least Tern (FE, SE)  
Piping Plover (FT, ST)  
River Otter (ST)  
Small White Lady's Slipper (ST)  
Whooping Crane (FE, SE)

**Jefferson County (Pump Station #26)**

Massasauga (*Sistrurus catenatus*) (ST)  
Whooping Crane (FE, SE)

\*FE = Federal Endangered; SE = State Endangered; FT = Federal Threatened; ST = State Threatened

**d) Species and/or Critical Habitat Effects**

While the actual effects cannot be completely evaluated or determined until specific line routes are identified, NPPD has worked in these geographical areas in the past and has a good understanding of species that may be present, potential impacts of transmission lines and practices to consider that may avoid or minimize potential impacts.

In order to provide a response to this letter, NPPD coordinated with the USFWS and the NGPC to complete a review for the identified T&E species for the general geographical area where these lines would be expected to be routed. This effort included a desktop review of aerial photography, other readily available data and information and discussions with the USFWS and NGPC about information the agencies have available related to the identified species. This review was completed at a meeting on February 19, 2013.

Based on information available and implementation of the agreed upon actions identified below, it was agreed that these projects will not represent a significant negative impact on any of the identified T&E Species.

It was also agreed that, while there may be areas with possible "suitable" habitat for some of the identified species in the proximity of the project areas, "federally designated critical habitat" for the identified species is not present. Therefore, there will be no impact to any "federally designated critical habitat."

**e) Relevant Reports/Commitments**

NPPD agrees to the following specific actions related to specific species based on discussions between USFWS, NGPC and NPPD on February 19, 2013. As potential

impacts cannot be fully evaluated until fine line routes are known, NPPD agrees to continued coordination with both the USFWS and NGPC as these projects progress.

**Black-Footed Ferret** - Black-footed ferret (*Mustela nigripes*) is not identified for any of the project counties. Based on this information, it was agreed that further evaluation of potential impacts to this species is not required.

**Pallid Sturgeon** - Pallid sturgeon (*Scaphirhynchus albus*) is not identified for any of the project counties. Based on this information, it was agreed that further evaluation of potential impacts to this species is not required.

**Finescale Dace** – According to the most recent T&E species range maps as published by the NGPC, none of the four areas proposed for construction of transmission lines in Nebraska for Pump Stations #22, #23, #24 and #26 are within the range of the finescale dace. Based on this most recent information, it was agreed that further evaluation of potential impacts to this species is not required.

**Massasauga**– Of the four proposed transmission project areas, the only area that may have suitable habitat for massasauga is the area in the vicinity of Pump Station #26. Considering the short span (less than 300 feet) of 115 kV transmission line that must be built by NPPD at this location and the fact that the immediate vicinity has been previously developed for the existing pump station, it was agreed that the project is unlikely to adversely impact this species. If massasauga are encountered during construction, they will not be harmed or destroyed unless they pose an eminent threat to human life.

**American Burying Beetle** – A significant portion of the geographic areas to be considered for construction of the proposed transmission lines consist of cultivated agricultural properties. It was agreed that suitable habitat areas for American burying beetle (ABB) are not present within the general geographic transmission line areas associated with Pump Stations #23, #24 and #26. Based on this information, it is agreed that further evaluation of potential impacts to ABB for these project areas is not required.

For the general geographic transmission line area associated with Pump Station #22, it was agreed that suitable ABB habitat may be present, but is extremely limited due to the prevalence of cultivated agricultural properties as evidenced by the number of center pivots. Data associated with recent presence/absence surveys completed in the immediate vicinity of Pump Station #22 by TransCanada along the pipeline route does indicate that while ABB habitat may be limited, ABB were present in the area on a limited basis. Based on this information, it is agreed that any potential impact to ABB resulting from construction of the transmission line would be slight. In order to avoid and minimize any potential impact, NPPD agrees to:

- Schedule substation and line construction activities for this line segment during the ABB dormant or inactive period (September 15 to April 1).
- Coordinate with USFWS and NGPC to determine appropriate measures to minimize potential impacts if such scheduling cannot be accomplished due to unexpected circumstances such as weather delays.

**Whooping Crane** – Habitat that may be suitable as roosting, feeding, or loafing areas for whooping cranes is generally present in the geographic areas where transmission lines may be sited for Pump Stations #22, #23, #24 and #26.. Once final line routes are determined, NPPD agrees to:

- Complete a field review with the USFWS and NGPC to determine if any areas are present with a higher probability of whooping crane use (i.e., wetlands or large ponded areas (stock ponds), meadows, and obvious flight corridors to and from such areas to feeding habitats).
- Install spiral bird flight diverters, consistent with APLIC standards, in appropriate areas as identified during the field review.
- Complete daily presence/absence whooping crane surveys according to protocol if construction occurs during the spring or fall migration periods in areas where such surveys are agreed to be appropriate and necessary to avoid disturbance. Should a whooping crane(s) be sighted within ½ mile of a work area, all work would cease until the whooping crane(s) leave that immediate area. The USFWS and NGPC would be contacted immediately and notified of the presence of whooping crane(s).

**Interior Least Tern and Piping Plover** – It was agreed that habitat areas for interior least terns and piping plovers are not present within the general geographic transmission line areas associated with pump stations #22, #23 and #26. The crossing of the Platte River south of Clarks, Nebraska for Pump Station #24 represents the only area that has the potential for impacts on interior least tern or piping plover. NPPD completed nest surveys in this area in 2011 before the pipeline project was halted for re-route considerations. At that time, no suitable nesting habitat was present within 1/4 mile upstream or downstream of the proposed river crossing location. Understanding that the Platte River is dynamic and continuously changing, NPPD agrees to:

- Complete nest surveys for interior least terns and piping plovers within an area 1/4 mile upstream and downstream of the proposed river crossing location if construction is expected to take place during the nesting period.
- Halt construction if active nests are identified within ¼ mile of the Platte River crossing area until such time that chicks and adults leave the nesting area.
- Install spiral bird flight diverters on the shield wire on the line span between the banks at the Platte River crossing and one span on each side of the crossing.

**Western Prairie Fringed Orchid and Small White Lady's Slipper** – It was agreed that the geographic area for the transmission line segment associated with Pump Station #26 is outside of the range of both the western prairie fringed orchid and the small white lady's slipper and that further evaluation of potential impacts to these species in this project area is not required.

However, habitat that may be suitable for western prairie fringed orchid or Small White lady's slipper is generally present in the geographic areas where transmission lines may be sited for Pump Stations #22, #23 and #24. Once final line routes are determined at these locations, NPPD agrees to:

- Complete field surveys for these plant species during the appropriate bloom periods only in areas along the final line routes that are considered "suitable" habitat.
- Delineate and mark areas where either species is observed as "avoidance areas" where placement of structures and construction traffic will not occur.

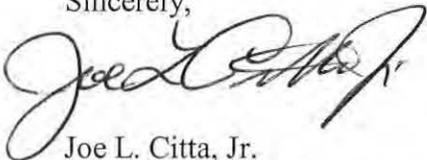
**River Otter** – Of the four proposed transmission project areas, the only area that may have suitable habitat for river otters is the crossing of the Platte River near Clarks, Nebraska associated with the construction of a transmission line to Pump Station #24. River otters use dens that can be up to ½ mile from the nearest water body. NPPD completed a river otter den survey of the Platte River crossing area in 2011 with no dens identified. As river otters can be very mobile and ranges expand, NPPD agrees to:

- Complete a river otter den survey prior to construction.
- Avoid construction in the area if active den(s) are identified, until after June 15 when the river otter natal denning period has passed.

Once pump station locations and tie-in locations into NPPD's transmission system have been finalized, NPPD will contact the USFWS and the NGPC to continue coordination efforts.

Please contact me at 402-563-5355 if you have any questions or require additional information.

Sincerely,



Joe L. Citta, Jr.  
Environmental Manager

Attachment

Cc: Michelle Koch (NGPC)  
Don Veseth (NPPD)

## Attachment A



**Nebraska Public Power District**

*Always there when you need us*

December 27, 2012

Mr. Michael D. George  
Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Re: Nebraska Public Power District Transmission Lines  
(Keystone XL Pipeline Pump Stations #22, #23, and #24)

Dear Mr. George:

It is Nebraska Public Power District's (NPPD) understanding that as a result of recent conversations between the US Fish and Wildlife Service (USFWS) and TransCanada that each power provider associated with the Keystone XL Project is being asked to provide USFWS with a letter indicating the willingness of power providers to work with USFWS regarding threatened and endangered species.

Nebraska Public Power District (NPPD) is a supplier of retail and wholesale electric service in Nebraska. Pump stations associated with the Keystone XL Project will require electric service and will represent significant electric loads to the local electric service provider. While NPPD will not be providing electric service directly to these pump stations at a retail level, NPPD will provide electric service to NPPD wholesale customers, who in turn will provide electric service to the pump stations. In order for the wholesale customers to provide reliable electric service to Keystone XL Pump Stations #22, #23, and #24, NPPD must construct additional 115 kV transmission lines. Accordingly, NPPD will establish three separate 115 kV transmission line projects, one to each of the three pump stations.

NPPD follows a very structured route identification and selection process with an emphasis on public involvement, including coordination with various agencies that may have jurisdiction in the line route study areas. Such agencies include the USFWS, as well as the Nebraska Game and Parks Commission (NGPC). For these projects, NPPD is committed to continue coordination with both agencies regarding measures that may need to be incorporated into route selection, engineering/design and construction of the transmission lines to address potential impacts to threatened and endangered species that may occur in certain specific areas.

**General Office**

1414 15th Street / PO Box 499 / Columbus, NE 68602-0499

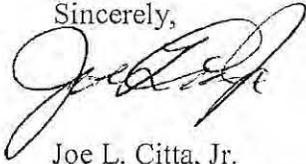
Telephone: (402) 564-8561 / Fax: (402) 563-5527

[www.nppd.com](http://www.nppd.com)

Once pump station locations and tie-in locations into NPPD's transmission system have been finalized, it is NPPD's plan to contact the USFWS and the NGPC to begin coordination efforts.

Please contact me at 402-563-5355 if you have any questions or require additional information.

Sincerely,



Joe L. Citta, Jr.  
Environmental Manager

Attachments

Cc: Robert Harms (USFWS)  
Michelle Koch (NGPC)  
Don Veseth (NPPD)

Bc: Jedd Fischer (NPPD)  
Larry Linder (NPPD)  
Lynn Askew (POWER Engineers)  
Mike Tatterson (POWER Engineers)



March 7, 2013

Subject: Keystone XL Project

To: Robert R. Harms  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801  
Office: (308) 382-6468, Extension 17  
Cell: (308) 390-0871

Dear Mr. Harms

On March 5, 2013 you and I inspected the proposed site for the Keystone XL Fairmont Pumping Station PS-25R. The proposed pumping station is located in the Northwest corner of Section 11, Township 8 North and Range 2 West in Fillmore County Nebraska. We also inspected the two possible Electrical Transmission Line Routes to serve the pumping station.

The primary line route would run east to west along the north side of said section 11 on County Road B for a distance of approximately one mile. The second possible line route would run north to south from said pumping station location north along County Road 17 for approximately two miles. Both routes are surrounded by mostly flat irrigated farm land.

In conclusion, it was my understanding that neither one of the proposed line routes will present any danger to migratory birds. Thank you for helping me and the District on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Burk".

Jeff Burk  
Purchasing Agent  
Perennial Public Power District

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December 19, 2012

Mr. John Cochnar  
Acting Field Supervisor  
US Fish and Wildlife Service  
203 West Second Street  
Grand Island, NE 68801

Dear Mr. Cochnar:

This letter is sent to reaffirm Westar Energy's commitment to complying with USF&WS regulations in our construction of lines associated with the proposed Keystone XL Pipeline Project in Kansas. We routinely work with Dan Mulhern of your Ecological Services office in Manhattan, Kansas.

Please let me know if you have any questions or concerns, or require more detailed information. Thank you.

Sincerely,

Brad Loveless  
Director, Biology & Conservation Programs  
Westar Energy

Cc: Chad Luce, Westar Energy  
Larry Sibbald, TransCanada

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March 4, 2013

Robert R. Harms  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
203 West Second Street  
Grand Island, Nebraska 68801

Mr. Harms,

As a follow up to our previous conversation regarding the Keystone Pipeline Pump Stations number 29 and 27; Westar Energy will construct electrical transmission lines to supply energy to these pump stations in the future, after the project is approved by the Department of State. The two transmission line projects associated with these pump stations are Line 161.04A; TC Burns to Midian, for pump station number 29, located northeast of Potwin in Butler County, and Line 115.107; Clay Center to TC Riley, for pump station number 27, located southeast of Clay Center in Clay County, Kansas.

The Line 161.04A; TC Burns to Midian project has potential for affecting the federally listed endangered Whooping Crane (*Grus americana*) as the western most 1.6 miles of this project is located in the 95% whooping crane sighting corridor. The project area was assessed using the most recent USFWS approved methods, and it was determined there is no suitable habitat for this species within a mile of the proposed transmission line; therefore line marking is not necessary.

The Line 115.107; Clay Center to TC Riley project had no potential for affecting the whooping crane as the project is located outside the 95% sighting corridor. This line does however cross the Republican River, thus bird diverters will be placed on the shield wires of the span crossing the river to enhance visibility and assist in preventing avian collisions.

Please let me know if you need any additional information to assist in your assessment, or if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Pam Tennison-Rindt".

Pam Tennison-Rindt, PWS, CISEC  
Permitting & Compliance Analyst  
Westar Energy, Inc.

Cc; Dan Mulhern, USFWS Manhattan



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Rec'd Mar 14/13



**DEPARTMENT OF GAME, FISH, AND PARKS**

Foss Building  
523 East Capitol  
Pierre, South Dakota 57501-3182

March 4, 2013

TransCanada Pipelines Limited  
Stephen Marr, Manager – Keystone XL  
2700 Post Oak Blvd Suite 400  
Houston, TX 77056

Dear Stephen,

The Department of Game, Fish, and Parks (GFP) appreciates the time the Keystone XL project team has dedicated with our staff to discuss the pipeline route, identified concerns, and alternative approaches to minimize impacts to the greater sage-grouse. We also appreciate the development of a mitigation proposal to monitor the impacts of constructing the pipeline and to obligate resources for habitat enhancements to benefit sage-grouse.

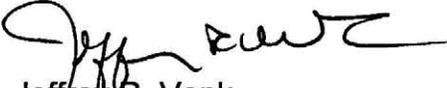
As you know, there is a west-wide effort to ameliorate sage-grouse threats to avoid an ESA listing in 2015. While the sage-grouse range in SD is primarily two northwestern counties, we recognize the implications would be far reaching if this species were to be listed. As such, we are engaged on several fronts to avoid that action. None is more notable than assisting with the implementation of one of the most proactive programs, the USDA Natural Resource Conservation Service (NRCS) Sage Grouse Initiative.

Through this NRCS initiative, we partner a biologist position with Pheasants Forever and NRCS in western SD that works directly with landowners to enroll in incentive-based programs covering a variety of range management practices specifically to address sage-grouse threats. The mitigation dollars allocated by TransCanada would be a great addition to the already dedicated resources and will complement this initiative and other efforts designed to benefit sage-grouse and sagebrush habitats. Because we currently partner with Pheasants Forever on sage-grouse conservation and they administer other sage-grouse conservation funds, we would suggest your consideration of Pheasants Forever to administer the SD mitigation funds.

It will be important to evaluate if any impacts occur as a result of the construction and associated infrastructure of the pipeline. Currently, GFP staff is coordinating ideas with Montana Game and Fish staff on evaluation/research approaches and the possibility of pooling research funds provided by TransCanada. This coordination will assure a consistent and scientifically sound approach is used while maximizing resources and efficiency.

Again, thank you for coordinating with GFP staff on this project. Please continue to work through Tom Kirschenmann, Chief of Wildlife ([tom.kirschenmann@state.sd.us](mailto:tom.kirschenmann@state.sd.us), 605.773.4192, on this project and the mitigation proposal.

Sincerely,



Jeffrey R. Vonk,  
Department Secretary

JV:da

cc: Tony Leif, Wildlife Division Director  
Tom Kirschenmann, Chief of Wildlife  
USFWS, Noreen Walsh – Regional Director, Region 6  
Dept. of State, K. Nicole Gibson – ESA Lead, Keystone XL Project

## **APPENDIX H**

### **2012 Biological Assessment, 2013 Biological Opinion, and Associated Documents**

#### **H4 2013 USFWS Biological Opinion**

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FISH AND WILDLIFE SERVICE

Ecological Services  
Nebraska Field Office  
203 West Second Street  
Grand Island, Nebraska 68801

May 15, 2013

**FWS-NE: 2013-164**

K. Nicole Gibson, Ph.D.  
Endangered Species Act Lead,  
U.S. Department of State  
OES/FO Room 3880  
Washington, D.C. 20520

**Subject: Transmittal of the U.S. Fish and Wildlife Service's Biological Opinion on the Effects to Threatened and Endangered Species from the Issuance of a Presidential Permit to TransCanada Keystone XL Pipeline (Keystone) by the U.S. Department of State for the proposed construction, operation, and maintenance of the Keystone XL pipeline and associated facilities at the border and interrelated and interdependent actions.**

Dear Dr. Gibson:

This document transmits the United States Fish and Wildlife Service's (USFWS) Biological Opinion (BO) regarding potential impacts of the proposed Keystone XL pipeline (Project) to the federally endangered black-footed ferret (*Mustela nigripes*), interior least tern (*Sternula antillarum*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and American burying beetle (*Nicrophorus americanus*)(ABB); and threatened piping plover (*Charadrius melodus*) and western prairie fringed orchid (*Platanthera praeclara*). Additionally, this BO also provides measures that would contribute to the conservation of two federal candidate bird species, the greater sage-grouse (*Centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*), that would likely be impacted by the Project. This consultation document has been prepared pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended (Act) (16 United States Code [U.S.C.] § 1531 et seq.) and 50 Code of Federal Regulations [C.F.R.] § 402 of our interagency regulations governing section 7 of the Act.

Section 7(a) (2) of the Act requires Federal agencies to consult with the USFWS to ensure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any federally listed species nor destroy or adversely modify critical habitat. The proposed Project is the construction and operation of a 36-inch diameter oil pipeline with associated facilities from Hardisty, Alberta, Canada to Steele City, Nebraska with two pumping stations proposed for construction in Butler and Clay counties in Kansas. The direct and indirect effects, as well as the effects from any interrelated and interdependent actions, and cumulative effects, are considered in this BO to determine if the proposed Project is likely to jeopardize the aforementioned federally listed species.

Keystone has applied to the U.S. Department of State (Department) for a Presidential Permit for the construction, connection, operation, and maintenance of the proposed Project pipeline and associated facilities at the border of the United States for importation of crude oil from Canada. The Department receives and considers such applications for Presidential Permits for facilities to transport petroleum, petroleum products, coal, and other fuels transmission projects pursuant to the President's constitutional authority, which authority the President has delegated to the Department in Executive Order (Exec. Order No.) 13337, as amended (69 Federal Register [Fed. Reg.] 25299). Under EO 13337, the Secretary of State may issue a Presidential Permit for a border crossing facility if he finds that issuing such a permit would be in the "national interest." EO 13337 also specifies a process for the Department to seek the views from certain other agencies on whether issuing a permit would be in the national interest. It was determined in consultation with other agencies (including Bureau of Land Management (BLM) and the United States Army Corps of Engineers (USACE)) that the Department would act as the lead federal agency for the environmental review of the proposed Project consistent with National Environmental Policy Act (NEPA). Consequently, the Department is also the lead agency consulting with the USFWS consistent with Section 7 of the ESA. Other federal actions associated with the proposed Project may require separate section 7 consultation with the USFWS.

Several federal agencies are cooperating agencies with the Department, and involved in some capacity with the proposed Project. The proposed Project would affect numerous rivers and wetlands, thus the USACE would issue Section 404 permits as necessary. Because the proposed Project would cross both Federal and private lands, the BLM would evaluate the proposed Project and decide whether to grant Keystone a right-of-way (ROW) authorization for a crude oil pipeline and appurtenant facilities including access roads across those federal lands pursuant to the Mineral Leasing Act (43 C.F.R Part 2880). These federal lands principally include 43 miles of pipeline ROW in Montana, and the proposed pipeline would also cross or go under Bureau of Reclamation facilities on private lands in Montana and South Dakota. The Western Area Power Administration (Western) would own a small section of a 230-kV transmission line in southern South Dakota. This line would supply upgraded load capacity and support voltage requirements for pump stations 20 and 21 (in Tripp County, South Dakota) if the proposed pipeline were to operate at full capacity sometime in the future. Finally, the Rural Utilities Service of the U.S. Department of Agriculture would provide grants to help fund construction of some of the power distribution lines that may be built to provide power to the proposed pipeline pump stations.

### **Project Changes since the Previous Application**

Several changes have been made to the proposed Project since the Final Environmental Impact Statement (Final EIS August 2011) was released and the 2011 BO was withdrawn at the request of the Department by the USFWS on December 21, 2011. In general, there have been 64 route modifications made in Montana, 51 route modifications in South Dakota, and 16 route changes in Nebraska to accommodate landowner concerns and the results of engineering and environmental surveys, and to comply with state permitting requirements. Of these route changes, 2 in Montana, 29 in South Dakota, and 11 route changes in Nebraska are outside the previous project survey corridor. The route changes in Nebraska result from Keystone's agreement to reroute the pipeline around the Nebraska Department of Environmental Quality (NDEQ)-identified Sandhills Region. No changes have been made to the two pump station locations in Kansas. The proposed Project

now includes an ancillary facility that will be used as a rail siding and pipe storage location in North Dakota. This 60-acre pipe yard was used previously as part of TransCanada Pipeline's Bison Pipeline Project.

This BO is based on the best available scientific and commercial data, including E-mail and telephone correspondence, USFWS files, pertinent scientific literature, discussions with recognized species authorities, and other scientific sources. Further, this BO uses information from the December 21, 2012, Biological Assessment (BA) that was submitted to the USFWS by the Department (DOS 2012).

### **Consultation History**

The USFWS's Nebraska Field Office in Grand Island, Nebraska, is delegated the lead office to conduct the consultation with the Department. However, other USFWS Ecological Services Field Offices in Montana, North Dakota, South Dakota, and Kansas were actively involved in the review of the Project during informal consultation beginning in 2008, and provided input on draft consultation documents throughout the consultation.

In September 2011, the USFWS released a BO with an incidental take statement for the American burying beetle (ABB) in South Dakota, Nebraska, and Oklahoma. Subsequently, the USFWS withdrew the BO at the Department's request based on Keystone's agreement with Nebraska to reroute the pipeline in Nebraska to avoid the NDEQ-identified Sandhills Region. Keystone has since filed a new Presidential Permit application with the Department (May 2012). In June 2012, the Department initiated section 7 consultation for the May 2012 Keystone XL Pipeline Presidential Permit application. The Department submitted to the USFWS, a draft BA for the proposed Project in September 2012. For the new application, the Department did not designate Keystone as the non-federal representative. Keystone did not include the Gulf Coast portion of the previous Keystone XL project in its May 2012 application. Keystone decided to pursue the Gulf Coast Project as a stand-alone project with independent utility. That project received the necessary permits from relevant federal and state agencies and is under construction. The proposed Project encompasses a slightly revised "Steele City" segment of the previous proposed Project and is the subject of this BO. Construction and operation of the proposed Project may affect habitats and populations of species protected under Act and by individual state legislation in the aforementioned states. This BO addresses these federally protected species and updated proposed Project information.

The following bulleted items provide a summary of correspondence, species-specific survey information, and continued informal consultation with the USFWS regarding coordination of biological surveys and determination of biological impacts from the previously proposed Project and the new proposed Project. The previously proposed Project had a different geographic scope that included Texas and Oklahoma. Meeting summaries below include Texas and Oklahoma, which were part of the previously proposed Project. They are included here to provide a sense of the extensive agency coordination that has occurred on this Project from 2008 to 2013. Supporting meeting summaries, consultation letters, and other communications are included in the 2012 BA (DOS 2012), in files at the USFWS's Nebraska Ecological Services Field Office located in Grand Island, Nebraska and other USFWS Ecological Services Field Offices in Montana, North Dakota, South Dakota, and Kansas.

- April 2008: Keystone sent initial consultation letters for the Steele City Segment (Montana, South Dakota, and Nebraska) to the USFWS, BLM, state wildlife agencies, and state natural heritage programs to request their input in identifying prominent terrestrial and aquatic resource issues or concerns that may occur within or adjacent to the ROW, focusing on species that are either sensitive (e.g., federal or state listed), have high economic value (e.g., big game, waterfowl), or are considered important resources (e.g., raptors, fish). The consultation letters included state-specific special status species tables compiled from data received from each state, USFWS, and BLM with brief descriptions of species habitat, miles of potential habitat crossed by the Project, and approximate mileposts where potential habitat was identified along the ROW.
- May 5, 2008: Keystone met with the Nebraska Game and Parks Commission (NGPC) and the USFWS at the NGPC office in Lincoln, Nebraska, to discuss issues pertaining to wildlife, special status species, and sensitive habitat that could potentially occur in the Project area. The goal of the meeting was to gather input on agency recommendations based on the information sent to them in April 2008 for species occurrence, habitat assessments, and future field surveys. Keystone incorporated comments from the meeting into survey protocols and best management practices (BMPs) documents for future agency verification.
- May 8, 2008: Keystone met with the USFWS and the Montana Fish, Wildlife, and Parks (MFWP) at the MFWP office in Helena, Montana, to discuss issues pertaining to wildlife, special status species, and sensitive habitat that could potentially occur in the Project area. The goal of the meeting was to gather input on agency recommendations based on the information sent to them in April 2008 for species occurrence, habitat assessments, and future field surveys. Keystone incorporated comments from the meeting into survey protocols and BMPs documents for future agency verification. The MFWP requested a follow-up meeting with additional technical staff from MFWP (Regions 6 and 7).
- June 10, 2008: Keystone met with staff from USFWS and South Dakota Department of Game, Fish, and Parks (SDGFP), at the SDGFP office in Pierre, South Dakota, to discuss issues pertaining to wildlife, special status species, and sensitive habitat that could potentially occur in the Project area. The goal of the meeting was to gather input on agency recommendations based on the information sent to them in April 2008 for species occurrence, habitat assessments, and future field surveys. Keystone incorporated comments from the meeting into survey protocols and BMPs for future agency verification.
- July 29, 2008: Keystone met with staff from the BLM Glasgow Field Office and MFWP Region 6 and 7 at the MFWP office in Glasgow, Montana, to discuss issues pertaining to wildlife, special status species, and sensitive habitat that could potentially occur in the Project area. The goal of the meeting was to discuss agency recommendations based on the information sent to them in April 2008 for species occurrence, habitat assessments, and future field surveys. Keystone incorporated input from the meeting into survey protocols and BMPs for future agency verification.

- December 3, 2008: Keystone received a consultation letter from the USFWS's Ecological Services Field Office in Tulsa, Oklahoma, regarding recommendations for the proposed list of threatened and endangered species about species-specific surveys, habitats of special concern, and BMPs for projects affecting rivers, streams, and tributaries. The USFWS requested formal consultation with the Department to address take of ABB.
- January/February 2009: Keystone initiated section 7 consultation with the USFWS. Keystone continued discussions with BLM, and state wildlife agency offices for Montana, South Dakota, and Nebraska that included state-specific special status species survey protocols and BMPs for the species identified as potentially occurring during the 2008 meetings. A summary of the findings from the 2008 biological field surveys was included in the discussions.
- January 27, 2009: Keystone met with staff from the USFWS and SDGFP at the SDGFP office in Pierre, South Dakota, to discuss issues pertaining to special status species surveys. The goals of the meeting were to verify Keystone's survey approach, BMPs, discuss required field surveys, and review the information that was sent to the USFWS in the January/February 2009, informal consultation package. The USFWS and SDGFP provided additional recommendations to Keystone's sensitive species mitigation approach to be updated prior to final agency concurrence.
- February 3, 2009: Keystone met with staff from the BLM Glasgow Field Office and MFWP Regions 6 and 7 at the MFWP office in Glasgow, Montana, to discuss issues pertaining to special status species surveys. The goals of the meeting were to verify Keystone's survey approach, BMPs, discuss required field surveys, and review the information that was sent to the USFWS in the January/February 2009, consultation package. The BLM and MFWP provided additional recommendations to Keystone's sensitive species mitigation approach to be updated prior to final agency concurrence.
- February 5, 2009: Keystone held a conference call with staff from the BLM Glasgow, Malta, and Miles City field offices to discuss issues pertaining to special status species surveys. The goals of the meeting were to verify Keystone's survey approach, BMPs, discuss required field surveys, and review the information that was sent to the USFWS in the January/February 2009 informal consultation package. The BLM provided additional recommendations to Keystone's sensitive species mitigation approach to be updated prior to final agency concurrence.
- February 19, 2009: Keystone met with staff from the USFWS's Nebraska Ecological Services Field Office and NGPC at the NGPC office in Lincoln, Nebraska, to discuss issues pertaining to special status species surveys. The goals of the meeting were to verify Keystone's survey approach, BMPs, discuss required field surveys, and review the information that was sent to the USFWS in the January/February 2009 informal consultation package. The USFWS and NGPC provided additional recommendations to Keystone's sensitive species mitigation approach to be updated prior to final agency concurrence.
- May 19, 2009: Keystone sent E-mail correspondence to the USFWS's Oklahoma Ecological Services Field Office regarding survey protocols for the interior least tern. Comments and

concurrence were received on the survey locations and methodology on June 17, 2009, and surveys were initiated following receipt of approval.

- June 16, 2009: Keystone held a conference call with staff from the USFWS's Oklahoma Ecological Services Field Office to discuss issues pertaining to the ABB. The goals of the meeting were to determine the next steps in the consultation process for the ABB and verify that the USFWS was receiving the information they required.
- June 25, 2009: Keystone called C. Bessken of the South Dakota Ecological Services Field Office regarding a geotech activity clearance. The USFWS discussed the need for formal section 7 consultation with the Department to address take of the ABB in South Dakota.
- March 2, 2010: Project personnel held a conference call with USFWS about endangered species and migratory bird surveys. The goal of the call was to discuss helicopter survey timing windows for raptors/rookeries and bald eagles in 2010. The need for conducting additional pedestrian surveys for piping plovers was also discussed.
- June 1, 2010: The USFWS provided the Department with comments on the Draft BA of impacts of the proposed Project to threatened and endangered species. Comments from USFWS Ecological Services Field Offices in Nebraska, South Dakota, Oklahoma, and Texas were included.
- June 3, 2010: The USFWS provided the Director of the Office of Environmental Compliance, Department of the Interior combined comments from Region 6 (Denver) and Region 2 (Albuquerque) on the Draft Environmental Impact Statement for the proposed Project.
- September 3, 2010: Keystone met with the USFWS, Keystone, the Department, and Cardno ENTRIX (a consultant), regarding the requirements for formal consultation on the effects of the Keystone XL Pipeline Project.
- September 9, 2010: A meeting was held between USFWS, BLM, and Keystone regarding mitigation and construction stipulations for greater sage-grouse.
- October 12, 2010: Meetings continued between USFWS, Keystone, NGPC, and Cardno ENTRIX regarding the Keystone XL Pipeline Project's section 7 formal consultation on federally listed species.
- December 30, 2010: The USFWS provided comments to Keystone and Cardno ENTRIX on the November 2010 draft BA of impacts to threatened and endangered species from the proposed Keystone XL pipeline.
- December 30, 2010: The USFWS provided comments on the November 29, 2010, revision of the ABB Survey Report to Keystone and Cardno ENTRIX.
- January 7, 2011: A meeting was held between the USFWS, Keystone, and Cardno ENTRIX to discuss USFWS comments on the preliminary 2011 BA.

- January 12, 2011: Meetings continued between USFWS, Keystone, NGPC, and Cardno ENTRIX regarding the Keystone XL Pipeline Project's section 7 formal consultation on federally listed species.
- February 2, 2011: Personnel from the USFWS, Keystone, the Department, and Cardno ENTRIX (for DOS) met to continue discussions about the BA needed for section 7 formal consultation on effects of the Keystone XL Pipeline Project on federally listed species.
- February 17, 2011: Personnel from the USFWS, Department, and Cardno ENTRIX met to continue discussions about the BA needed for section 7 formal consultation on effects of the Keystone XL Pipeline Project on federally listed species.
- March 24, 2011: Personnel from the USFWS, Department, Keystone, NGPC, and Cardno ENTRIX met to continue discussions about the BA needed for section 7 formal consultation on effects of the Keystone XL Pipeline Project on federally listed species.
- April 21, 2011: Personnel from the USFWS, Keystone, Department, and Cardno ENTRIX (for DOS) met to continue discussions about the BA needed for section 7 formal consultation on effects of the Keystone XL Pipeline Project to the ABB. The discussion included potential impacts to wooded areas in Oklahoma.
- April 21, 2011: Personnel from Keystone and the Department met to continue discussions about the BA needed for section 7 formal consultation on the effects of the Keystone XL Pipeline Project on federally listed species. Discussions included monitoring and habitat restoration bonding.
- April 27, 2011: Personnel from the USFWS and Department met to continue discussions about the BA needed for section 7 formal consultation on effects of the Keystone XL Pipeline Project to the ABB. The discussion included monitoring and habitat restoration bonding.
- May 19, 2011: The Department submitted the 2011 BA to the USFWS with a letter requesting initiation of formal consultation. The BA analyzed the potential effects from the proposed Project to species protected under the Act (DOS 2011).
- August 26, 2011: The Department issued the Final Environmental Impact Statement (2011 Final EIS) to cooperating agencies and the public.
- September 6, 2011: The USFWS issued their 2011 BO on the Effects to Threatened and Endangered Species from the Construction and Operation of the previously Proposed Keystone XL Pipeline.
- December 20, 2011: The Department requested that the USFWS withdraw their 2011 BO for the previously proposed Keystone XL Project.

- December 21, 2011: The USFWS withdrew their 2011 BO for the previously proposed Keystone XL Project.
- May 2012: Keystone filed a new Presidential Permit Application with the Department.
- June 27, 2012: The USFWS, Department, BLM, Montana Department of Environmental Quality (MDEQ), MFWP discussed project status and schedule of the proposed Keystone XL Project. This meeting initiated section 7 consultation with the USFWS on the proposed Project.
- July 6, 2012: Meetings between the USFWS, Department, and BLM continued regarding the section 7 consultation under the Act for the proposed Project.
- August 28, 2012: The Department submitted a species list of federally protected and candidate species and federally designated critical habitat to the USFWS for the proposed Project and requested that USFWS verify that list and information pertaining to federally protected and candidate species and federally designated critical habitat.
- September 7, 2012: Keystone submitted the TransCanada Keystone XL Pipeline Project Environmental Report to the Department with an applicant-prepared Draft BA.
- September 28, 2012: The USFWS submitted a Technical Assistance letter for the proposed Project to the Department with a list of species and potential project effects that may occur in the proposed Project area.
- October 9-10, 2012: A meeting was held between the USFWS, Department, Keystone, BLM, NGPC, NDEQ, and MFWP regarding the proposed Project's section 7 consultation under the Act. Discussion included the ABB and other federally listed species, and state-protected species, the draft BA, species surveys, avoidance, minimization, and compensation measures.
- October 19, 2012: The USFWS provided extensive comments on the draft BA for the Project.
- October 23, 2012: A meeting was held between the USFWS, Department, SDGFP, BLM, and Keystone regarding the greater sage-grouse and a compensatory mitigation plan for the species in South Dakota. Discussions included a management plan and avoidance, minimization, and mitigation strategies.
- December 14, 2012: The USFWS provided extensive comments on the draft BA for the Project.
- December 21, 2012: The Department submitted a Final 2012 BA to the USFWS with a letter requesting initiation of formal consultation. The BA analyzed the anticipated effects of the proposed Project to numerous species protected under the Act and included

avoidance, minimization, and compensation strategies. Table 1 lists the species and the effect determinations reached in the BA by the Department (DOS 2012).

- March 1, 2013: The Department issued the 2013 Draft Supplemental EIS to cooperating agencies and the public.

### **Species Determinations**

In its BA, the Department has considered the effects of the proposed Project on federally listed species and designated critical habitat and has made several determinations of effect as shown in Table 1. Further, the Department also considered the effects of the proposed Project on candidate species. The USFWS concurs with the determinations made by the Department that the proposed Project may affect but is not likely to adversely affect the endangered black-footed ferret, interior least tern, whooping crane, and pallid sturgeon; and the threatened piping plover and western prairie fringed orchid. A detailed discussion of factors contributing to our concurrence with the above not likely to adversely affect (NLAA) determinations is included in the Conservation Measures Section of this BO with supporting information on file at the USFWS's Nebraska Ecological Services Field Office.

The USFWS acknowledges the "no effect" determinations made by the Department including the gray wolf, Eskimo curlew, Topeka shiner, and blowout penstemon. Finally, we concur with the determination that the proposed Project may affect and is likely to adversely affect the ABB. Therefore, this BO analyzes the effects of the proposed Project along with the effects of interrelated and interdependent actions on the ABB, because the Keystone XL pipeline may affect and is likely to adversely affect this species. No critical habitat has been designated for the ABB.

The BA also addressed two candidate species: the greater sage-grouse and Sprague's pipit. In its BA, the Department determined that the proposed Project may effect, but is not likely to adversely affect these species (DOS 2012). Please note that our section 7 consultation would not apply to candidate species for this Project. As such, we would defer our concurrence/nonconcurrence on this determination should either species be listed in the future. In the meantime, we commend the Department for including the greater sage-grouse and Sprague's pipit in this BA even though they are not listed. We have concluded that implementation of several measures by Keystone for the greater sage-grouse and Sprague's pipit would certainly contribute to their conservation.

**Table 1.** Species considered in the 2012 BA analyses for the proposed action and effect determinations.

Common Name	Scientific Name	Federal Status	Conclusion <sup>1</sup>	Rationale
<b>Mammals</b>				
Black-footed ferret	<i>Mustela nigripes</i>	Endangered Experimental Populations	NLAA/ NLAA	No potential reintroduction sites present in MT, SD, or NE; no habitat present in Project area.
Gray Wolf	<i>Canis lupus</i>	Endangered/ Experimental Populations	No Effect/ No Effect	Not Present in SD, NE, or KS; delisted in MT
<b>Birds</b>				
Eskimo curlew	<i>Numenius borealis</i>	Endangered	No Effect	Not present
Interior least tern	<i>Sternula antillarum</i>	Endangered	NLAA	Conservation measures adequate
Piping plover	<i>Charadrius melodus</i>	Threatened	NLAA	Conservation measures adequate
Whooping crane	<i>Grus americana</i>	Endangered	NLAA	Conservation measures adequate
<b>Fish</b>				
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered	NLAA	Conservation measures adequate
Topeka shiner	<i>Notropis topeka</i>	Endangered	No Effect	Habitat not affected
<b>Invertebrates</b>				
American burying beetle	<i>Nicrophorus americanus</i>	Endangered	MALAA	Habitat and individuals adversely affected
<b>Plants</b>				
Blowout penstemon	<i>Penstemon haydenii</i>	Endangered	NLAA	Habitat will be avoided
Western prairie fringed orchid	<i>Platanthera praeclara</i>	Threatened	NLAA	Conservation measures adequate

<sup>1</sup> NLAA – May affect, not likely to adversely affect  
MALAA – May affect, likely to adversely affect.

## BIOLOGICAL OPINION

### Description of the Proposed Action

The Federal Action under consideration is the potential issuance by the Department of a Presidential Permit to authorize the crossing of the United States-Canada border by a crude oil transmission system that extends from an oil supply hub near Hardisty, Alberta, Canada, and crosses the states of Montana, South Dakota, and Nebraska before it ends at Steele City, Nebraska (Figure 1). From Steele City, crude oil is then transported via existing pipelines to destinations in the United States. The project also includes an ancillary facility (rail siding and pipe storage location) in North Dakota and the construction of two pumping stations in Clay and Butler counties in Kansas along the existing Keystone Cushing Pipeline Extension. The scope of the proposed Presidential Permit would be for construction, connection, operation, and maintenance of the proposed Keystone XL pipeline and its associated facilities.

Keystone has applied to the Department for a Presidential Permit for the construction, connection, operation, and maintenance of the proposed Project pipeline and associated facilities at the border of the United States for importation of crude oil from Canada. The Department receives and considers such applications for Presidential Permits for facilities to transport petroleum, petroleum products, coal, and other fuels transmission projects pursuant to the President's constitutional authority, which authority the President has delegated to the Department in Exec. Order No. 13337, as amended (69 Fed. Reg. 25299). Under Exec. Order No. 13337, the Secretary of State may issue a Presidential Permit for a border crossing facility if he finds that issuing such a permit would be in the "national interest." Exec. Order No. 13337 also specifies a process for the Department to seek the views from certain other agencies on whether issuing a permit would be in the national interest. It was determined in consultation with other agencies (including BLM and the United States Army Corps of Engineers [USACE]) that the Department would act as the lead federal agency for the environmental review of the proposed Project consistent with National Environmental Policy Act (NEPA). Consequently, the Department is also the lead agency consulting with the USFWS consistent with Section 7 of the ESA.

Several federal agencies are cooperating agencies with the Department, and involved in some capacity with the proposed Project. The proposed Project would affect numerous rivers and wetlands, thus the USACE would issue Section 404 permits as necessary. Because the proposed Project would cross both public and private lands, the BLM would evaluate the proposed Project and decide whether to grant Keystone an ROW across those federal lands pursuant to ROWs under the Mineral Leasing Act (43 C.F.R. Part 2880). These federal lands principally include 43 miles of pipeline ROW in Montana, but the proposed pipeline would also cross or go under Bureau of Reclamation facilities on federal land in Montana and on private land in South Dakota. Western would own a small section of a 230-kV transmission line in southern South Dakota. This line would supply upgraded load capacity and support voltage requirements for pump stations 20 and 21 (in Tripp County, South Dakota) in the future if the proposed pipeline were to operate at full capacity sometime in the future. Finally, the Rural Utilities Service of the Department of Agriculture would provide grants to help fund construction of some of the power distribution lines that may be built to provide power to the proposed pipeline pump stations.

## **Project Description, Location, and Overview**

From north to south, the proposed Project consists of approximately 1,204 miles of new, 36-inch diameter pipeline, with 329 miles in Canada and 875 miles in the United States from Morgan, Montana to Steele City, Nebraska. In the United States, the proposed Project would be constructed in 10 parts or 10 mainline spreads, varying in length between approximately 80 and 94 miles each, in 2014 and 2015 (Table 1) (DOS 2012). The proposed Project would involve the construction of facilities ancillary to the pipeline including pumping stations, main line valves, access roads, rail siding and pipe storage yards (Table 2) (DOS 2012).

## **Land Requirements**

Surface disturbance associated with the construction and operation of the proposed Project by state is summarized on Table 3. Approximately 16,277 acres of land would be disturbed during construction of the proposed facilities in Montana, North Dakota, South Dakota, Nebraska, and Kansas. After construction, the temporary ROW (approximately 10,693 acres) would be restored and returned to its previous land use. After construction is complete, approximately 5,584 acres would be retained as permanent ROW and for permanent ancillary facilities. All disturbed acreage would be restored and returned to its previous aboveground land use after construction, except for approximately 286 acres of permanent ROW, which would not be restored but would serve to provide adequate space for aboveground facilities including pump stations and valves, for the life of the proposed pipeline, which is 50 years.

## **Pipeline Right-of-Way**

The installation of the proposed 36-inch diameter pipeline would occur within a 110-foot-wide construction ROW, consisting of a 60-foot temporary construction ROW and a 50-foot permanent ROW. The construction ROW would be reduced to 85 feet in certain areas to avoid and minimize impacts on habitat for threatened and endangered species, wetlands, cultural sites, shelterbelts, residential areas, and commercial/industrial areas.

## **Additional Temporary Workspace Areas**

In addition to the typical construction ROW, Keystone has identified typical types of additional temporary workspace areas (TWAs) that would be required. These include areas requiring special construction techniques (e.g., river, wetland, and road/rail crossings, horizontal directional drilling (HDD), entry and exit points, steep slopes, and rocky soils) and construction staging areas. These preliminary areas have been used to quantify impacts covering about 1,206 acres for the proposed Project.

## **Pipe Stockpile Sites, Railroad Sidings, and Contractor Yards**

Extra workspace areas outside of the temporary construction ROW covering approximately 1,805 acres would be required during the construction of the proposed Project to serve as pipe storage sites, railroad sidings, and contractor yards (Table 4) (DOS 2012). Pipe stockpile sites along the pipeline route have typically been identified in proximity to railroad sidings. To the extent practical, Keystone would use existing commercial/industrial sites or sites that previously were used for construction. Existing public or private roads would be used to access each yard. Both

pipe stockpile sites and contractor yards would be used on a temporary basis and would be restored, as appropriate, upon completion of construction.

### Construction Camps

Some areas within Montana, South Dakota, and Nebraska do not have sufficient temporary housing in the proposed route vicinity for all construction personnel working in those areas. Temporary work camps would be constructed to meet the workforce housing needs in these remote locations. A total of eight temporary construction camps would be established (Table 5) (DOS 2012).

**Table 1. Pipeline construction spreads associated with the proposed Project**

State	Miles by State	County	Spread Number	Location (Mile Post)	Approximate Length of Construction Spread (Miles)
Montana	285.65	Phillips, Valley	Spread 1	0-90	90
		Valley, McCone	Spread 2	90-151.48	61.48
		McCone, Dawson	Spread 3	151.48-197.68	46.2
		Dawson, Prairie, Fallon	Spread 4	197.68-288.63	90.95
South Dakota	315.29	Harding	Spread 5	288.63-410.75	122.12
		Harding, Butte, Perkins, Meade	Spread 6	410.75-500.44	89.69
		Meade, Pennington	Spread 7	500.44-598.86	98.42
		Haakon, Jones			
		Jones, Lyman, Tripp	Spread 8	598.86-691.78	92.92
Tripp					
Nebraska	274.44	Tripp, Keya Paha, Boyd, Hold, Antelope	Spread 9	691.78-775.67	83.89
		Antelope, Boone, Nance, Merrick, Polk	Spread 10	775.67-875.38	99.71
		Polk, York, Fillmore, Saline, Jefferson			

Source: exp Energy Services Inc. 2012

**Table 2. Description of proposed Project facilities by State.**

<b>Segment/State</b>	<b>Ancillary Facilities</b>
Montana	6 pump stations, 25 main line valves (MLVs), 84 access roads
North Dakota	Rail siding, pipe storage yard
South Dakota	7 pump stations, 13 MLVs, 59 access roads
Nebraska <sup>a</sup>	5 pump stations, 4 MLVs, 48 access roads
Kansas	2 pump stations

<sup>a</sup> There were four MLVs proposed in the Final EIS for the proposed route. Other Nebraska valve locations are being determined at this time. The total number of pump stations and access roads has been preliminarily identified based on the proposed route.

**Table 3. Summary of Lands Affected for the Proposed Project**

<b>State</b>	<b>Facility</b>	<b>Lands Affected (Acres)</b>	
		<b>Construction</b>	<b>Operation</b>
Montana	Pipeline ROW	3,784.42	1,727.75
	Additional Temporary Workspace Areas	518.64	0.00
	Pipe Stockpile Sites, and Contractor Yards	517.28	0.00
	Construction Camp	242.88	0.00
	Pump Stations and Delivery Facilities	65.79	65.79
	Access Roads	337.03	47.41
	Rail Sidings <sup>a</sup> (3 Sites)	60.00	0.00
	Montana Subtotal	5,526.05	1,840.95
South Dakota	Pipeline ROW	4,153.37	1,906.83
	Additional Temporary Workspace Areas	460.37	0.00
	Pipe Stockpile Sites, and Contractor Yards	605.07	0.00
	Construction Camp	250.04	0.00
	Pump Stations and Delivery Facilities <sup>b</sup>	65.63	65.63
	Access Roads	222.96	24.34
	Rail Sidings <sup>a</sup> (3 Sites)	60.00	0.00
	South Dakota Subtotal	5,817.44	1,996.80
North Dakota	Pipeline ROW	0.00	0.00
	Additional Temporary Workspace Areas	0.00	0.00

State	Facility	Lands Affected (Acres)	
		Construction	Operation
	Pipe Stockpile Sites, and Contractor Yards	56.05	0.00
	Construction Camp	0.00	0.00
	Pump Stations and Delivery Facilities <sup>b</sup>	0.00	0.00
	Access Roads	0.00	0.00
	North Dakota Subtotal	56.05	0.00
Nebraska	Pipeline ROW	3,637.41	1,663.68
	Additional Temporary Workspace Areas	226.88	0.00
	Pipe Stockpile Sites, and Contractor Yards <sup>c</sup>	680.00	0.00
	Construction Camp <sup>c</sup>	80.00	0.00
	Pump Stations and Delivery Facilities <sup>b</sup>	67.12	67.12
	Access Roads	70.50	0.00
	Rail Sidings <sup>a</sup>	100.00	0.00
	Nebraska Subtotal	4,001.91	1,730.80
Kansas	Pipeline ROW	0.00	0.00
	Additional Temporary Workspace Areas	0.00	0.00
	Pipe Stockpile Sites, and Contractor Yards	0.00	0.00
	Construction Camp	0.00	0.00
	Pump Stations and Delivery Facilities <sup>b</sup>	15.15	15.15
	Access Roads	0.00	0.00
	Rail Sidings <sup>a</sup>	0.00	0.00
	Kansas Subtotal	15.15	15.15
<b>Total =</b>		<b>16,277.60</b>	<b>5,583.78</b>

<sup>a</sup> Rail siding acreage represents 20 acres for each site. Total acreage for rail sidings = 140 acres.

<sup>b</sup> Pump station acreages are a nominal number set at 15 acres. Except PS-26, actual acreage was used (7.12 acres).

<sup>c</sup> These are estimated acreages; locations have not been finalized at this time.

**Table 4. Locations and acreages of pipe storage sites, railroad sidings, and proposed contractor yards.**

State	County	Type(s) of Yards	Number of Yards	Combined Acreage
Montana	Dawson, McCone, Valley, Fallon	Contractor Yards	5	161
	Roosevelt, Sheridan, Prairie	Rail Sidings <sup>a</sup>	3	60
	Phillips, Dawson, McCone, Valley, Fallon	Pipe Yard Stockpile Sites	9	283
South Dakota	Tripp, Haakon, Jones	Contractor Yards	7	258

State	County	Type(s) of Yards	Number of Yards	Combined Acreage
	Hughes, Lyman, Pennington	Rail Sidings <sup>a</sup>	3	60
	Tripp, Haakon, Jones	Pipe Yard Stockpile Sites	11	347
North Dakota	Bowman	Pipe Yard Stockpile Sites	1	56
Nebraska	Fillmore, Greeley, Holt, Jefferson, Merrick, York	Contractor Yards	8	233
	Butler, Hamilton, Holt, Jefferson, Valley	Rail Sidings	5	100
	Antelope, Boone, Fillmore, Hamilton, Holt, Jefferson, Keya Paha, Nance	Pipe Yard Stockpile Sites	11	447
Kansas	NA	NA	NA	NA
		TOTAL		1,805

<sup>a</sup> Nominal Acreage of 20 acres each assigned to rail sidings.

The total acreage for the seven camps planned in Montana and South Dakota for which acreage is known equals 493 acres. Keystone is also proposing and investigating the possibility of building a temporary construction camp at a suitable location in Holt County in northern Nebraska, which would be an additional 80 acres raising the total amount to 573 acres. Camp decommissioning would be accomplished in two stages. First, all infrastructure systems would be removed and either hauled away for reuse, recycled, or disposed of in accordance with regulatory requirements. Each site would then be restored and reclaimed in accordance with permit requirements and the applicable procedures described in Keystone’s Construction, Mitigation, and Reclamation Plan (CMRP) (Appendix B, DOS 2012).

**Table 5. Locations and acreages of proposed construction camps.**

State	County	Type(s) of Yards	Number of Yards	Combined Acreage
Montana	McCone, Valley (2), Fallon	Contractor Camps	4	243 <sup>1</sup>
South Dakota	Tripp, Harding, Meade	Contractor Camps	3	250
North Dakota	NA	NA	NA	NA
Nebraska	Holt	Contractor Camp	1	80
Kansas	NA	NA	NA	NA
		TOTAL		573

<sup>a</sup> Additional camp in Valley County has not yet been sited, acreage TBD.

## Access Roads

The proposed Project would use public and existing private roads to provide access to most of the construction ROW (DOS 2012). Approximately 191 temporary access roads would be needed to provide adequate access to the construction sites. Private roads and any new temporary access roads would be used and maintained only with permission of the landowner or the appropriate land management agency. Temporary and permanent disturbance estimates for access roads are based on the 30-foot roadway width required to accommodate oversized vehicles. In developing the disturbance acreages, all non-public roads were conservatively estimated to require upgrades and maintenance during construction.

## Aboveground Facilities

The proposed Project would require approximately 286 acres of land, other than permanent ROW, along the proposed Project segments for aboveground facilities, including pump stations, densitometer sites, intermediate MLVs, and delivery facilities (see Table 3) (DOS 2012).

## Pump Stations

New pump stations, each situated on approximately 15-acre sites, would be constructed for the proposed Project. Each new pump station would consist of up to six pumps driven by electric motors, an electrical equipment shelter, a variable frequency drive equipment shelter, an electrical substation, one sump tank, a remotely operated MLV, a communication tower (approximately 33 feet in height), a small maintenance building, and a parking area for station maintenance personnel. Stations would operate on locally purchased electric power and would be fully automated for unmanned operation. Power lines would need to be constructed by local power providers to provide electrical service to pumping stations (Table 6)

**Table 6. Summary of power supply requirements for the Keystone XL Pump Stations**

Pump Station Number	Approximate Milepost	Transformer Size (MVA)	Utility Supply (kV)	Length (miles)	Power Provider
<b>Montana</b>					
PS-09	1.2	20/27/33	115	61.8	Big Flat Electric Cooperative
PS-10	49.3	20/27/33	115	49.1	NorVal Electric Cooperative
PS-11	99	20/27/33	230	0.2	NorVal Electric Cooperative
PS-12	151.5	20/27/33	115	3.2	McCone Electric Cooperative
PS-13	203.1	20/27/33	115	15.2	Tongue River Electric Cooperative
PS-14	239.5	20/27/33	115	6.3	Montana-Dakota Utilities Company
<b>South Dakota</b>					
PS-15	288.6	20/27/33	115	24.5	Grand Electric Cooperative
PS-16	337.3	20/27/33	115	40.1	Grand Electric Cooperative
PS-17	391.5	20/27/33	115	10.9	Grand Electric Cooperative

Pump Station Number	Approximate Milepost	Transformer Size (MVA)	Utility Supply (kV)	Length (miles)	Power Provider
PS-18	444.6	20/27/33	115	25.9	West Central Electric Cooperative
PS-19	500.4	20/27/33	115	20.4	West Central Electric Cooperative
PS-20	550.9	20/27/33	115	17.2	Rosebud Electric Cooperative
PS-21	598.9	20/27/33	115	20.1	Rosebud Electric Cooperative
<b>Nebraska</b>					
PS-22	653.6	20/27/33	115	24	Nebraska Public Power District (NPPD) & Niobrara Valley Electric
PS-23	708.2	20/27/33	115	36	NPPD & Loup Valleys Rural PPD
PS-24	765	20/27/33	115	9	NPPD & Southern Power District
PS-25	818.4	20/27/33	69	1.0	Perennial PPD
PS-26	875.3	20/27/33	115	0.5	NPPD & Norris PPD
<b>Kansas</b>					
PS-27	49	20/27/33	115	4.6	Clay Center Public Utility
PS-29	144.5	20/27/33	115	8.9	Westar Energy
MVA = megavolt-amperes (million volt-amperes), kV = kilovolt.					
Note: Mile posting for each segment of the proposed Project starts at 0.0 at the northernmost point of each segment and increases in the direction of oil flow.					

## Mainline Valves

Keystone proposes to construct 44 intermediate MLV sites along the new pipeline ROW. Intermediate MLVs would be sectionalizing block valves generally constructed within a fenced, 50 by 50-foot site located on the permanent easement. Remotely operated intermediate MLVs would be located at major river crossings and upstream of sensitive waterbodies and at intermediate locations. Additional remotely operated MLVs would be located at pump stations. These remotely operated valves can be activated to shut down the pipeline in the event of an emergency to minimize environmental impacts in the event of a spill.

## Restoration

Construction debris on the ROW would be disposed of and work areas would be final-graded. Preconstruction contours would be restored as closely as possible. Topsoil would be spread over the ROW surface and permanent erosion controls would be installed. After backfilling, final cleanup would begin as soon as weather and site conditions permit. Preliminary cleanup would be completed within approximately 20 days after the completion of backfilling assuming appropriate weather conditions prevail (approximately 10 days in residential areas). Construction debris would be cleaned-up and taken to an appropriate disposal facility.

After permanent erosion control devices are installed and final grading complete, all disturbed work areas except annually cultivated fields would be seeded as soon as possible. Timing of the reseeded efforts would depend on weather and soil conditions and would be subject to the

prescribed rates and seed mixes specified by the landowner, land management agency, or NRCS recommendations. On agricultural lands, seeding would be conducted only as agreed upon with the landowner. In addition, landowners would be asked to report on areas where seeds may have not germinated or erosion has appeared. Keystone would then dispatch crews to repair and address the issues. Once operation begins, Keystone is required to monitor the pipeline at least 26 times per year at intervals not to exceed three weeks for revegetation following construction disturbance, erosion, other human activities occurring near the pipeline, and potential leaks. The ROW would be inspected after the first growing season to determine revegetation success and noxious weed control. Eroded areas would be repaired and areas that were unsuccessfully re-established would be revegetated by Keystone or Keystone would compensate the landowner for reseeded.

### **Waterbody Crossings**

Perennial waterbodies would be crossed using one of four techniques: the open-cut wet method (the preferred method), dry flume method, dry dam-and-pump method, or hydraulic directional drilling (HDD). Each method is described below. In the final design phase of the proposed Project, qualified personnel would assess waterbody crossings with respect to the potential for channel aggradation or degradation and lateral channel migration. The level of assessment for each crossing would vary based on the professional judgment of the qualified design personnel.

The pipeline would be installed as necessary to address any hazards the assessment identifies. The pipeline would be installed at the design crossing depth for at least 15 feet beyond the design lateral migration zone, as determined by qualified personnel. The crossing design also would include the specification of appropriate stabilization and restoration measures. The actual crossing method employed at a perennial stream would depend on permit conditions from USACE and other relevant regulatory agencies, as well as additional conditions that may be imposed by landowners or land managers at the crossing location.

Sediment barriers such as silt fence and staked straw bales would be installed and maintained on drainages across the ROW adjacent to waterbodies and within additional TWAs to minimize the potential for sediment runoff. Silt fence and straw bales located across the working side of the ROW would be removed during the day when vehicle traffic is present and would be replaced each night. Alternatively, drivable berms could be installed and maintained across the ROW in lieu of a silt fence.

In general, equipment refueling and lubricating at waterbodies would take place in upland areas that are 100 feet or more from the water. When circumstances dictate that equipment refueling and lubricating would be necessary in or near waterbodies, Keystone would follow its Spill Prevention Control and Countermeasures Plan (SPCCP) to address the handling of fuel and other hazardous materials (DOS 2012, Appendix D). The purpose of the SPCCP is to establish procedures to prevent the discharge of hazardous or regulated materials during construction of the proposed Project. The SPCCP is designed to reduce the likelihood of a spill, provide for prompt identification and proper removal of contaminated materials if a spill does occur, comply with applicable State and Federal laws and Project permits, and to protect human health and the environment (DOS 2012, Appendix D).

After the pipeline is installed beneath the waterbody, restoration would begin. Waterbody banks would be restored to preconstruction contours or to a stable configuration. Appropriate erosion control measures such as rock riprap, gabion baskets (rock enclosed in wire bins); log walls, vegetated geogrids, or willow cuttings would be installed as necessary on steep banks in

accordance with permit requirements. More stable banks would be seeded with native grasses and mulched or covered with erosion control fabric. Waterbody banks would be temporarily stabilized within 24 hours of completing in-stream construction. Sediment barriers, such as silt fences, straw bales, or drivable berms would be maintained across the ROW at all waterbody approaches until permanent vegetation is established. Temporary equipment bridges would be removed following construction.

### **Wetland Crossings**

Data from wetland delineation field surveys, aerial photography, and National Wetland Inventory maps were used by Keystone to identify wetlands crossed by the proposed pipeline. Pipeline construction across wetlands would be similar to typical conventional upland cross-country construction procedures, with several modifications where necessary to reduce the potential for pipeline construction to affect wetland hydrology and soil structure. The directional drilling technique may be considered in certain site-specific wetland conditions due to the presence of special-status plant or wildlife species or other factors and will be determined during the Clean Water Act Section 404 permitting process in consultation with the appropriate state USFWS Ecological Services Field Office.

The wetland crossing method used would depend largely on the stability of the soils at the time of construction. If wetland soils are not excessively saturated at the time of construction and can support construction equipment without equipment mats, construction would occur in a manner similar to conventional upland cross-country construction techniques. Construction equipment working in saturated wetlands would be limited to that area essential for clearing the ROW, excavating the trench, fabricating and installing the pipeline, backfilling the trench, and restoring the ROW. In areas where there is no reasonable access to the ROW except through wetlands, non-essential equipment would be allowed to travel through wetlands only if the ground is firm enough or has been stabilized to avoid rutting.

Where wetland soils are saturated or inundated, the pipeline can be installed using the push-pull technique. The push-pull technique involves stringing and welding the pipeline outside the wetland and excavating and backfilling the trench using a backhoe supported by equipment mats or timber riprap. The prefabricated pipeline is installed in the wetland by equipping it with floats and pushing or pulling it across the water-filled trench. After the pipeline is floated into place, the floats are removed and the pipeline sinks into place. Most pipe installed in saturated wetlands would be coated with concrete or installed with set-on weights to provide negative buoyancy. Final locations requiring weighted pipe for negative buoyancy would be determined by detailed design and site conditions at the time of construction.

### **Decommissioning**

The Pipeline Hazardous Material Safety Administration (PHMSA) has requirements that apply to decommissioning crude oil pipelines in 49 C.F.R. §§ 195.402(c) (10), 195.59, and 195.402. These regulations require that for hazardous liquid pipelines, the procedural manuals for operations, maintenance, and emergencies must include procedures for abandonment, including safe disconnection from an operating pipeline system, purging of combustibles, and sealing abandoned facilities left in place to minimize safety and environmental hazards (49 C.F.R. § 195.402). Further, these regulations require that for each abandoned onshore pipeline facility that crosses over, under, or through a commercially navigable waterway, the last operator of that facility must

file a report with PHMSA upon abandonment of that facility. The report must contain all reasonably available information related to the facility, including information in the possession of a third party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

Keystone will adopt operating procedures to address these requirements for the proposed Project as they have for previous pipeline projects including the existing Keystone Pipeline mainline. TransCanada typically does not abandon large-diameter pipelines but generally idles or deactivates pipe as market conditions dictate. This allows a dormant pipeline to be reactivated or converted to another purpose in the future, subject to applicable regulatory approvals. When a pipeline or a segment of a pipeline is idled or deactivated, the pipe generally is purged of its contents, filled with an inert gas, and left in place with warning signage intact. Cathodic protection (a measure used to prevent corrosion by causing a metallic structure, such as a pipeline, to act as a cathode) would be left functional as would other integrity measures such as periodic inspections under the integrity management plan. Prior to decommissioning the proposed Project, Keystone would identify the decommissioning procedures it would use along each portion of the route, identify the regulations it would be required to comply with, and submit applications for the appropriate environmental permits. At that point, Keystone and the issuing agencies would address the environmental impacts of implementing the decommissioning procedures and identify the mitigation measures required to avoid or minimize impacts.

### **Normal Operations**

Keystone would develop and implement an annual Pipeline Maintenance Program (PMP) to ensure the integrity of the pipeline. The PMP would include valve maintenance, periodic inline inspection, and a cathodic protection program to ensure pipeline reliability. Data collected in each year of the program would be fed back into the decision-making process for the development of the following year's program (DOS 2012). The Project Operation Control Center (OCC) would be manned by experienced and highly trained personnel 24 hours per day, every day of the year in Calgary. In addition, a fully redundant backup OCC would be constructed, operated, and maintained, also in Canada. Primary and backup communications systems would provide real-time information from the pump stations to the OCC (DOS 2012). The control center would have highly sophisticated pipeline monitoring systems including multiple leak detection systems capable of identifying abnormal conditions and initiating visual and audible alarms. Automatic shut-down systems would be initiated if a valve starts to shut and all pumps upstream would turn off automatically.

The proposed Project would include a supervisory control and data acquisition (SCADA) system to constantly monitor the pipeline system (DOS 2012). The SCADA system would be installed and operated in accordance with the requirements of 49 C.F.R. § 195 and PHMSA. The SCADA facilities would be located in the OCC and along the pipeline system, and all pump stations and delivery facilities would have communication software that sends data back to the OCC. The pipeline SCADA system would allow the OCC to remotely read intermediate MLV positions, tank levels, and delivery flow and total volume. The OCC personnel would also be able to start and stop pump stations and open and close automated MLVs.

The pipeline ROW would be inspected via aerial and ground surveillance to provide prompt identification of possible encroachments or nearby construction activities, ROW erosion, exposed pipe, or any other conditions that could result in damage to the pipeline. The aerial surveillance of the pipeline ROW must be carried out at least 26 times per year and the interval between surveillance cannot exceed 3 weeks as required by 49 C.F.R. § 195.412. Landowners would be encouraged to report any pipeline integrity concerns to Keystone or to PHMSA. Intermediate MLVs and MLVs at pump stations would also be inspected. As required by 49 C.F.R. § 195.420(b), they would be inspected at intervals not to exceed 7.5 months but at least twice each calendar year (DOS 2012).

### **Routine Maintenance**

Routine maintenance would include periodic ROW mowing in non-agricultural areas, ROW tree clearing, aerial and ground patrols of the ROW, periodic inspections of operating equipment on the ROW (e.g., MLVs, pump stations), and potential excavation of the proposed pipeline within the first 6 months to 2 years for coating and other inspections.

If Keystone would need to repair or replace a portion of the proposed pipeline or replace aboveground facilities in the ROW, appropriate agencies would be consulted prior to initiating that maintenance work. If an emergency or spill from the proposed pipeline occurs, Keystone would respond to the spill or emergency and then address any impacts in accordance with the Spill Prevention Control and Countermeasures Plan. Impacts to natural resources could be covered under a Natural Resource Damage Assessment conducted by the trustees, including the USFWS and other agencies.

The ROW would be monitored to identify any areas where soil productivity has been degraded as a result of pipeline construction, and restoration measures would be implemented to rectify any such concerns.

### **Conservation Measures**

Conservation measures are actions that benefit or promote the recovery of listed species that are included by the Department as an integral part of the proposed Project. Conservation measures also have been identified below that would contribute to the conservation of the greater sage-grouse and Sprague's pipit. All of these conservation measures will be implemented by the applicant or power providers where specified, and serve to avoid, minimize, or compensate for Project effects on the species under review thereby supporting concurrence by the USFWS of a NLAA for all of the following species except the ABB and candidate species. General conservation measures applicable to all species are listed below followed by species-specific conservation measures for the species under consideration in this BO.

#### **General Conservation Measures**

- All equipment maintenance and repairs will be performed in upland locations at least 100 feet from all water bodies and wetlands.
- Refueling and lubrication of construction equipment will be restricted to upland areas at least 100 feet away from streams and wetlands.
- All equipment would be parked overnight at least 100 feet from a watercourse or wetland.

- Equipment will not be washed in streams or wetlands.
- Spills of fuel and other hazardous materials will be cleaned-up immediately in accordance with the SPCCP and hazardous wastes associated with spills and leaks will be disposed of in accordance with applicable laws and regulations (DOS 2012, Appendix D).
- Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials.
- Keystone would mark and maintain a 100-foot area from river crossings, free from all hazardous materials, fuel storage, and vehicle fuel transfers. These buffers would be maintained during construction except when fueling and refueling the water pump near the river edge that is required for the HDD crossing and hydrostatic test water withdrawal. Water pump fueling will be completed by trained personnel, secondary containment will be used, and a spill kit will be onsite.

### **Black-footed Ferret**

Keystone or power providers where specified have committed to incorporating the following conservation measures as part of the proposed Project to prevent potential direct or indirect impacts to the black-footed ferret from construction in Montana. The USFWS believes that there is no suitable habitat for the species along the proposed Project; however, the following measures have been adopted in the event that a black-footed ferret is detected:

- Provide USFWS with the results of the Montana prairie dog town surveys and continue to coordinate with the Montana USFWS Ecological Services Office to determine the need for black-footed ferret surveys, in accordance with the USFWS's Black-footed Ferret Survey Guidelines (USFWS 1989).
- Complete surveys to identify prairie dog colonies in Fallon County, Montana consistent with the Final EIS to determine if any Category 3 colonies or complexes occur and could be avoided.
- Workers will not be allowed to keep domestic pets in construction camps and/or worksites.
- Workers will be made aware of how canine distemper and sylvatic plague diseases are spread (domestic pets and fleas).
- Workers will not be allowed to feed wildlife.
- Concentrations of dead and/or apparently diseased animals (e.g., prairie dogs, ground squirrels, others) would be reported to the appropriate state and federal agencies.
- Pump Station 9 (Montana): Big Flat Electric Cooperative will provide immediate notification to the USFWS in the unlikely event that a black-footed ferret is sighted during the course of power line construction.

### **Interior Least Tern**

Keystone or power providers where specified have committed to incorporating the following conservation measures as part of the proposed Project to prevent potential direct or indirect impacts to the interior least tern:

- Major rivers that contain interior least tern habitat including the Platte, Loup, and Niobrara rivers in Nebraska; Cheyenne River in South Dakota; and Yellowstone and Missouri rivers in Montana, will be crossed using the HDD method.
- HDD boring under the Platte, Loup, and Niobrara rivers in Nebraska; Cheyenne River in South Dakota; and Yellowstone River in Montana will result in a pipeline burial depth of 25 feet or greater below the river bed.
- Pre-construction surveys will occur within 0.25-mile from suitable breeding habitat at the Platte, Loup, and Niobrara rivers in Nebraska; the Cheyenne River in South Dakota; and the Yellowstone and Missouri rivers in Montana during the nesting season (from May 1 through September 1) to ensure that there are no nesting terns within 0.25-mile of the construction area. Daily surveys for nesting terns would be conducted during the nesting season when construction activities occur within 0.25-mile of potential nesting habitat.
- If interior least tern nests are found at the crossings, then Keystone would: 1) adhere to the 0.25-mile buffer of no pipeline construction activity and 2) continue to monitor nests if any are within 0.25-mile of the construction footprint until young have fledged.
- Keystone commits to making minor adjustments to the pipeline corridor to avoid impacts to nesting interior least terns in coordination with USFWS. This may involve shifting the pipeline corridor away from nests to avoid disturbances to interior least tern nests or other modifications depending on the circumstances.
- Down shielding of lights will be used should HDD occur at night should the HDD site lack vegetative screening, and an active interior tern nest is located within 0.25 mile from the HDD site.
- Pump Station 24 (Nebraska): The Nebraska Public Power District agrees to complete nest surveys for interior least terns within an area 0.25-mile upstream and downstream of the proposed river crossing location if construction is expected to take place during the nesting period. Construction would halt if active nests are identified within 0.25-mile of the Platte River crossing area until such time that chicks and adults leave the nest area and nesting is concluded.
- The Nebraska Public Power District will install spiral bird flight diverters on the shield wire on the line span between the banks at the Platte River crossing and one span on each side of the crossing.

## **Whooping Crane**

Keystone or power providers where specified have committed to incorporate the following conservation measures as part of the proposed Project to prevent potential direct or indirect impacts to the whooping crane:

- During spring and fall whooping crane migration periods, environmental monitors will complete a brief survey of any wetland or riverine habitat areas potentially used by whooping cranes in the morning before starting equipment following the Whooping Crane Survey Protocol developed by the USFWS and NGPC and applied to all projects when located near whooping crane habitat (USFWS 2012b) (Appendix F). If whooping cranes are sighted during the morning survey or at any time of the day, the environmental monitor

will immediately contact the USFWS and respective state agency in Nebraska, South Dakota, North Dakota, and/or Montana for further instruction and require that all human activity and equipment start-up be delayed or immediately cease. Work could proceed if whooping crane(s) leave the area. The environmental monitor would record the sighting, bird departure time, and work start time on the survey form. The USFWS would notify the compliance manager of whooping crane migration locations during the spring and fall migrations through information gathered from the whooping crane tracking program.

- Lights will be down-shielded should HDD occur at night during the spring and fall whooping crane migrations in areas that provide suitable habitat.
- Pump Station 9 (Montana): Big Flat Electric Cooperative will install avian markers and deflectors within 0.25-mile of the Milk River that will be traversed by the power line to pump station 9. The USFWS will be contacted should a whooping crane be spotted in the area of the proposed power line construction site.
- Pump Station 10 (Montana): NorVal Electric Cooperative will install bird flight diverters (BFD) in all locations where the power line comes within 0.25-mile on either side of the Milk River. Additionally, BFDs will be installed for 0.25-mile on either side of two unnamed reservoirs crossed by the proposed power line.
- Pump Station 14 (Montana): Montana Dakota Utilities will install BFDs on the static line at 50 foot spacing within 0.25-mile of Pennel Creek and within 0.25-mile of a pond located in the northwest corner of section 35, T9 North, Range 58 East.

If a whooping crane is sighted on the ground within the transmission line project area during construction, Montana Dakota Utilities will cease construction and contact the USFWS.

- Pump Station 12 (Montana): McCone Electric Cooperative will install avian markers within 0.25-mile of Buffalo Springs Creek and the Redwater River in accordance with Avian Power Line Interaction Committee (APLIC) standards (APLIC 2012). If whooping cranes are sighted during fall and spring migrations, McCone Electric Cooperative will delay all work activity until whooping cranes have left the area and immediately contact the USFWS and MFWP for further instruction.
- Pump Station 20 (South Dakota): A total of 636 BFDs will be installed by Rosebud Electric Cooperative Inc. at three wetland areas located along the proposed power line alignment to avoid and minimize risk of collision by whooping cranes near wetland foraging and roosting habitats. Installation of BFDs will be done in accordance with specific marking locations as previously recommended by the USFWS at these three wetland areas located at Township 101 North, Range 77 West, Section 17 and the SE ¼ Section 32, and Township 100 N Range 78 West, section 10, NW1/4 Section 15.
- Pump Station 21 (South Dakota): A total of 557 BFDs will be installed by Rosebud Electric Cooperative Inc. to avoid and minimize risk of collision by whooping cranes near wetland foraging and roosting habitats. Installation of BFDs will be done in accordance with specific marking locations as previously recommended by the USFWS at these wetland areas located at Township 97 North, Range 73 West SW ¼ of section 25 and Township 95 North, Range 73 West, Sections 16 and 17.

- Pump Station 22, 23, 24, and 26 (Nebraska): The Nebraska Public Power District will complete a field review with USFWS and NGPC to determine if any areas are present with a higher probability of whooping crane use (i.e., wetlands or large ponded areas (stock ponds), meadows, and obvious flight corridors to and from such areas to feeding habitats). Spiral BFDs will be installed, consistent with APLIC standards (APLIC 2012), in appropriate areas as identified in the field review.

The Nebraska Public Power District will complete daily presence/absence whooping crane surveys according to protocol (found in Appendix F) if construction occurs during the spring and fall migration periods in areas where such surveys are agreed to be appropriate and necessary to avoid disturbance. Should a whooping crane (s) be sighted within 0.5-mile of a work area, all work will cease until the whooping crane (s) leaves that immediate area. The USFWS and NGPC will be contacted immediately and notified of the presence of whooping crane(s).

- Pump Station 27 (Kansas): Westar Energy will install BFDs to prevent avian collisions where the power line crosses the Republican River even though an evaluation of whooping crane use indicated that it was unlikely that the species would be found in this area.

### **Pallid sturgeon**

Keystone or power providers where specified have committed to incorporating the following conservation measures as part of the proposed Project to prevent potential direct or indirect impacts to the pallid sturgeon:

- Keystone will use HDD to cross the Missouri, Yellowstone, and Milk rivers where pallid sturgeons are known to occur.
- Keystone will ensure that HDD boring will result in a burial depth of 25 feet or greater below the river bed in the Missouri, Yellowstone, and Milk rivers.
- Keystone will ensure that the intake end of the pump will be screened to prevent entrainment of larval fish or debris and the intake screens will be periodically checked for fish entrainment when pumping from the Missouri, Yellowstone, and Milk rivers in Montana. Mesh size of the screen will be 0.125-inch and have an intake velocity of less than 0.5 foot/second to avoid larval entrainment and juvenile fish impingement and entrapment. Should a sturgeon become entrained, impinged, or entrapped all pumping operations will immediately cease and the compliance manager for Keystone would immediately contact the USFWS to determine if additional protection measures would be required. The conservation measure is in effect for pumping operations including HDD and hydrostatic testing.
- Keystone will maintain at least a 100-foot setback from the water's edge for the HDD drill pads at the HDD crossings on the Yellowstone, Missouri, and Milk rivers in Montana.
- Pump Station 10 (Montana): NorVal Electric Cooperative will not cross the Milk River with equipment. No disturbances will occur along the river banks or its associated vegetation where the power line crossing would occur.

## American Burying Beetle

Keystone or power providers where specified have committed to incorporate the following conservation measures as part of the proposed Project to prevent potential direct or indirect impacts to the ABB:

- Construction camp near Winner, South Dakota will be built on agricultural land in coordination with USFWS.
- Two pipe stockpile sites planned for Tripp County will be placed on agricultural land in coordination with USFWS.
- When working in suitable ABB habitat in Tripp, Keya Paha, and Holt counties, all parking and staging areas will be pre-located within the approved construction footprint.
- Vehicle traffic used in support of preconstruction activities will be confined to approved access roads.
- Construction methods will be used involving sequential replacement of topsoil and re-establishment of natural vegetation to restore natural soil hydrology within the construction ROW and avoid long-term impacts to ABB habitat.
- Prior to construction disturbance and grading for the ROW, capture and relocation of ABB will be implemented only in Nebraska where access is available to remove adult beetles from the construction ROW in accordance with the Nebraska ABB Trapping Protocol (USFWS and NGPC 2008; Appendix K, American Burying Beetle Trapping Protocol and Conservation Measures for Use in Nebraska). Capture and relocation of ABB is not authorized in South Dakota.
- Protective measures at the relocation site such as creating a tunnel in moist soil for each released ABB with a light cover (e.g., a leaf), and not releasing more than 50 ABB at any one site will be implemented to increase the survivability of relocated ABB.
- Mowing and windrowing vegetation will be conducted after the capture and relocation period to temporarily reduce habitat suitability by drying out the soil surface if construction is not planned to be started prior to the next capture and relocate window. Windrowing, which refers to removal of mowed vegetation from an area to avoid accumulation of grass clippings on the soil surface, will be done to remove vegetation residue. Mowing will be done so that vegetation is at most 8 inches in height. Mowing and windrowing will be implemented only in Nebraska. Mowing and windrowing cannot be used in South Dakota as an avoidance and minimization measure because of concerns there about habitat loss for other species, including grassland birds.
- After the capture and relocation efforts are completed, the ROW will be disturbed (graded) prior to the next June ABB active period in Nebraska (e.g., capture and relocate efforts take place during the August active period, and the ROW disturbance would take place prior to the following June active period). June and August active periods are times when ABB are active and above ground. Adult, reproductive ABB are active and above ground in June; adult and offspring ABB are active and above ground in August.

- In areas where the ROW could not be disturbed (graded) before the next activity period, capture and relocation efforts will be repeated in Nebraska (e.g., capture and relocation efforts would be repeated during the June active period, and the ROW would be disturbed prior to the August active period).
- After capture and relocation efforts are completed in Nebraska, a biologist from Keystone will travel the ROW every couple of days during the ABB active period (June through September) to remove any carcasses that may be present within the ROW that may otherwise be attractive to the ABB.
- Keystone will train all workers operating in ABB habitat and would include discussion of habitat, biology, reasons for their decline, and responsibilities of all workers for the protection of the species (including removing food wastes from the ROW each day, reporting any ABB sightings to an environmental inspector, and avoiding bringing dogs and cats to the ROW). Keystone will produce a full color Endangered Species Card with a picture of the ABB and all of this information summarized on the card. The card will be handed out to all construction workers operating in ABB habitat.
- Signs will be posted at all access points to the ROW highlighting the areas as ABB habitat and reminding workers to follow special restrictions in the area.
- Keystone will down-shield lighting and install sodium vapor-type lights or equivalent in coordination with USFWS in instances when construction activities would occur in suitable habitat areas in Keya Paha, Holt, and Tripp counties to avoid attracting the species to the construction site. Keystone will down-shield lighting and install sodium vapor-type lights or equivalent in coordination with USFWS at ancillary facilities within areas occupied by the ABB.
- Keystone will provide compensation for temporary construction and permanent operations impacts to the ABB as part of a Habitat Conservation Trust (ABB Trust) in areas where the species is likely to be impacted including: southwest of Highway 18 in Tripp County, South Dakota and west of Highway 281 in Keya Paha and Holt counties in Nebraska. The Habitat Conservation Trust would be managed by a nongovernment organization experienced in the management of funds for habitat projects. Funds would be used to acquire land through purchase by fee title or through perpetual conservation easements. Funds could also be used for habitat restoration projects. Compensation would be based on total acres impacted where ABB presence was confirmed in Nebraska (see Appendix D for calculation method). Compensation would be calculated based on total acres impacted and would be modified by habitat quality rating multipliers with prime habitat compensation at 3 times the total impact acres; good habitat at 2 times the total impact acres; fair habitat at 1 times the total impact acres; and marginal habitat at 0.5 times the total impact acres. No compensation would be provided for poor habitat. In Nebraska only, no compensation would be provided for habitat where ABB have not been found.
- In South Dakota, compensation will be provided based only on habitat quality rating multipliers and not ABB survey information. Temporary habitat impacts will be scaled for the period of time anticipated for recovery of vegetation cover at 4 years over the 50-year life of the proposed Project or 8 percent of total calculated impacts. All compensation would be based on habitat ratings and compliant with agreements between the Department, USFWS, and Keystone.

- Keystone will provide funding for compliance monitoring upon issuance of a Presidential Permit and prior to initiating Project construction in South Dakota and Nebraska. The Department will designate USFWS or an agreed-upon qualified third-party that would work with USFWS to ensure that vegetation restoration efforts were successful for ABB habitat, as agreed between the Department, USFWS, and Keystone.
- Keystone will reseed disturbed areas in prime, good, fair, and marginal ABB habitats with a seed mix that corresponds to the appropriate Construction/Reclamation (Con/Rec) unit for that property. Reclamation measure and seed mixes for each Con/Rec are provided in Appendix R of the Supplemental DEIS. Should a landowner-directed seed mix be determined to not result in full restoration as stipulated in the Reclamation Performance Bond then the subject acreage amount reseeded will be debited from temporary ABB habitat impacts and credited to permanent ABB habitat impacts and the total donation amount to the ABB Trust will be recalculated.
- Keystone will set aside funds for a restoration performance bond (see Appendix E for calculation method) upon issuance of a Presidential Permit and prior to initiating Project construction in South Dakota and Nebraska. The bond would be applied to supplemental vegetation restoration that could be necessary if restoration for ABB beetle habitat failed, as agreed between the Department, USFWS, and Keystone.
- Pump Station 22 (Nebraska): The Nebraska Public Power District will schedule line construction activities for this line segment for during the ABB dormant or inactive time in the winter when soil would be frozen to avoid soil compaction (September 15 to April 1). The Nebraska Public Power District will coordinate with USFWS and NGPC to determine appropriate measures to minimize potential impacts if such scheduling cannot be accomplished due to unexpected circumstances, including weather delays.

### **Piping Plover**

Keystone or power providers where specified have committed to incorporating the following conservation measures as part of the proposed Project to prevent potential direct or indirect impacts to the piping plover:

- The Platte, Loup, and Niobrara rivers in Nebraska; the Cheyenne River in South Dakota; and the Yellowstone and Missouri rivers in Montana will be crossed using the HDD method which would result in a burial depth of 25 feet or greater below the river bed.
- If construction were to occur during the piping plover nesting season (from April 15 through September 1), Keystone would conduct pre-construction surveys within 0.25-mile from suitable nesting habitat at the Platte, Loup, and Niobrara rivers in Nebraska; the Cheyenne River in South Dakota; and the Yellowstone and Missouri rivers in Montana to ensure that there are no nesting pairs within 0.25-mile of the construction area. Daily surveys for nesting plovers will be conducted when construction activities occur within 0.25-mile of potential nesting habitat during the nesting season.
- If a piping plover nest(s) are found at the crossings, then Keystone will: 1) adhere to the 0.25-mile buffer of no construction activity and 2) continue to monitor nests if any are within 0.25-mile of the construction footprint until the young have fledged.

- Keystone commits to making minor adjustments to the pipeline corridor to avoid impacts to nesting piping plovers in coordination with the USFWS. This may involve shifting the pipeline corridor away from nests to avoid disturbances to piping plover nests or other modifications depending on the circumstances.
- Down shielding of lights will be used should HDD occur at night, should the HDD site lack vegetative screening, and an active piping plover nest is located within 0.25 mile from the HDD sites.
- Pump Station 9 (Montana): Big Flat Electric Cooperative designed and located the power line to this pump station so that it is 3 miles east of any piping plover nesting or habitat areas. If nesting piping plovers are found to be present based on surveys for the species, all construction would cease until piping plover chicks fledge from the site.
- Pump Station 10 (Montana): NorVal Electric Cooperative will install BFD in all locations where the power line comes within 0.25-mile on either side of the Milk River. Additionally, BFDs will be installed for 0.25-mile on either side of two unnamed reservoirs crossed by the proposed power line.
- Pump Station 24 (Nebraska): The Nebraska Public Power District agrees to complete nest surveys for piping plovers within an area 0.25-mile upstream and downstream of the proposed river crossing location if construction is expected to take place during the nesting period. Construction would halt if active nests are identified within 0.25-mile of the Platte River crossing area until such time that chicks and adults leave the nest area.

The Nebraska Public Power District will install spiral BFDs on the shield wire on the line span between the banks at the Platte River crossing and one span on each side of the crossing.

### **Western Prairie Fringed Orchid**

Keystone or power providers where specified have committed to implementation of the following conservation measures for the western prairie fringed orchid where suitable habitat is present. Habitat suitability surveys will be done by a person who has demonstrated qualifications in completing surveys and is knowledgeable about the habitat requirements for the species. The person selected to conduct surveys will submit documentation of survey qualifications to the USFWS for review and approval.

- Complete habitat suitability surveys prior to construction. Survey results will be submitted to the USFWS for review.
- Keystone will re-route the pipeline around individual plants or populations within the proposed Project footprint to the extent practicable and/or allowed by the landowner. Compensation through a Habitat Conservation Trust will be provided in areas that cannot be avoided.
- Keystone will transplant individual plants that would be affected by construction activities to other locations where suitable habitat is available, when feasible and/or when approved by the land owner if on private land. This action will be done in coordination with USFWS.

- Keystone will reduce the width of the construction ROW, the amount of reduction dependent on the circumstances, in areas where orchid populations have been identified. This will be done in coordination with USFWS.
- Keystone will salvage and segregate topsoil appropriately where populations have been identified to preserve native seed sources in the soil for use in revegetation efforts in the ROW.
- Keystone will provide compensation for suitable western prairie fringed orchid habitat in a Habitat Conservation Trust. Areas along the proposed Project where the species is likely to occur include: southwest of Highway 18 in Tripp County, South Dakota and Keya Paha, Holt, Rock, Antelope, and Boone counties in Nebraska. The Habitat Conservation Trust would be managed by a nongovernment organization experienced in the management of funds for habitat projects. Funds would be used to acquire land through purchase by fee title or through perpetual conservation easements. Funds could also be used for habitat restoration projects. Compensation will be based on total acres impacted where suitable western prairie fringed orchid habitat is present regardless of presence/absence survey results. Habitat surveys will be used to evaluate western prairie fringed orchid habitat. Compensation would be calculated based on total acres impacted multiplied by 31 percent, the probability of encountering a western prairie fringed orchid during the course of survey work (NGPC 2013) (see Appendix G for calculation method). A 3:1 habitat mitigation ratio would be applied to the habitat expected to contain WPFO to offset temporal loss of habitat from between the time construction began to the time orchid habitat is fully restored and that figure would be multiplied by the value of an acre of land (Appendix G).
- Keystone will restore and monitor construction-related impacts to wet meadow habitats identified as suitable for the western prairie fringed orchid consistent with USACE guidelines as follows. The disturbed areas shall be reseeded concurrent with the project or immediately upon completion. Revegetation shall be acceptable when ground cover of desirable species reaches 75%. If this seeding cannot be accomplished by September 15 the year of project completion, then an erosion blanket shall be placed on the disturbed areas. The erosion blanket shall remain in place until ground cover of desirable species reaches 75%. If the seeding can be accomplished by September 15, all seeded areas shall be properly mulched to prevent additional erosion.
- Pump Station 22, 23, 24 (Nebraska): The Nebraska Public Power District will complete field surveys for the western prairie fringed orchid during the appropriate bloom periods only in areas along the final line routes that are considered suitable. The Nebraska Public Power District will delineate and mark areas where western prairie fringed orchid habitat is present as “avoidance areas” where placement of structures and construction traffic will not occur.

### **Greater Sage-Grouse**

The Department has coordinated with the USFWS, BLM, MFWP, and the SDGFP to consider the effects of the proposed Project on the greater sage-grouse, including the effects of habitat fragmentation. Several conservation measures would be implemented by Keystone or power providers where specified to avoid, minimize, and compensate for impacts to the sage-grouse. Many of these were described in *An Approach for Implementing Mitigation Measures to Minimize*

*the Effects of Construction and Operation of the Keystone XL Pipeline Project on Greater Sage-Grouse* (DOS 2012, Appendix O) and *An Approach for Implementing Mitigation Measures to Minimize the Effects of Construction and Operation of the Keystone XL Pipeline Project on Greater Sage-Grouse in South Dakota; and Associated Correspondences* (DOS 2012, Appendix P). In South Dakota, this strategy was supplemented with compensatory mitigation that was outlined in a proposal submitted to SDGFP in November 2011 and revised in November 2012 (DOS 2012, Appendix P). Those measures include the following:

- Surveys will be conducted for greater sage-grouse leks prior to construction using approved methods to determine lek locations and peak number of males in attendance within 3 miles of the facility unless the facility is screened by topography; also surveys will be done for leks as identified by MFWP, BLM, and SDGFP more than 3 miles from the facility for use as a baseline to determine construction effects on sage-grouse abundance.
- A conservation plan will be developed with MFWP, SDGFP, USFWS, and BLM once the Presidential Permit is signed and before Project construction begins in Montana and South Dakota to address impacts to greater sage-grouse, including construction timing restrictions, habitat enhancement, and any mitigation measures that would be necessary to maintain the integrity of Core Areas or Preliminary Priority Habitat/Protection Priority Areas (USFWS 2012b), which encompasses lek habitats as well as other important habitat necessary for greater sage-grouse to meet life requisites (see DOS 2012: Appendices O and P, Sage Grouse Mitigation Plans).
- Protection and mitigation efforts will be followed as identified by MFWP, SDGFP, and USFWS including identification of all greater sage-grouse leks within the buffer distances from the construction ROW set forth for the greater sage-grouse by USFWS, and avoiding or restricting construction activities as specified by USFWS within buffer zones between March 1 and June 15 (see DOS 2012: Appendices O and P, Sage Grouse Mitigation Plans) unless the facility is screened by topography.
- Construction will be prohibited during March 1 to June 15 within 3 miles of active greater sage-grouse leks in suitable nesting habitat not screened by topography, with an allowance made for one-time equipment movement during mid-day hours through ROW areas with a timing restriction that does not require grading for equipment passage to lessen disturbance to sage-grouse leks.
- Construction within 2 miles of active greater sage-grouse leks on federal land will be prohibited from March 1 to June 15.
- The mound left over the trench in areas where settling would not present a path for funneling runoff down slopes in sagebrush habitat will be reduced, and additional measures would be taken to compact backfilled spoils to reduce settling to avoid funneling runoff down slopes.
- A compensatory mitigation fund for use by MDEQ, MFWP, and BLM will be established to enhance and preserve sagebrush communities for greater sage-grouse and other sagebrush-obligate species in eastern Montana (size of the fund to be based on acreage of silver sagebrush and Wyoming big sagebrush habitat disturbed during pipeline construction within sage-grouse core habitat mapped by MFWP and important habitat between approximate Mileposts 95 to 98 and 100 to 121).

- Inspection over-flights will be limited to afternoons from March 1 to June 15 during operations as practicable in sagebrush habitat designated by MFWP.
- A 4-year study will be funded by Keystone, under the direction of MDEQ, MFWP, and BLM, that would show whether the presence of the facility has affected greater sage-grouse numbers based on the peak number of male sage-grouse in attendance at leks.
- Restoration measures (i.e., application of mulch or compaction of soil after broadcast seeding, and reduced seeding rates for non-native grasses and forbs) will be implemented immediately following construction that favor the establishment of silver sagebrush and big sagebrush in disturbed areas where compatible with the surrounding land use and habitats unless otherwise requested by the affected landowner.
- Studies will be conducted by Keystone prior to construction along the route to identify areas that support stands of silver sagebrush and big sagebrush. This information will be incorporated into restoration activities to prioritize reestablishment of sagebrush communities.
- Establishment of sagebrush on reclaimed areas will be monitored and reported-on, unless otherwise requested by the landowner, annually for at least 4 years to ensure that sagebrush plants become established at densities similar to densities in adjacent sagebrush communities. Additional sagebrush seeding or planting will be implemented, if necessary.
- Criteria will be established in conjunction with MDEQ, MFWP, and BLM to determine when restoration of sagebrush communities has been successful based on pre- and post-construction studies in addition to consideration of revegetation standards.
- Locally adapted sagebrush seed will be used by Keystone for land restoration (collected within 100 miles of the areas to be reclaimed), unless otherwise requested by the effected landowner (seed would be collected as close to the Project as practicable as determined by regional seed production and availability).
- Cover and densities of native forbs and perennial grasses will be monitored exclusive of noxious weeds on reclaimed areas and reseeded with native forbs and grasses where densities are not comparable to adjacent communities.
- Keystone will work in conjunction with the landowner to appropriately manage livestock grazing of reclaimed areas until successful restoration of sagebrush communities has been achieved (livestock grazing in restored sagebrush communities may promote establishment of sagebrush).
- Measures will be implemented to reduce or eliminate colonization of reclaimed areas by noxious weeds and invasive annual grasses such as cheatgrass to the extent that these plants do not exist in undisturbed areas adjacent to the ROW (noxious weed management plans would be developed and reviewed by appropriate county weed specialists and land management agencies for each state crossed by the proposed Project).
- A compensatory mitigation fund will be established by Keystone, in consultation with SDGFP, and managed by a third party for temporary and permanent impacts to greater sage-grouse habitat. The fund will be used by SDGFP to enhance and preserve sagebrush communities within the sagebrush ecosystem in South Dakota, which is found within the

following counties: Butte, Custer, Fall River, and Harding counties and to a lesser degree, Perkins and Meade counties.

- A research fund will be developed by Keystone, in consultation with SDGFP, and managed by a third party to evaluate the effects of pipeline construction on greater sage-grouse.
- Leks will be monitored that are within 3 miles of the Project footprint in South Dakota that are within the view shed of the construction ROW if construction takes place between March 1 and June 15.
- Keystone will implement, in consultation with SDGFP, a modified 3-mile buffer from March 1 to June 15 around active greater sage-grouse leks. The buffer would be modified on a lek-by-lek basis to account for differences in topography, habitat, existing land uses, proximity of the Project to the lek, and line-of-sight between the proposed Project and each lek.
- Construction equipment activity will be restricted in South Dakota to occur only between 10 am and 2 pm to avoid impacts to breeding greater sage-grouse from March 1 through June 15 in areas where a lek is either within 3 miles of the ROW and visible from the ROW or within 1-mile of the ROW and not visible from the Project ROW.
- Pump Station 9 (Montana): Big Flat Electric Cooperative will implement mitigation measures in accordance with APLIC standards (APLIC 2012) and in coordination with the USFWS, BLM, and MFWP to avoid and minimize impacts to the greater sage-grouse. Construction of the power line will be avoided from March 1 through June 15 to avoid impacts to greater sage-grouse leks that are near the power line.

Big Flat Electric Cooperative will also require its contractors to install a pole top raptor guard on 68 poles identified to be close enough to a lek to provide a perch and visibility of the lek for birds of prey. Pole top raptor guards will also be installed on 24 existing distribution poles to protect a long-established lek located near the new transmission line project to provide service to pump station 9. Additional pole top raptor guards may be installed pending further field assessments completed during construction.

Big Flat Electric Cooperative will ensure reclamation of disturbed areas that favors establishment of silver sagebrush (big sagebrush is not located north of the Milk River) and other species that encourage development of suitable greater sage-grouse habitat. Only BLM-approved seed sources will be used in reclamation efforts on BLM lands.

- Pump Station 13 (Montana): Tongue River Electric Cooperative has sited the 15.3-mile long power line so that it is located in developed areas near the transportation infrastructure or agricultural land thereby avoiding areas of potential habitat.
- Pump Station 14 (Montana): Montana Dakota Utilities will reroute a portion of the transmission line serving pump station 14 to avoid two sage-grouse leks and install raptor perch guards at structures previously identified by the MFWP.

Montana Dakota Utilities will work with TransCanada to avoid any construction of the transmission line from March 1 through June 15, if possible. If not possible, Montana Dakota Utilities would minimize disturbance to lekking sage-grouse by avoiding

construction within 1-mile of leks from 8 pm until 2 hours after sunrise the following day and monitor active leks (displaying males) within 3 miles of the Project during construction from March 1 through June 15. Montana Dakota Utilities would contact the USFWS to obtain additional guidance if construction-related disturbance of lekking sage grouse is noted.

- Pump Stations 15, 16, and 17 (South Dakota): Grand Electric Cooperative will install raptor perch deterrents (cones or spike type deterrent devices) at any power pole that is located one-mile or less from a greater sage-grouse lek for the power line alignments to pump stations 15, 16, and 17. Selection of poles to be equipped with perch deterrent devices will be done in coordination with the USFWS.

### **Sprague's Pipit**

Conservation measures have been discussed with multiple agencies and would be implemented by Keystone or power providers where specified to avoid, minimize, and compensate for impacts to the Sprague's pipit as outlined below:

- Disturbed areas in native range will be seeded with a native seed mix after topsoil replacement.
- The Project ROW will be monitored to determine the success of revegetation after the first growing season, and areas will be reseeded where vegetation has not been successfully reestablished.
- Off-road vehicle access to the Project ROW will be controlled with the use of signs; fences with locking gates; slash and timber barriers, pipe barriers, boulders lined across the construction ROW; or planted conifers or other appropriate trees or shrubs in accordance with landowner or manager request.
- A conservation plan will be developed for the proposed Project to comply with the Migratory Bird Treaty Act and implement provisions of Exec. Order No. 13,186 by providing benefits to migratory birds and their habitats within the states where the proposed Project would be constructed, operated, and maintained.
- If construction would occur during the April 15 to July 15, the grassland ground-nesting bird nesting season, Keystone will ensure that nest-drag surveys are completed to determine the presence or absence of nests on federal land in eastern Montana.
- Construction activity will be delayed from April 15 to July 15 within 330 feet of discovered active nests in eastern Montana.
- Pump Station 9 (Montana): Big Flat Electric Cooperative will implement mitigation measures in coordination with the USFWS, BLM, and MFWP to avoid and minimize impacts to the Sprague's pipit. Preconstruction surveys for the species will be coordinated with the USFWS. Unauthorized vehicle access will be restricted by Big Flat Electric Cooperative during the course of project construction to avoid impacts to nesting birds. Big Flat Electric Cooperative will ensure that disturbed areas will be reseeded to encourage redevelopment of native range using a BLM-approved seed mix.

- Pump Station 12 (Montana): McCone Electric Cooperative will site the power line to avoid and minimize encroachment on native prairie habitats. Construction activities will occur outside of the April 15 through July 15 nesting season, if possible. If Sprague's pipit nests are discovered, construction activity will be delayed within 330 feet of the nest, until the young have fledged. McCone Electric Cooperative will ensure all areas disturbed during the course of power line construction are reseeded with a native seed mix after top soil replacement. Access to the power line ROW will be controlled via fences with locking gates, signs, and fences to avoid disturbance to nesting areas.
- Pump Station 14 (Montana): Montana Dakota Utilities will mow the ROW, unless the landowner does not approve mowing. Any mowing would be done in the fall, prior to construction, to discourage bird nesting. Montana Dakota Utilities may decide not to mow the ROW if construction is projected to commence after July 15. Sagebrush will not be mowed.

Montana Dakota Utilities will work with TransCanada to avoid construction of the transmission line from April 15 through July 15, if possible. If construction is projected to occur in native prairie habitat during the period from April 15 through July 15, Montana Dakota Utilities will mow the ROW unless the landowner does not approve mowing. Any mowing would be done in the fall, prior to construction, to discourage bird nesting. Montana Dakota Utilities may decide not to mow the ROW if construction is projected to commence after July 15. Sagebrush will not be mowed.

### **Interrelated and Interdependent Actions**

Interrelated actions are those actions that are a part of a larger action and depend on the larger action for their justification (50 CFR § 402.02). Interdependent actions are those actions having no independent utility apart from the proposed action (50 CFR § 402.02). The USFWS and the Department have identified three interrelated and interdependent actions. The effects of these actions are discussed in the *Effects of the Action* section of this BO. The interrelated and interdependent actions include the following:

- Electrical distribution lines and substations that would provide electrical service to pipeline pump stations;
- the Big Bend to Witten 230-kilovolt (kV) transmission line (necessary in southern South Dakota for future increase in pipeline through-put);
- The Bakken Marketlink Project near Baker, Montana.

### **Electrical Substations and Power Distribution Lines to Pump Stations (Montana, South Dakota, Nebraska, and Kansas)**

At least 20 separate private power districts or cooperatives would construct transmission lines to deliver power to 20 pump stations located along the United States length of the pipeline from Montana to Nebraska (Table 6) (see Appendix A). The power lines needed to service pipeline pump stations would range in capacity from 69 kV to 240 kV, but the majority would have a capacity of 115 kV. Most of the lines would be strung on single pole and/or H-frame wood poles, and would typically be about 60 to 80 feet high with wire span distances from approximately 250

to 400 feet. The length of the power lines vary. Potential effects of these substations and power distribution lines are addressed in the *Effects of the Action* section in this BO.

### **Big Bend to Witten 230-kV Transmission Line (South Dakota)**

After receipt of information on the power requirements for the proposed pump stations in South Dakota, Western conducted a joint system engineering study to determine system reliability under the proposed loads at full Project electrical energy consumption. Engineering studies determined that a 230-kV transmission line would be required to support voltage requirements for pump stations 20 and 21 in the Witten area when the proposed Project is operating at maximum capacity. To address this requirement, Western proposes to replace the existing Big Bend-Fort Thompson No. 2 230-kV Transmission Line Turning Structure located on the south side of the dam, construct a new double circuit 230-kV transmission line for approximately 1 mile south west of the dam, and construct a new Lower Brule Substation. These actions are part of the larger Big Bend to Witten 230-kV Transmission Line Project.

If a Presidential Permit is issued, Western plans to construct approximately 2.1 miles of new double-circuit transmission line from the Big Bend Dam, located near the town of Fort Thompson, South Dakota, south to a new substation, tentatively named Big Bend Substation, which would also be constructed by Western. The new 2.1-mile, 230 kV transmission line would be constructed, owned, and operated by Western, but the Big Bend Substation would be transferred after construction to the Basin Electric Power Cooperative (BEPC), which would then own and operate it. The BEPC proposes to construct, own, and operate a new 72.9-mile-long 230 kV transmission line from the proposed new Big Bend Substation to the existing Witten Substation, located near the town of Witten in Tripp County. The new Big Bend Substation and approximately 75-mile-long 230 kV transmission line would assure future electric power requirements at pump stations 20 and 21 are met without degrading system reliability if and when the proposed Project is operating at maximum capacity. The RUS is the lead agency, with Western cooperating for a separate environmental review of the Big Bend to Witten line under NEPA and the Act. Potential effects of this transmission line are addressed in the *Effects of the Action* section in this BO. Other federal actions associated with the proposed Project may require separate section 7 consultation with the USFWS.

### **Bakken Marketlink Project (Montana)**

Keystone Marketlink, LLC, a wholly owned subsidiary of TransCanada Pipelines Limited, is proposing to construct and operate the Bakken Marketlink Project. The project would include construction of facilities to provide crude oil transportation service from near Baker, Montana, to Cushing, Oklahoma. Keystone Marketlink, LLC obtained commitments for transport of approximately 65,000 barrels per day (bpd) of crude oil through the Bakken Marketlink Project. The Bakken Marketlink Project could deliver up to 100,000 bpd to Cushing, Oklahoma depending on ultimate shipper commitments.

The Bakken Marketlink facilities in Montana would consist of piping, booster pumps, meter manifolds, and two 250,000-barrel tanks that would be used to accumulate crude from connecting third-party pipelines and terminals, as well as a 100,000-barrel tank that would be used for operational purposes. Tanks at Baker will be external floating roof tanks. The facilities in

Montana would also include a proposed NPS 16 pipeline that would be approximately 5 miles in length, originating south of pump station 14 at a third party tank farm in Fallon County, and extending to the two accumulation tanks adjacent to the proposed pump station 14. TransCanada Pipelines Limited Bakken held introductory meetings with State and local permitting agencies in 2011, and also held a meeting for potentially affected landowners along the route. Adjustments in the alignment are possible as a result of civil surveys, further landowner discussions, and permitting.

Bakken Marketlink would deliver crude oil into Cushing, Oklahoma, a key pipeline transportation and crude oil storage hub with over 50 million barrels of storage capacity. Crude oil delivered by the Bakken Marketlink Project would be received into storage tanks at Cushing and would either be pumped to the Gulf Coast Project pipeline or to other pipelines and tank farms near Cushing. The Cushing area is a major crude oil marketing, refining, and pipeline hub that provides shippers with many delivery options and market access. The proposed in service date for the Bakken Marketlink Project is projected to be the first or second quarter of 2015. Potential effects of Bakken Market Link project are described in general in the BA and the EIS, and are addressed in the *Effects of the Action* section in this document.

## **American Burying Beetle**

### **Species Description**

The ABB is the largest silphid (carrion beetle) in North America, reaching 1 to 1.8 inches in length (Wilson 1971, Anderson 1982, Backlund and Marrone 1997). The ABB is black with orange-red markings. The hardened elytra (wing coverings) are smooth, shiny black, and each elytron has two scallop-shaped orange-red markings. The pronotum (hard back plate on the front portion of the thorax of insects) over the mid-section between the head and wings, is circular in shape with flattened margins and a raised central portion. The most diagnostic feature of the ABB is the large orange-red marking on the raised portion of the pronotum, a feature shared with no other members of the genus in North America (USFWS 1991). The ABB also has orange-red frons (the upper, anterior part of the head), and a single orange-red marking on the clypeus, which is the lower face located just above the mandibles. Antennae are large, with notable orange club-shaped tips.

Gender can be determined from markings on the clypeus; males have a large, rectangular, red marking and females have a smaller, triangular, red marking. The age of the adults is determined by intensity of appearance. The markings of teneral ABBs (young beetles emerging during late summer) are brighter and appear more uniform in color while the exoskeleton is softer and in general more translucent. The pronotum of a mature, early summer adult tends to be darker than the markings on its elytra, with the former appearing dark orange to red and the latter appearing orange. The senescent (mature, post-breeding) ABB has pale elytral markings and are more scarred. They often have pieces missing from the margin of the pronotum or elytra, have cracks in the exoskeleton, and/or are missing appendages such as tarsi, legs, or antennae (USFWS 2008a).

### **Life History**

The life history of the ABB is similar to that of other burying beetles (Kozol et al. 1988; Pukowski 1933; Scott and Traniello 1987; Wilson and Fudge 1984). A nocturnal species, the ABB is active

in the summer months and bury themselves in the soil during the winter. The young teneral emerge in late summer, over-winter as adults, and comprise the breeding population the following summer (Kozol 1990b). Both adults and larvae are dependent on carrion for food and reproduction.

Winter Inactive Period: When the nighttime ambient air temperature is consistently below 60°F (15.5°C), ABBs bury into the soil and become inactive (USFWS 1991). In Nebraska, this typically occurs between early September to early June (W.W. Hoback, pers. comm.) and these dates are likely similar in South Dakota. However, the length of the inactive period can fluctuate depending on temperature. Recent studies indicate that ABBs bury to depths ranging from 0 to approximately 20 centimeters in Arkansas (Schnell et al. 2007) and at least 18 centimeters deep depending on the depth of frost in Nebraska and probably South Dakota.

During the winter months in the northern portion of ABB's range (i.e., South Dakota and Nebraska), soil commonly freezes to several feet below the surface. In the Nebraska Sandhills, for example, extreme penetration of frost was estimated between four feet and five feet (Floyd 1978), and water pipes to cattle tanks are still typically buried five feet to avoid freezing (K. Graham, pers. comm.). Since these depths exceed ABB burial depths, the species likely uses a survival strategy in Nebraska and South Dakota that permits the lowering of body temperature to freezing or near-freezing during the coldest portions of the winter (W.W. Hoback, pers. comm.). The lowering of body temperature slows metabolism and helps ensure fat reserves are sufficient to last until emergence in late May or early June (W.W. Hoback, pers. comm.). Additionally, recent research appears to show that ABB will burrow to below the frost line to avoid freezing as well (W.W. Hoback, pers. comm.).

Preliminary data suggest that over-wintering results in significant mortality (Bedick et al. 1999). Winter mortality may range from 25 to 70 percent depending on year, location, and availability of carrion in the fall (Schnell et al 2007; Raithel 1996-2002, unpubl. data, as cited in USFWS 2008b). Over-wintering ABBs with access to a whole vertebrate carcass in the fall had a survival rate of 77 percent versus a 45 percent survival rate for those ABBs not provisioned with a carcasses (Schnell et al. 2007).

Summer Active Period: The ABB emerges from its winter inactive period in mid to late May when ambient nocturnal air temperatures consistently exceed 60° F. In Nebraska, Bedick et al. (1999) found that ABB activity was highest when nighttime temperatures were between 59° F (15° C) and 68° F (20° C). They are most active from two to four hours after sunset, with no captures recorded immediately after dawn (Walker and Hoback 2007, Bedick et al. 1999). Weather, such as rain and strong winds can result in reduced ABB activity (Bedick et al. 1999). During the daytime, ABBs are believed to bury under the vegetation litter to avoid desiccation and predators. The ABB begin rearing broods soon after emergence in late May to early June. During late May and early June ABBs secure a mate and carcass for reproduction purposes. The reproductive process takes approximately 48-69 days. Capture rates for ABBs are highest from mid-June to early-July and again in mid-August (Kozol et al. 1988, Bedick et al. 2004, USFWS 1991) with a decrease in pitfall captures in late July (Kozol et al. 1988) because the species has gone underground tending its brood.

Feeding: Carrion selection by adult ABBs *for food* can include an array of available carrion

species and size (Trumbo 1992). However, carrion must be within a specific weight range for it to be used by ABB *for reproductive purposes*. Kozol et al. (1988) found no significant difference in the ABB's preference for avian versus mammalian carcasses. Burying beetles are capable of finding a carcass between one and 48 hours after death at a distance of up to 2 miles (3.22 km, Ratcliffe 1996). Success in finding carrion depends upon many factors including availability of optimal habitats for small vertebrates (Lomolino and Creighton 1996), density of competing invertebrate and vertebrate scavengers, individual searching ability, reproductive condition, temperature (Ratcliffe 1996) and other abiotic factors such as wind speed and humidity.

Reproduction: Upon emergence from their winter hibernation in early June, ABBs begin searching for a proper-sized carcass for reproduction in Nebraska and South Dakota. The species is able to locate carcasses using chemoreceptors on their antennae. Once a carcass has been found, inter-specific as well as intra-specific competition occurs until usually only a single dominant male and female burying beetle remain (Scott and Traniello 1989). Kozol (1991) reported that the ABB typically out-competes other burying beetles as a result of its larger size. Male and female ABBs cooperatively bury a carcass, but individuals of either sex are capable of burying a carcass alone (Kozol et al. 1988). Once underground, both parents shave off the fur or feathers, roll the carcass into a ball, and treat it with anal and oral secretions that retard the growth of mold and bacteria. The female ABB lays eggs in the soil near the carcass. Parental care in this genus is elaborate and unique because both parents participate in the rearing of young (Bartlett 1987, Fetherston et al. 1990, Scott 1990, and Trumbo 1990), with care by at least one parent, usually the female, being critical for larval survival (Ratcliffe 1996).

Brood sizes of ABBs can sometimes exceed 35 larvae, but 12-18 is more typical (Kozol 1990a). Altricial (helpless at birth), lightly hardened larvae hatch in about 12-14 days. The parents move these first instar larvae to the carcass. The developing larvae solicit feeding by stroking the mandibles of the parents. Both male and female parents regurgitate meat to the larvae. The larvae are soon capable of feeding directly from the carcass. In about 10-14 days large, third instar larvae burrow a short distance from the now-diminished carcass and form pupation cells. One or both of the parents may remain with the pupae for several days and at least one parent, usually the female, may remain with the pupae until they pupate (Kozol 1991). So, for approximately 22-28 days, adult ABBs are present with their brood. New adults emerge in about 26-51 days. The reproductive process from carcass burial to eclosure (i.e., emergence of the adult from pupae) is about 48 to 79 days (Ratcliffe 1996, Kozol 1991, Bedick et al. 1999). Females are reproductively capable immediately upon eclosure. The young beetles emerge in late summer and over-winter as adults; they comprise the breeding population the following summer (Kozol 1990b). In Nebraska, Bedick et al (1999) found that ABBs reproduce only once per year.

Movement: American burying beetles are mobile because they must be able to move to find carrion resources for feeding and reproductive purposes. The species has been reported moving distances ranging from 0.10 to 2.6 miles per day in various parts of their range. Creighton and Schnell (1998) conducted a study on movement patterns of ABBs at Camp Gruber and Fort Chaffee in 1992 and 1993. They recaptured 68 ABBs over a 12 night period; of those 68, 23 (29.5 percent) were recaptured at a site different than the original site of capture. The mean distance moved of the 23 recaptured ABBs over the 12 night sampling period was 1.21 miles for each ABB (0.10 miles per night per ABB). The minimum and maximum distance moved by an individual recaptured ABB was 0.16 mile in one night and 4.3 miles in five nights, respectively. Six ABBs

were recaptured two or three times. The mean movement for these six ABBs was 6.2 miles over six nights, 1.03 miles per night over the entire sampling period. The maximum distance moved by one of these six was 0.76 miles in one night (USFWS 2008b).

Bedick et al. (2004) reported average nightly movements of 0.62 mile, with 85 percent of recaptures moving distances of 0.31 miles per night. Schnell et al. (1997-2003) annually determined the average nightly movements of the ABB to be 0.62 miles, using marked individuals over a nine-year period at Camp Gruber. The smallest average nightly movement for any given active season over that same period was 0.52 miles. Schnell et al. (1997-2006) reported a one day movement of 2.6 miles; previously the greatest distance moved was 1.78 miles (Creighton and Schnell 1998).

Habitat: ABBs are considered habitat generalists and have been successfully live-trapped in several vegetation types including native grasslands, grazed pasture, riparian zones, coniferous forests, mature forest, and oak-hickory forest, as well as on a variety of various soil types (Creighton et al. 1993; Lomolino and Creighton 1996; Lomolino et al. 1995; USFWS 1991). Ecosystems supporting ABB populations are diverse and include primary forest, scrub forest, forest edge, grassland prairie, riparian areas, mountain slopes, and maritime scrub communities (Ratcliffe 1996; USFWS 1991). The ABB readily moves between different habitats (Creighton and Schnell 1998, Lomolino et al. 1995) (USFWS 2008b). Although thought to be a habitat generalist, it is likely that the ABB is more substrate (soil) specific in its selection of carrion burial sites. Soil conditions for suitable ABB habitat must be conducive to excavation by ABBs (Anderson 1982; Lomolino and Creighton 1996). Soils in the vicinity of captures are all well drained and include sandy loam and silt loam, with a clay component noted at most sites. Level topography and a well formed detritus layer at the ground surface are common (USFWS 1991). Certain soil types such as very xeric (dry), saturated, or loose, sandy soils are considered unsuitable for carcass burial and thus are unlikely habitats.

Habitat in South Dakota and Nebraska has often been categorized based on moisture, land use, and the presence of ABB from previous studies in Nebraska. For the Nebraska Sandhills population, this ranking system appears to generally describe areas of potential ABB occurrence. The following habitat descriptions for prime and good habitat are consistent with the Backlund et al. (2008) description of the best habitat for ABB in South Dakota, which they described as sandy grasslands with scattered stands of trees dominated by cottonwood, and commonly including sub-irrigated meadows and groundwater streams. As in Nebraska, the dominant land cover in the South Dakota ABB habitat is native grassland, and is primarily used for range and hay land. Low meadows are dominated by grasses and forbs typical of tallgrass prairie while the uplands consist mostly of mixed grass prairie flora.

### **Status and Distribution**

The ABB was designated as a federally endangered species on July 13, 1989 (54 Fed. Reg. 29,652). At that time, only two, disjunct, natural populations occurred at the extremities of the species' historic range of 35 states; one population was known from four counties in Oklahoma and another population was located on a small island off the coast of Rhode Island (USFWS 2008a). Critical habitat was not designated for the ABB.

Distribution: Historically, the geographic range of the ABB included over 150 counties in 35 states, covering most of temperate eastern North America and the southern borders of three eastern Canadian provinces (USFWS 1991; Peck and Kaulbars 1987) (Figure 1). Documentation of records is not uniform throughout this broad historical range. More records exist from the Midwest into Canada and in the northeastern United States than from the southern Atlantic and Gulf of Mexico region (USFWS 1991). However, during the 20th century, the ABB disappeared from over 90 percent of its historical range (Ratcliffe 1995). The last ABB specimens along the mainland of the Atlantic seaboard, from New England to Florida, were collected in the 1940s (USFWS 1991). At the time of listing, known populations were limited to one on Block Island, Rhode Island; and one in Latimer County, Oklahoma. After the species was listed in 1989, survey efforts increased and the ABB was discovered in more locations, particularly in South Dakota, Nebraska, and Oklahoma (Figure 1).

Currently, the ABB is known to occur in eight states thanks to extensive survey efforts for the species (Figure 1). These include Block Island off the coast of Rhode Island, Nantucket Island off the coast of Massachusetts, eastern Oklahoma, western Arkansas (Carlton and Rothwein 1998), Loess Hills in south-central Nebraska and Sandhills in north-central Nebraska (Ratcliffe 1996, Bedick et al. 1999) (Figure 2), Chautauqua Hills region of southeastern Kansas (Sikes and Raithe 2002), south-central South Dakota (Backlund and Marrone 1995, 1997; Ratcliffe 1996) in Todd Tripp, Gregory, and Bennett counties, and northeast Texas (Godwin 2003). There is some concern that the population in Texas has been extirpated due to competition with fire ants (*R. Harms*, pers. comm.). Most populations are located on private land.

Population Estimate: Although ABB are relatively easy to capture, obtaining precise estimates of absolute or even relative densities of ABB populations remains a challenge (USFWS 2008a). The standard mark and re-capture technique used to estimate population size assumes that marked and unmarked individuals are equally likely to be captured, and that a substantial number of the animals would be recaptured from one trapping period to the next. However, due to ability of the ABBs to range widely and their reproductive strategy that includes retreating underground for several weeks, these assumptions may not apply. Because the ABB has a one-year life cycle, each year's population levels are largely dependent on the reproductive success of the previous year. Therefore, populations are likely cyclic, with high numbers and abundance in one year, followed by a decline in numbers the succeeding year. This may indicate a relatively rapid turnover rate in the trappable ABB population due to factors such as natural mortality, dispersal, and burrowing underground and attending carrion/broods (Creighton and Schnell 1998).

#### Reasons for decline:

There is little doubt that habitat loss and alteration affect this species at local or even regional levels, and could account for the extirpation of populations once they become isolated from others (Kozol 1995, Ratcliffe 1996, Amaral et al. 1997, Bedick et al. 1999). The prevailing theory regarding the ABBs' decline is habitat fragmentation (USFWS 1991) which: (1) reduces the carrion prey base of the appropriate size for ABB reproduction and (2) increases the vertebrate scavenger competition for this prey (Kozol 1995, Ratcliffe 1996, Amaral et al. 1997, Bedick et al. 1999) due to its relatively large size and specialized breeding behavior (Creighton et al. 2007). The ABB Recovery Plan (USFWS 1991) and the 5-yr status review of the species (2008a) also

identify the following as potential threats to the ABB: disease/pathogens, DDT, loss of genetic diversity in isolated populations, agricultural and grazing practices, and invasive species.

Habitat Loss and Fragmentation: During the westward expansion of settlement in North America, the removal of top-level carnivores such as the grey wolf (*Canis lupis*) and eastern cougar (*Puma concolor*) occurred simultaneously with land use changes that fragmented native forest and grasslands and created more edge habitats (such as the edge between forest and grassland, or grassland and cropland). These two processes resulted in mid-sized carnivores and scavengers becoming more abundant than they were in presettlement times. Mid-sized carnivores prey on small mammals and birds and scavengers directly compete with carrion beetles for carrion. Mid-sized carnivores and scavenger species include American crow (*Corvus brachyrhynchos*), raccoon (*Procyon lotor*), red fox (*Vulpus vulpes*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), rats (*Neotoma* spp.) and Hispid cotton rats (*Sigmodon hispidus*), coyotes (*Canis latrans*), feral cats, and other opportunistic predators (Wilcove et al. 1986) and scavengers.

A number of these species, especially the raccoon and striped skunk, have undergone dramatic population increases over the last century (Garrott et al. 1993), and the coyote and opossum have expanded their ranges. These scavengers may extend hundreds of feet from edges into forest in eastern North America. Matthews (1995) experimentally placed 64 carcasses in various habitats in Oklahoma where ABBs and the roundneck sexton beetle (*N. orbicollis*), another type of burying beetle and a species thought to have similar life history characteristics as that of the ABB) had been previously documented, then tracked the organisms that scavenged them. Of the carcasses, 83 percent were claimed by ants, flies, and vertebrate scavengers; about 11 percent were claimed by the roundneck sexton beetle, and only one was claimed by ABBs.

Projects that cause ABB habitat fragmentation are common. Since 2011, large tracts of native grassland have been converted to row crops in Nebraska and South Dakota due to elevated grain prices. This conversion has resulted in the loss and fragmentation of a considerable amount of habitat for the ABB. Conversion is considered a permanent loss of habitat.

Carrion requirements: Unavailability of the appropriate sized carrion for reproduction likely also caused the decline of the ABB. Data available for the ABB on Block Island, Rhode Island supports the contention that the primary mechanism for the species' rangewide declines lies in its dependence on carrion of a larger size class relative to that used by all other North American burying beetles, and that the optimum-sized carrion resource base has been reduced throughout the species' range (USFWS 1991).

American burying beetles require carcasses of 3.5 to 7.0 ounces (99.22 to 198.45 g, Kozol et al. 1988) to maximize its fecundity, whereas all other burying beetles can breed abundantly on much smaller carcasses, with the smaller species using carcasses of 0.11 to 0.18 ounces (3.12 to 5.10 g, Trumbo 1992). Since the middle of the 19<sup>th</sup> century, certain animal species in the favored weight range for ABB reproductive use have either been eliminated from North America or significantly reduced over their historic range (USFWS 1991), including the passenger pigeon (*Ectopistes migratorius*), greater prairie chicken (*Tympanchus cupido*) and wild turkey (*Meleagris gallopavo*). The passenger pigeon was estimated at one time to have been the most common bird in the world, numbering 3 to 5 billion (Ellsworth and McComb 2003). There were once as many passenger pigeons within the approximate historic range of the ABB as there are numbers of birds of all

species overwintering in the United States today. Wild turkeys, for example, occurred throughout the range of the ABB, and until recently, were extirpated from much of their former range. Black-tailed prairie dogs (*Cynomys ludovicianus*) which occur in the northern portion of the ABB's range have drastically declined (Miller et al. 1990) and previously dense populations of these mammals may also have been important for reproduction by ABB (USFWS 2008a).

Illumination: Although somewhat anecdotal, it is likely that the gradual lighting of the nighttime sky due to development across the central and eastern United States has also hastened the decline of the ABB. Like all insects, the ABB is attracted to light sources. Attraction to artificial light sources increases the risk of predation, increases energy requirements, and reduces recruitment of the next generation.

Climate Change: A five year review was completed for the ABB which identified the potential effects of global climate change on the ABB habitat and disease (USFWS 2008a). The frequency of extreme weather events on ABB populations, however, has not been assessed. Nevertheless, some predictions, although anecdotal, can be made about how weather events may affect the species. Section 4.14 of the Draft SEIS includes analysis regarding potential climate impacts in the region of the proposed project (DOS 2013). It includes information taken from a report that downscaled four global climate models and averaged them for eight climate regions in the U.S., as well as a review of information from other similarly downscaled global models. A gradual drying trend is predicted in the summer months in South Dakota and Nebraska through 2050. The ABB is subject to desiccation and thus, a drying trend may result in the contraction of the species' range over the next 50 years (i.e., the life of the Project) (W.W. Hoback, pers. comm.). By 2040–2069, the national average annual temperature is predicted to increase above the baseline of 1980 to 2009 by between 2.8°F and 6.6°F, depending on the model and the emissions scenario evaluated (USGCRP 2009). Although difficult to predict, a rise in temperatures could have an effect on the ABB. An elevation in winter temperatures could result in the species not going completely dormant and using extra fat reserves potentially precluding the species from being able to overwinter. This could also result in a range contraction for the species (W.W. Hoback, pers. comm.). As stated above, however, the frequency of extreme weather is not reasonably certain at this point in time.

### **Analysis of the Species/Critical Habitat Likely to be Effected**

The ABB is likely to be adversely affected by the construction, operation, and maintenance of the Keystone XL pipeline and its associated facilities. Various types of disturbance associated with typical construction activities can result in impacts to the ABB. As noted earlier, no critical habitat has been designated for the ABB; therefore, none would be affected by the Project.

### **Environmental Baseline**

The environmental baseline is the past and present impacts of all Federal, State, or private actions and other human activities in an action area, the anticipated impacts of all proposed Federal projects in an action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions that are contemporaneous with the consultation in process (50 C.F.R. § 402.02). The environmental baseline is an analysis of the effects of past and ongoing human induced and natural factors, leading to the current status of the species, its habitat, and

ecosystem, within the action area (i.e., area affected by the project). The environmental baseline is a “snapshot” of the status of the ABB at the time this document was prepared.

In the United States, the ABB is known or likely to occur in the action area only in the states of South Dakota and Nebraska. Therefore, project impacts evaluated in this BO are limited to those in South Dakota and Nebraska. Other factors having little to do with construction and operation of the proposed Project, such as climate change may also affect the ABB in the future.

### **Status of the Species in the Action Area**

The “action area” means all areas to be affected directly or indirectly by the Federal Action and not merely the immediate area involved in the action. For this consultation, the action area consists of not only areas directly impacted by the issuance of the Presidential Permit (the “Action”), but the area also indirectly effected by the proposed Keystone XL pipeline enabled by the permit. These include effects to all land disturbed by the footprint of the Project such as preconstruction, construction, operation, and reclamation activities. Lands affected include the pipeline construction ROW and land used by the above ground ancillary facilities (i.e., additional TWAs, pipe stockpile sites, rail sidings, contractor yards, construction camps, pump stations, delivery facilities and access roads). Also included as part of the action area are the effects of the interrelated and interdependent power lines that would be built by private power companies to supply electricity to 20 Project pump stations along the pipeline as well as the 230 kV transmission line in Tripp and Lyman counties in South Dakota. The facilities required by the Bakken Marketlink project are also considered interrelated and interdependent parts of the proposed Project.

### **American Burying Beetle**

The following is a summary of the species in the proposed Project action area in South Dakota and Nebraska.

South Dakota: The proposed project passes through Tripp County in South Dakota, a county where ABB are known to be present. In 1995, Backlund and Marrone (1997) discovered the ABB in the large blocks of mesic grassland habitat located in the southern portion of Tripp County. The population has been monitored almost annually from 1995-2007, and appears to have remained stable in abundance and distribution (Backlund unpubl data, SDGFP Report) (Backlund and Marrone 2003). This population is likely part of the metapopulation that occurs in the Nebraska Sandhills (W.W. Hoback pers. comm.). Surveys in 2005 showed that ABBs in South Dakota are concentrated in southern Tripp County where the population is conservatively estimated to be approximately 1,000 individual ABBs in an area of approximately 220 square kilometers (54,363 acres) (Backlund et al. 2008). However, the actual number or percentage of ABB in the vicinity of the proposed Keystone XL pipeline in South Dakota cannot be determined because there have not been any surveys done at the proposed Project location.

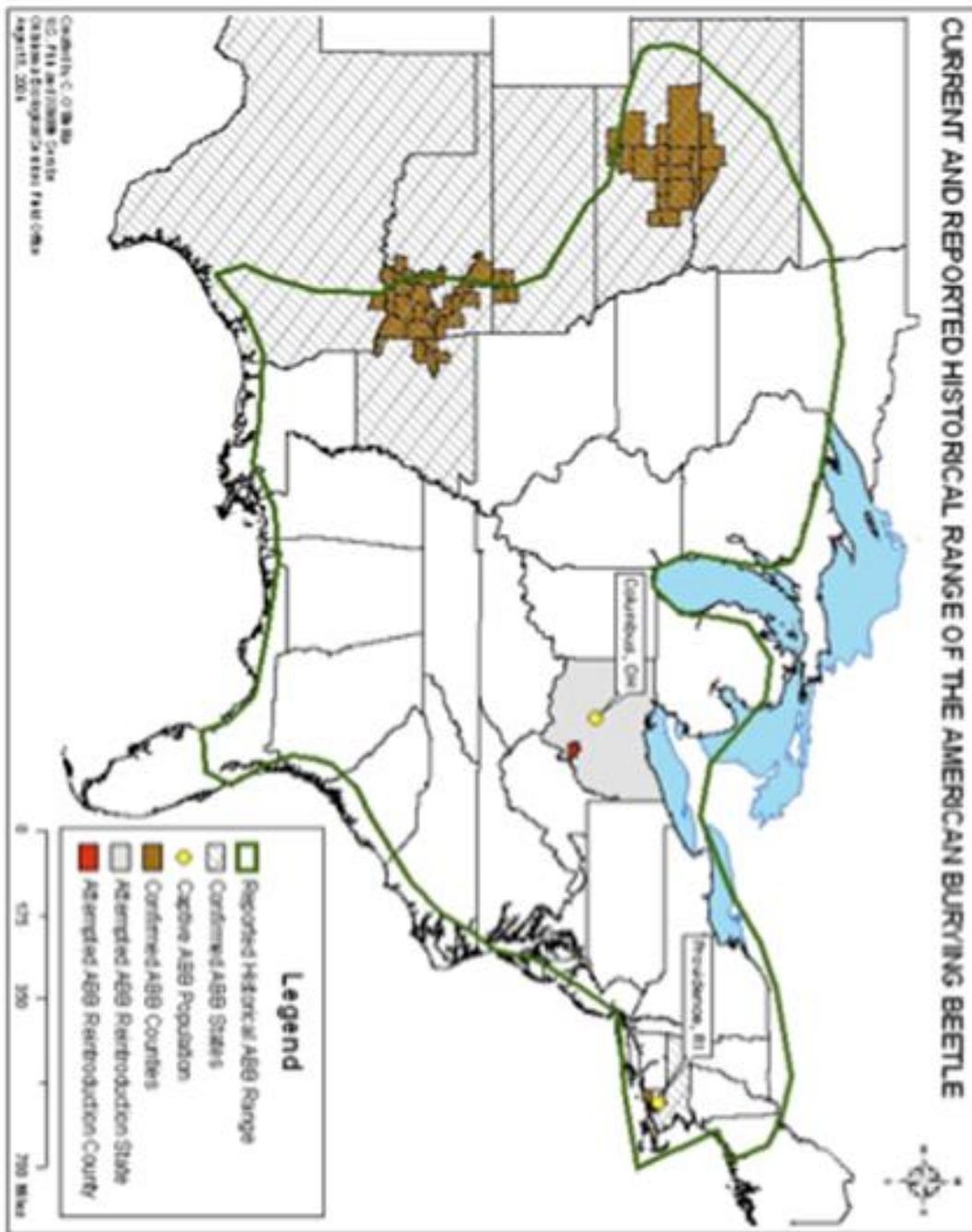


Figure 1. Historic and Current Range of the ABB.

Nebraska: The proposed project passes through three counties in Nebraska with known ABB presence (Keya Paha, Boyd, and Holt counties) and one county with historic ABB occurrence (Antelope County) (Hoback 2012). The proposed pipeline route then passes through a number of central and southern Nebraska counties where the ABB has not been found historically or in the last 10 years based on surveys done for the species.

During the summer of 2012, ABB surveys were conducted at 54 sites in northern Keya Paha, Holt, Antelope, and Boyd counties (Hoback 2012). Surveys occurred between August 2 and August 17, 2012, using standard traps baited and checked for 5 trap nights following standard trapping methods (NGPC and USFWS 2008) (Appendix B). Traps were set on road shoulders of state and county highways within suitable habitat. Ninety-five ABBs were captured at 28 sampling locations in Keya Paha and Holt counties. Capture rates ranged from 0.2 ABB per trap nights to 3.0 ABB per trap night. No ABB were caught in Boyd or Antelope counties. Captures of ABB occurred in northwestern Holt County, but not east of Highway 183. Control traps were run during sampling at sites in Holt County in accordance with protocol (see Appendix B), where ABB are known to be numerous. These traps produced between 0.7 and 7.0 ABB per trap night (Hoback 2012).

The control trap success suggests that populations of ABB to the east of the Sandhills region are not as dense as those in the Sandhills. Very little habitat to support ABB is present east of Highway 183 in Holt County or in Antelope County. The species is also susceptible to desiccation and thus, the drought conditions likely affected trapping success; the 2012 abundance of ABB may have been higher under normal conditions. Drought conditions causing low soil moisture may have affected the number of ABBs caught in 2012 surveys, but control traps did not support that conclusion. Habitat appears to be a more important indicator of abundance compared to soil moisture. Overall, few ABB were captured in 2012 compared to control sites at the same time (Hoback 2012).

### **Habitat Availability in the Action Area**

The proposed Project would result in construction of approximately 500 miles of pipeline through South Dakota and Nebraska. Surveys of habitat suitability for ABBs along the pipeline route in South Dakota and Nebraska were conducted in 2008 to 2012 (DOS 2012). Habitat for the ABB that was crossed by the ROW and other Project facilities was classified using a rating system developed from previous studies in Nebraska. The rating system is based on soil moisture, land use, and the presence of ABB. The ABB uses similar habitat in southern South Dakota and northern Nebraska and thus, the rating system was applicable for use along the pipeline segment located in both states.

The following five habitat rating criteria were used to describe ABB habitat quality in the pipeline ROW in South Dakota and Nebraska:

**Prime** (5): Undeveloped wet meadows dotted with trees (especially cottonwoods [*Populus deltoids*]) or forest areas visible. Water sources are available including the presence of a river, stream, or sub-irrigated soils. Cropland is not visible within the mile segment evaluated or is at a distance greater than 2 miles.

**Good** (4): Native grasslands (tall or mixed grass prairie) with forbs. Low wetland meadows that are grazed by cattle or used for haying. Trees (usually cottonwoods) are present. Sources of

water are within a mile, but the area has either some cropland or light pollution such as yard lights or houses within a mile.

**Fair (3):** Grassland with exotic species such as brome grass (*Bromus* spp.). Soil moisture content is lower than for prime or good habitat. Row crop agriculture is located within one mile.

**Marginal (2):** Potential habitat restricted to one side of the pipeline ROW, with row crop agriculture on one side or dry, sandy, upland areas with exposed soil or scattered dry-adapted plant such as yucca (*Yucca* spp.).

**Poor (1):** Both sides of the pipeline ROW with row crop agriculture or habitat with the potential for large amounts of light pollution and disturbance associated with town or city edge.

The habitat rating considers soil characteristics and land use data (Hoback 2011a). Row crop agriculture does not support ABB populations, while grazed areas and hay meadows potentially do. Loose soils provide the best habitat for reproduction while tight clays or other tight soil types do not (A. Smith, Smith Environmental and Research Consulting House, pers. comm.). Human disturbance beyond agriculture are also considered because suitable habitat near cities is affected by light pollution, increased scavenger presence, and a different potential prey base. Dry areas are rated as less suitable because burying beetles suffer high rates of mortality due to water loss (Bedick et al. 2004). ABBs seek moist conditions during periods of inactivity under experimental conditions (Hoback 2008).

In Nebraska, after habitat is rated and mapped with windshield surveys, areas ranked 4 (good habitat) or 5 (prime habitat) are surveyed using baited pitfall traps (Hoback 2011a). Excellent habitat does not always support ABB. The species has not been captured in traps placed in habitats rated 1 (poor) or 2 (marginal) and only very rarely have they been captured in habitats rated 3 (fair). In Nebraska, areas that are rated as 3 or less are considered unsuitable to sustain ABB. Habitats rated 3 have caught ABB in traps in less than 1% of samples (3 ABB in 400 trap nights). Because of ABB dispersal abilities with typical flights of more than one mile per night (and up to seven miles), capture rates in marginal habitats are potentially the result of attraction of beetles to unsuitable habitats.

The above habitat descriptions for prime and good habitat are consistent with Backlund et al. (2008) description of the best habitat for ABB in South Dakota, which they described as sandy grasslands with scattered stands of trees dominated by cottonwood, and commonly including sub-irrigated meadows and groundwater streams. As in Nebraska, the dominant land cover in the South Dakota ABB habitat is native grassland, and is primarily used for range and hay land. Low meadows are dominated by grasses and forbs typical of tallgrass prairie while the uplands consist mostly of mixed grass prairie flora.

South Dakota: In South Dakota, ABBs occur south of State Highway 18 (C. Bessken, pers. comm.) in the southern half of Tripp County (Backlund et al. 2008). The Project ROW passes through about 35 miles of habitat where ABBs may occur (25 miles of prime habitat, 8 miles of good habitat, and 2 miles of fair habitat (Figure 2). Remaining habitat north of Highway 18 at about mile post (MP) 563 is fair to marginal and is outside the known range of ABBs (Figure 2). Habitat ratings from mile post (MP) 566 to MP 600 are shown in Table 7 (DOS 2012).

Nebraska: In Nebraska, the Project passes through 47 miles of habitat where ABBs may occur (23 miles of prime habitat, 16 miles of good habitat, and 8 miles of fair habitat) (Figure 2). Suitability ratings for ABB habitat crossed by the proposed Project in Nebraska are provided in Figure 2 and Table 8. Habitat ratings from mile post (MP) 601 to MP 659 are shown in Table 8 (DOS 2012).

### **Factors Affecting the Species within the Action Area**

Adequately evaluating the effects of this proposed project on the ABB requires that the USFWS consider not only the impacts from the proposed Project, but the context in which they would likely occur. This context includes ongoing effects to ABB from current activities as well as anticipated effects from projects likely to occur in the foreseeable future.

In the northern part of their range, the primary causes of decline of the ABB are thought to be (1) pesticide use; and (2) habitat loss, degradation, and fragmentation, which correspond to a decrease in availability of suitable carrion and removal of previously suitable ABB habitat. Developed land and land that has been converted for agricultural, grazing, and other uses, often favor scavenging mammal and bird species that compete with carrion beetles for carcasses. Additionally, developing and converting land has led to declines in ground nesting birds, which probably historically provided a large portion of the carrion available to ABB. Fire suppression in prairie habitats allows the encroachment of woody plant species, particularly the eastern red cedar, which is thought to degrade habitat for burying beetles by limiting their ability to forage for carrion. In South Dakota and Nebraska, we do not have information specific to the proposed Project action area regarding the impacts of ongoing human and natural factors and how those factors may affect the use of the Keystone XL Project sites by ABB. However, it is reasonable to assume that continuing development activities such as conversion of native prairies to row crops, increased human developments or disturbances, increased lighting, and placement of man-made structures such as homes, power lines, and roads on the landscape would affect the ABB and its habitat on proposed Project lands in the same manner as elsewhere.

Shifts in land use are affecting ABB habitat within the species range. South Dakota and Nebraska are losing native prairie rangeland through conversion to cropland at an escalating rate because the accelerating use of ethanol in gasoline has increased demand for corn and consequently raised the price of the grain (GAO 2007). About a third of the average increase in harvested cultivated crop acreage on corn and soybean farms in the United States, results from the average conversion of hay, USDA Conservation Reserve Program grassland or grassland pasture (Pore, Robert. August 28, 2011).

### **Effects of the Action**

The effects of the action are the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action. These effects are considered along with the environmental baseline and the predicted cumulative effects to determine the overall effects to the species for purposes of preparing a BO on the proposed action (50 CFR § 402.02). This BO does not examine any effects that the Proposed Project may contribute to climate change, consistent with the May 14, 2008, memorandum from Director Dale Hall: Expectations for Consultations on Actions that would emit Greenhouse Gases and the October 3, 2008, memorandum from the Solicitor of the Department of the

## Interior: Guidance on the Applicability of the Endangered Species Act's Consultation Requirements to Proposed Actions Involving the Emission of Greenhouse Gases.

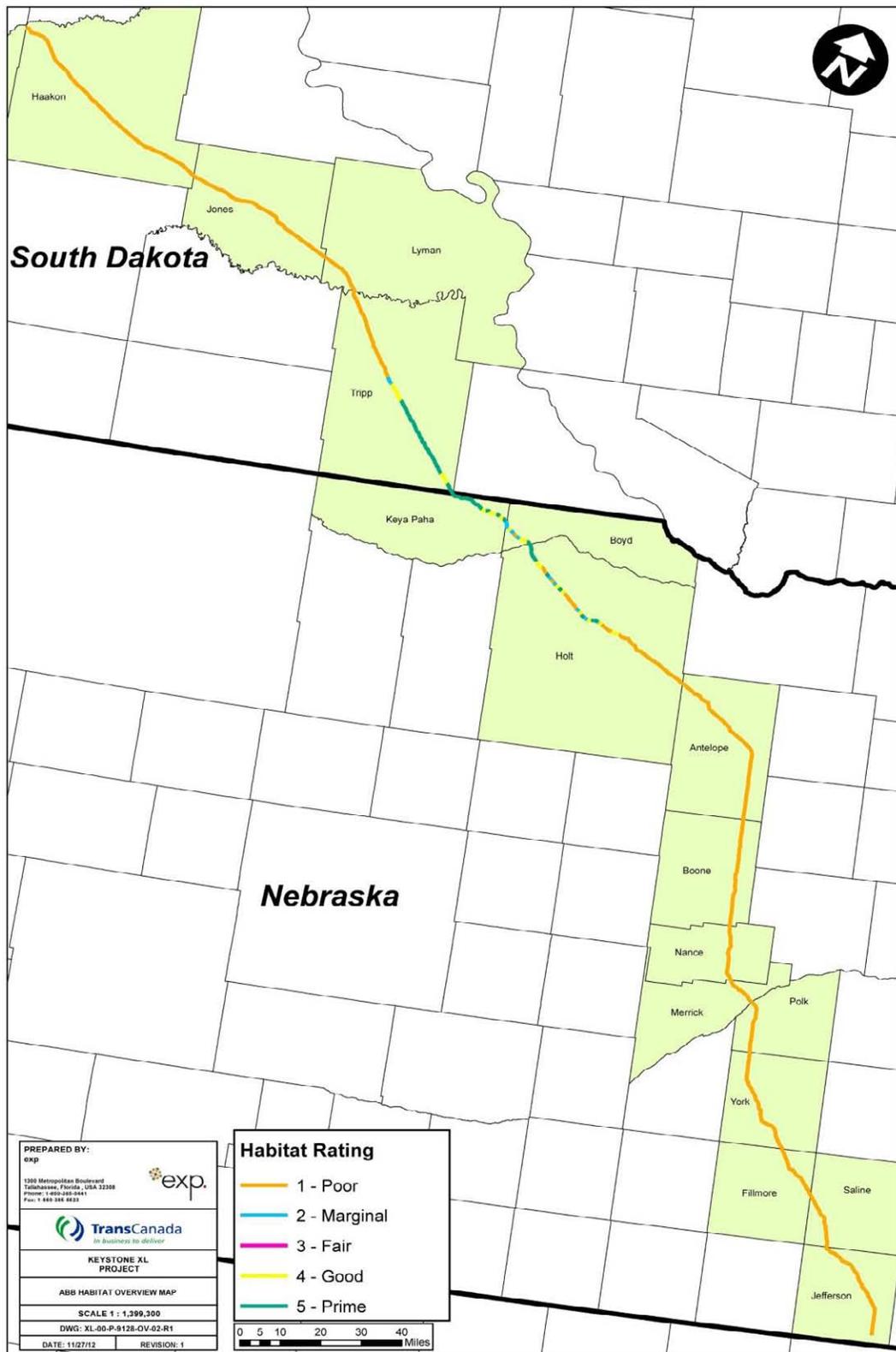
The “action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 C.F.R. § 402.02). Direct and indirect effects of the Action are part of the action area and include all land disturbed by the footprint of the proposed pipeline Project pre-construction, construction, operation, and reclamation activities. This includes construction of the pipeline ROW and land affected by the above ground ancillary facilities (i.e., additional temporary work space areas, pipe stockpile sites, rail sidings, contractor yards, construction camps, pump stations, delivery facilities, and access roads). Effects to be considered also include the effects of the interrelated and interdependent power lines that would be built by private power companies to supply electricity to Project pump stations along the pipeline, as well as the 230 kV transmission line in Tripp and Lyman counties in South Dakota, and the interrelated and interdependent facility required by the Bakken Marketlink project. The action area extends generally from the border of the United States with Canada to Steele City, Nebraska, and includes pumping stations 27 and 29 in Kansas and their associated power lines.

The proposed Project requires multiple activities at different stages of construction and operation. Each of these may result in different effects to ABB depending on when during the life cycle of the ABB the activities occur. These activities include preconstruction survey and staking of all proposed Project areas. Within the ROW, construction activities would include vegetation clearing; top soil removal and grading; trench excavation, pipe fitting, lowering, welding, inspection, hydrostatic testing, and backfilling and clean up; reclamation activities, such as re-contouring where necessary, soil decompaction and seeding. Post-construction reclamation of all temporary ancillary sites would also involve decompaction of soil where necessary and re-seeding. Borrow material would be used to back fill the pipe trench; for road construction or upgrading and road crossings, and preparation of ancillary sites, as necessary. The operation of the proposed Project would cause increases in temperature around the pipeline as the heat generated by the flowing oil dissipates from the pipe through surrounding soil. Conservation measures have been incorporated into the project to avoid and minimize adverse impacts to federally listed species including the black-footed ferret, whooping crane, pallid sturgeon, least tern, piping plover, ABB, and western prairie fringed orchid to provide for their conservation.

### **Pre-construction Activities**

The pipeline ROW and ancillary sites would be surveyed and staked prior to construction. To the extent that surveying and staking would take place during the summer periods when ABB are above ground, there is a potential of injury to or mortality of ABB from collision or crushing by truck or other vehicles used in ABB habitat in South Dakota and Nebraska. Hoback et al. (2012) found that 99 percent of a closely related species (*N. marginatus*) survived when a pickup was driven and a turn was made over soil containing those individuals; in contrast, 77.2 percent of the beetles survived when a pickup was parked over the soil containing individuals. When working in suitable ABB habitat in Tripp, Keya Paha, and Holt counties, all parking and staging areas will be pre-located within the approved construction footprint. Vehicle traffic used in support of preconstruction activities will be confined to approved access roads when accessing the construction site.

**Figure 2: ABB Habitat Ratings along Pipeline Route in South Dakota and Nebraska.**



**Table 7. Suitability Ratings of ABB habitat for the pipeline route in South Dakota.**

County	MP	Prime	Good	Fair	Marginal	Poor	Notes
Tripp	566				x		Agricultural lands with creek bottoms
Tripp	567				x		Agricultural lands with creek bottoms
Tripp	568		x				Grassland Transition Zone
Tripp	569		x				Grassland Transition Zone
Tripp	570		x				Grassland Transition Zone
Tripp	571		x				Grassland Transition Zone
Tripp	572		x				Grassland Transition Zone
Tripp	573	x					Soil changes to sandy loam, drier
Tripp	574	x					Sub-irrigated Meadows
Tripp	575	x					Sub-irrigated Meadows
Tripp	576	x					Sub-irrigated Meadows
Tripp	577	x					Sub-irrigated Meadows
Tripp	578	x					Wet meadows
Tripp	579	x					Sub-irrigated Meadows
Tripp	580	x					Sub-irrigated Meadows
Tripp	581	x					Sub-irrigated Meadows
Tripp	582	x					Sub-irrigated Meadows
Tripp	583	x					Sub-irrigated Meadows
Tripp	584	x					Sub-irrigated Meadows
Tripp	585	x					Sub-irrigated Meadows
Tripp	586	x					Sub-irrigated Meadows
Tripp	587	x					Includes pump yard 20 site 1
Tripp	588	x					Sub-irrigated Meadows
Tripp	589	x					Sub-irrigated Meadows
Tripp	590	x					Sub-irrigated Meadows
Tripp	591	x					Sub-irrigated Meadows
Tripp	592	x					Sub-irrigated Meadows
Tripp	593	x					Sub-irrigated Meadows
Tripp	594	x					Sub-irrigated Meadows
Tripp	595		x				Upland, sandier, drier, hayed
Tripp	596		x				Upland, sandier, drier

County	MP	Prime	Good	Fair	Marginal	Poor	Notes
Tripp	597		x				Upland, sandier, drier
Tripp	598	x					Includes area for pump station-21 and access road
Tripp	599	x					Sub-irrigated Meadows
Tripp	600	x					NE border
<b>Total Miles</b>		<b>25</b>	<b>8</b>	<b>0</b>	<b>2</b>	<b>0</b>	

**Table 8. Suitability ratings of ABB habitat for the pipeline route in Nebraska.**

County	MP	Prime	Good	Fair	Marginal	Poor	Notes
Keya Paya	601	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	602	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	603	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	604	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	605	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	606	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	607	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	608	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	609	x					Includes access road 304.
Keya Paya	610		x				At Wolf Creek. Includes access road 305. Disturbance around house
Keya Paya	611	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	612		x				Some terracing and agriculture.
Keya Paya	613		x				State Highway 12, upland.
Keya Paya	614	x					Open range.
Keya Paya	615		x				Modest agricultural disturbance.
Keya Paya	616	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Keya Paya	617				x		Includes access road 306, along row crop.
Boyd	618				x		Includes access roads 307 and 308
Boyd	619		x				Rangeland or hayfields with somewhat dry

County	MP	Prime	Good	Fair	Marginal	Poor	Notes
							conditions or absence of cottonwoods.
Boyd	620				x		Row crop agriculture or alfalfa fields in the ROW.
Boyd	621					x	Center pivots.
Boyd	622				x		Row crop agriculture or alfalfa fields in the ROW.
Boyd	623		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Boyd	624		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Boyd	625	x					Niobrara River
Holt	626	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	627	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	628	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	629	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	630	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	631		x				Hayfield with alfalfa.
Holt	632		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Holt	633					x	Center-pivot.
Holt	634					x	Center-pivot.
Holt	635	x					Includes access road 311.
Holt	636				x		Row crop agriculture or alfalfa fields in the ROW.
Holt	637					x	Row crop agriculture in all directions.
Holt	638				x		Row crop agriculture or alfalfa fields in the ROW.
Holt	639		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Holt	640	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	641		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Holt	642					x	Row crop agriculture in all directions.
Holt	643					x	Row crop agriculture in all directions.
Holt	644					x	Row crop agriculture in all directions.

County	MP	Prime	Good	Fair	Marginal	Poor	Notes
Holt	645					x	Row crop agriculture in all directions.
Holt	646					x	Row crop agriculture in all directions.
Holt	647				x		Row crop agriculture or alfalfa fields in the ROW.
Holt	648		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Holt	649	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	650				x		Row crop agriculture or alfalfa fields in the ROW.
Holt	651		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Holt	652	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	653	x					Wet meadow habitat used for grazing or haying. No agricultural disturbance nearby.
Holt	654		x				Pump station 22 is in marginal habitat because the range west is prime but a center-pivot is directly east.
Holt	655					x	Row crop agriculture in all directions.
Holt	656					x	Row crop agriculture in all directions.
Holt	657					x	Row crop agriculture in all directions.
Holt	658		x				Rangeland or hayfields with somewhat dry conditions or absence of cottonwoods.
Holt	659		x				Connects to 281 north of O'Neil/
<b>Total Miles</b>		<b>23</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>12</b>	

The capture relocation method, which is discussed later in the BO, will also be applied in Nebraska prior to Project construction. The ABB will be impacted though implementation of this avoidance and minimization measure as described below.

### Construction Activities

Project activities would result in a variety of temporary and permanent effects to the ABB and its habitat. If construction occurs during periods when ABB are active, movement of vehicles, especially heavy equipment and other human activities in the ROW or on ancillary construction sites could cause mortality or injury of adult beetles and larvae through soil compaction. Project construction activities such as clearing and grubbing of trees and shrubs, vegetation removal, grading, removal and stockpiling of topsoil, trenching, pipe laying, soil backfilling and compaction, and final grading and reclamation activities would occur in the pipeline ROW. These ROW construction activities and construction of temporary access roads in grassland areas would result in temporary habitat loss, temporary habitat fragmentation, and/or alteration of suitable ABB

habitat. Habitat degradation from human activities, soil compaction, and vegetation disruption in pipe yards, construction camps and contractor yards would result in similar temporary loss and fragmentation of ABB habitat. The extent of such habitat loss would depend on the time necessary to successfully restore affected grassland habitats after project construction. These actions would likely cause direct injury or mortality of ABB adults, larvae, and eggs by crushing or exposure to desiccation during soil excavation.

Construction of above-ground pump stations (i.e., pump station numbers 21, 22) and construction of power lines to service these pump stations may cause the permanent loss of the ABB habitat. The proposed pump stations in ABB grassland habitat in South Dakota and Nebraska are located along or between roads that already affect ABB habitat to some extent and leave a small permanent footprint (5-15 acres), and Project facilities would not provide habitat to competing wildlife. No ABB habitat would be affected by construction of a power line to pump station 21 in South Dakota. However, there is somewhat degraded ABB habitat in the vicinity of pump station 22 in Nebraska. In recognition of the potential impact to the ABB, NPPD has agreed to schedule substation and line construction activities for the line segment serving pump station 22 for during the ABB dormant or inactive time in the winter when soil would be frozen to avoid soil compaction (September 15 to April 1).

Given the small size of the pump station footprints, lack of ABB habitat along the power line route in South Dakota and commitment made to avoid ABB along the power line route in Nebraska, the effect of that loss in terms of habitat fragmentation of large extensive grassland landscapes is likely not substantial.

### **Amount of ABB Habitat Affected**

Permanent loss of ABB habitat shown in Tables 9 (South Dakota) and 10 (Nebraska) results from: a) habitat covered by the pipeline pump stations (i.e., pipeline pump stations being built on ABB habitat) and b) ABB habitat areas in South Dakota and Nebraska rendered permanently unsuitable habitat by heat dissipating from the operating pipeline. All other Project-related impacts to grasslands should be temporary as shown in Tables 9 (South Dakota) and 10 (Nebraska) and limited to the time necessary for successful post-construction habitat restoration. It is anticipated that the construction methods of replacing topsoil and re-establishing natural vegetation would cause restoration of natural soil hydrology within the construction ROW and avoidance of long-term impacts to ABB habitat.

### **South Dakota**

In South Dakota, the Project ROW and ancillary sites during construction and operation would affect approximately 628.8 acres of land with reasonable potential for occurrence of the ABB (Table 9). Of this 628.8 acres south of Highway 18 in Tripp County, 401.8 acres (63.9 percent) are classified as prime ABB habitat, 117.1 acres (18.6 percent) are good ABB habitat, 80.0 acres (12.7 percent) are fair habitat, and 29.9 acres (4.7 percent) are considered marginal habitat. Within the affected area, 526.28 acres would be temporarily lost up to 4 years or longer, depending on rainfall and success of restoration efforts. Construction and operation of the Project would cause the permanent loss of more than 102.51 acres of ABB habitat in Tripp County due to pump stations and the 22-foot-wide strip centered on the pipeline and affected by heat dissipating through the soil (see Operation of the Project, Thermal Effects from Heat Dissipation).

**Table 9. Estimated ABB habitat acreage impacts in South Dakota (DOS 2012).**

<b>Permanent Impact<sup>a</sup></b>	<b>Poor</b>	<b>Marginal</b>	<b>Fair</b>	<b>Good</b>	<b>Prime</b>
Permanent Easement (CL ROW <sup>b</sup> )	0.00	5.34	0.00	21.34	66.14
Pump Stations	0.00	0.00	0.00	0.00	8.42
Permanent Access Road Easement	0.00	0.00	0.00	0.00	1.27
<b>Total Acres</b>	<b>0.00</b>	<b>5.34</b>	<b>0.00</b>	<b>21.34</b>	<b>75.83</b>
<b>Temporary Impact<sup>c</sup></b>					
Temporary Easement (CL ROW)	0.00	20.96	0.00	85.00	263.25
Additional Temporary Workspace (CL ROW)	0.00	3.37	0.00	10.80	30.91
Auxiliary Site	0.00	0.00	80.01	0.00	29.50
Temporary Access Road Easement	0.00	0.20	0.00	0.00	2.28
<b>Total Acres</b>	<b>0.00</b>	<b>24.53</b>	<b>80.01</b>	<b>95.80</b>	<b>325.94</b>

<sup>a</sup> Permanent impacts are caused by the placement of permanent above-ground facilities (i.e., pump stations), and the 22-foot corridor spanning the center of the pipeline ROW affected by heat dissipation from the operating pipeline (see *Operation of the Project* subsection, below).

<sup>b</sup> CL ROW = centerline of the ROW.

<sup>c</sup> Temporary impacts are caused by temporary construction workspace, and construction of temporary access roads. Note: Miles are the same for both temporary and permanent impacts as both are calculated using the pipe centerline.

## Nebraska

In Nebraska, the Project would affect approximately 1,138.8 acres confirmed to be currently occupied by the ABB. Of the 1,138.8 acres, 427 acres (37.5 percent) are classified as prime ABB habitat, 269 acres (23.6 percent) are classified as good ABB habitat, 13.44 acres (1.2 percent) are fair habitat, 159 acres (14 percent) are marginal habitat and 270.3 acres (23.7 percent) are considered poor ABB habitat (Table 10); ABBs would be least likely to occur in poor habitat. Within the range of the ABB, 966.53 acres of habitat would be temporarily lost, for approximately four years or longer, depending on rainfall and success of restoration efforts. Construction of the pump stations and operation of the pipeline (see *Operation of the Project, Thermal Effects from Heat Dissipation*) would cause the permanent loss of approximately 172.30 acres of ABB habitat.

## Mortality Estimates

South Dakota: The ABB may occur over 35 miles of the proposed pipeline route in South Dakota. However, no recent ABB presence/absence surveys were conducted along the pipeline ROW or on other Project lands in South Dakota as they were in Nebraska. However, the mortality of adult ABB caused by construction of the pipeline can be estimated by combining the number of acres affected within the ABB range in southern Tripp County (from Table 9, earlier), with the number of ABB estimated to occur per acre [from the Backlund et al. (2008) population estimate for southern Tripp County], and then using a habitat quality modifier to adjust for the likelihood of higher numbers of ABB in better habitat.

For example: 1,000 ABB/54,363 acres (Backlund et al. 2008) = 0.01839 ABB estimated per acre.

**Table 10. Estimated ABB habitat acreage impacts in Nebraska (DOS 2012).**

<b>Permanent Impact<sup>a</sup></b>	<b>Poor</b>	<b>Marginal</b>	<b>Fair</b>	<b>Good</b>	<b>Prime</b>
Permanent Easement (CL ROW <sup>b</sup> )	32.00	21.33	0.00	42.46	61.47
Pump Stations	0.05	14.99	0.00	0.00	0.00
Permanent Access Road Easement	0.00	0.00	0.00	0.00	0.00
<b>Total Acres</b>	<b>32.05</b>	<b>36.32</b>	<b>0.00</b>	<b>42.46</b>	<b>61.47</b>
<b>Temporary Impact<sup>c</sup></b>					
Temporary Easement (CL ROW)	128.00	83.66	0.00	169.78	243.25
Additional Temporary Workspace (CL ROW)	5.63	3.84	0.00	9.75	16.64
Auxiliary Site	104.62	30.10	0.00	33.36	90.65
Temporary Access Road Easement <sup>d</sup>	0.00	5.08	13.44	13.70	15.02
<b>Total Acres</b>	<b>238.25</b>	<b>122.68</b>	<b>13.44</b>	<b>226.59</b>	<b>365.57</b>

<sup>a</sup> Permanent impacts are caused by the placement of permanent above-ground facilities (i.e., pump stations), and the 22-foot corridor spanning the center of the pipeline ROW affected by heat dissipation from the operating pipeline (see *Operation of the Project* subsection, below).

<sup>b</sup> CL ROW = centerline of the ROW.

<sup>c</sup> Temporary impacts are caused by temporary construction workspace, and construction of temporary access roads.

<sup>d</sup> Includes potential site locations in Spread 8

Note: Miles are the same for both temporary and permanent impacts as both are calculated using the pipe centerline

We do not have an estimate of ABB abundance in the immediate area of the Project; however, we do have an assessment of habitat quality. It is reasonable to assume that higher quality, prime habitat would likely support larger numbers of ABB than lower quality marginal habitat. For this reason, we assigned weighted habitat modifiers that were agreed upon by the USFWS, Department, and Keystone during the course of meetings as a way of determining ABB abundance by habitat quality ratings known from along the Project. These habitat modifiers are: prime = 4, good = 3, fair = 2, marginal = 1, poor = 0 (i.e., encountering a beetle in poor habitat is unlikely) and were used to weight higher quality habitats in our calculation. Using the acres (temporary and permanent combined) provided in the Table 9, approximately 38.67 adult ABB may be killed or injured as a result of construction activities in South Dakota (Table 11).

If construction of the pipeline and ancillary areas takes place during the breeding season in mid-summer (i.e., June 1 through August 31), as would be expected given the type and extent of the project, larvae and eggs would be destroyed as well as adults. We calculated the amount of anticipated loss as follows:

Assuming a 50:50 sex ratio in the population, there may be 19.33 pairs of ABB affected by construction (38.67/2). Given the typical range of 12-18 larvae per brood, 15 larvae or eggs per pair of ABB (i.e., 290.02 offspring) (19.33 x 15) might be destroyed by construction activities on the ROW and other Project lands in South Dakota. Thus, the total number of ABB destroyed due to Project construction starting during the breeding season (June-August) in South Dakota would be 328.69 ABB (38.67 adults+290.02 offspring). This is the total anticipated number of ABB that

would be expected to be *destroyed* as a result of Project construction because adults and larvae could not be captured and relocated when they would be underground.

**Table 11. Estimated number of ABB killed or injured as a result of Keystone XL pipeline construction in Tripp County, South Dakota.**

Habitat Quality	Acres Impacted	ABB/Acre	Quality Modifier	Total ABB
Prime	401.8	0.018	4	28.93
Good	117.1	0.018	3	6.32
Fair	80.0	0.018	2	2.88
Marginal	29.9	0.018	1	0.54
Poor	0	0.018	0	0
<b>Total</b>	<b>628.8</b>			<b>38.67</b>

The USFWS is required to use the best information available in its section 7 consultations, but when estimating ABB densities based on mark-recapture studies, we also recognize that the “best” information available usually includes some uncertainty. Estimates of population densities, in South Dakota, as discussed above, are based on mark-recapture field studies, but these are somewhat dated and should not be compared with the population estimates for Nebraska. Mark-recapture studies estimate the number of animals in a population based on the proportion of marked animals recaptured during a series of trapping efforts. The method has limitations, particularly when wide-ranging and at times, potentially inaccessible (when breeding underground) species such as ABB are involved. Further, ABB are influenced by weather conditions at the time of trapping and other variables and insect populations can be cyclic. These estimates are represented by specific numbers; we recognize that they represent more a sense of scale or magnitude rather than an exact representation of ABB individuals.

Nebraska: The ABB may occur over 47 miles of the proposed pipeline route in Nebraska. However, the number of ABB killed or injured as a result of construction activities is expected to be low due to implementation of pre-construction conservation measures (i.e., especially capture and relocation; and carrion removal, mowing, and windrowing) and because the pipeline was re-routed away from areas known to have suitable habitat and an abundance of ABB in Nebraska.

The mortality of adult ABB caused by construction of the pipeline can be estimated by combining the number of acres affected within the ABB range in Keya Paha and Holt counties in Nebraska (from Table 10, earlier), with the number of ABB estimated to occur per acre as calculated from survey data from Hoback (2012), and then using a habitat quality modifier to adjust for the likelihood of higher numbers of ABB in higher quality habitat using a similar approach as was done in South Dakota and describe above.

For example: 95 ABB/14,000 acres [based on survey data from Hoback (2012) where 28 locations captured 95 ABB and each pitfall trap is assumed to have the effective ABB survey range of 500 acres] = 0.007 ABB estimated per acre.

It is important to point out that 95 ABB captured in Nebraska could vary over time. The number of ABB per trap location in 2012 ranged from 0.2-7.0 and was likely influenced by habitat

suitability, drought conditions, or other ABB life history characteristics including the ability of the species to move and habit of moving underground during reproduction. Modifiers that reflect habitat quality are: prime = 4, good = 3, fair = 2, marginal = 1, poor = 0 (i.e., encountering a beetle in poor habitat is unlikely). Using the acres (temporary and permanent combined) provided in the Table 10, approximately 18.91 ABB may be killed or injured as a result of construction activities in Nebraska (Table 12).

If construction and use of auxiliary areas takes place during the breeding season in mid-summer, larvae and eggs would be destroyed as well as adults. We calculated the amount of anticipated loss as follows:

Assuming a 50:50 sex ratio in the population, there may be 9.45 pairs of ABB affected by construction (18.91/2). Given the typical range of 12 -18 larvae per brood, perhaps 15 larvae or eggs per pair of ABB (i.e., 141.75 offspring) (9.45 x 15) might be destroyed by construction activities on the ROW and other Project lands in Nebraska. Thus, the total number of ABB destroyed if Project construction would have started during the breeding season (June-August) in Nebraska would be 160.66 ABB (18.91 adults+141.75 offspring). Implementation of the capture relocation method prior to construction actions will occur in Nebraska, however, resulting in 141.75 ABB offspring impacted out of the 160.66 ABB total. Most of these impacts will result due to harassment from use of the capture relocation method but also a small amount may also be injured or destroyed by Project construction activities. As a normal part of their life cycle, adult or senescent ABBs die in the fall after they breed. Therefore, these deaths are not included in the calculation of the number of ABB that would be destroyed if construction occurs outside of the breeding season.

**Table 12. Estimated number of ABB killed or injured as a result of Keystone XL pipeline construction in Keya Paha and Holt counties, Nebraska.**

Habitat Quality	Acres Impacted	ABB/Acre	Quality Modifier	Total ABB
Prime	427	0.007	4	11.96
Good	269	0.007	3	5.65
Fair	13.44	0.007	2	0.19
Marginal	159	0.007	1	1.11
Poor	270	0.007	0	0
<b>Total</b>	<b>1138</b>			<b>18.91</b>

### Capture Relocation Method

Biologists working on ABB have long supported the use of the capture relocation method as an effective ABB avoidance and minimization measure. The capture relocation method has been utilized as an avoidance measure for ABB in Nebraska for several years on large construction projects. The capture relocation method is not a favored practice in South Dakota given public concerns about relocating ABB to areas adjacent to private lands with suitable ABB habitat. Always of concern, however, was the amount of harassment, injury, and mortality that might be associated with use of the capture relocation method. There was a concern that use of this measure may convey as much harm to the species as the project in ABB habitat itself. Recent research,

however, has provided important insight on the effectiveness and level of injury, mortality, and harassment associated with use of the capture relocation method and appears to support its use as an avoidance and minimization measure (Butler 2011; Hoback 2011b, 2012b).

We determined that use of the capture/relocation method in Nebraska is likely to reduce the level of anticipated injury and mortality of ABB (141.75 offspring) resulting from Project construction down to 22.49 ABB ( $15.03+0.124+7.34$ ). That said, take of ABB through use of the capture relocation method would still occur and this would result in harassment to 119.3 ABB.

Essentially, the capture relocation method involves the capture of ABB in a baited pitfall trap and relocation of individuals to suitable habitat that is at least 5 miles away. Recent research shows that there is a level of injury and death that can be expected, however, when using the capture relocation method. However, the level of injury and death that occurs as a part of the method is far less than what might be expected should the capture relocation method not be used. An estimate of the total amount of injury and death can be calculated by considering the effectiveness of the capture/relocation method, estimated injury and mortality associated with use of the capture/relocation method, and estimating level of injury and mortality that might occur once ABB are released at the relocation site.

### **Method Effectiveness**

Butler (2011) indicated that use of the bucket method (used in the capture relocation method) does not result in the removal of 100 percent of ABB from a project site. In that study, it was determined that after 5 days of trapping, 89.4 percent of the burying beetles were removed leaving 10.6 percent of the ABB uncaptured. The likely cause for ABB not being captured is because they are not hungry and therefore not attracted to a bait source.

Thus, 141.75 ABB multiplied by 0.106 gives 126.72 ABB captured and relocated and 15.03 ABB that would likely not be captured at the Project site, but remain there and could be subject to injury or death.

### **Capture and Handling**

Two additional sources of injury or death that must be calculated when using the capture relocation method are the number of the ABB injured or killed due from: a) capture and handling prior to relocation to a suitable habitat and b) relocation and associated intra- and inter-specific competition that may arise over scarce resources (i.e., carrion) and/or predation especially if the ABB is stressed after capture. During 2011, Hoback (2011b) reported that 5 out of 5,106 ABB captured died during the course of capture, but prior to relocation. Hoback (2011b) reported that two ABB were eaten by a shrew, one died and was partially consumed by another ABB (cause of mortality unknown, but possibly due to intraspecific competition with other ABB captured in the bucket), one ABB was eaten by hister beetles (likely due to resource competition), and another was killed by ants.

Thus, 0.000979 ABB would be expected to die during capture and handling prior to relocation (5/5,106). Multiplying 126.72 ABB captured (using the capture/relocation method) by 0.000979 equals 0.124 ABB that would be expected to be injured or die during the capture and handling phase of the capture relocation method, but prior to relocation of individuals. Thus, the resulting number of ABB remaining to be relocated is 126.60 ( $126.72-0.124$ ).

## Fate of Relocated Individuals

It is difficult to determine the injury or mortality that might occur to ABB once individuals are relocated to suitable habitat at least 5 miles from the site of Project disturbance. Stress, intra- and interspecific competition, predation, and other unknown factors might have a negative impact on relocated ABB or there may be no impact. For example, in August intra-specific competition may occur only at feeding sites. During the June activity period, increased competition for available carcasses required by a breeding pair may occur at the relocation sites. In 2012, Hoback (2012b) conducted research on the effect of relocating ABB by comparing the recaptures of a surrogate species (*N. marginatus*) at a control site with recaptures at a relocation site. Although no significant differences were found, mean recaptures of relocated beetles were lower (3.7 percent) than for the control (10 percent) or resident beetles (9.0 percent). Although there was no statistical difference (i.e., no effect found on the ABB resulting from relocation), we decided to utilize data from the study to estimate the level of harassment, injury, and/or mortality that might occur. An average (9.5 percent) was calculated from the control and resident beetles recapture percentages. The amount of take (5.8 percent) that could be expected based on data from a single year of a two-year study was determined by subtracting the 3.7 percent from 9.5 percent.

Thus, multiplying 126.60 (ABB that would be expected to be captured and relocated) by 0.058 equals 7.34 ABB that would be expected to be harassed, injured, and/or killed following the relocation phase of the capture relocation method. A total of 119.26 ABB could be considered successfully captured and relocated (126.60 – 7.34).

We recognize that determining the level of ABB survivorship after individuals are relocated remains difficult. For example, when considering the data from Hoback (2012b), one may also inquire as to the fate of 96.3 percent of the relocated beetles (i.e., 100 percent – 3.7 percent). As a general rule, ABB recapture rates during mark recapture studies shows that recaptures are almost always low. For example, Jurzenski et al. (2011) conducted a mark recapture study to determine the population of ABB in several counties in the Nebraska Sandhills. In that study, 378 individual ABB were captured in 2003, but only 9.1 percent were recaptured in the 10-day surveys. Hoback (2012b) found a 12.7 percent recapture rate for control burying beetles across all sites over a 10-day trapping period following the capture of 25,163 individual *N. marginatus*. Mark recapture and control trials in the aforementioned studies reported low recapture rates *even though the beetles were released where they were captured and they were not relocated to a different location*. We recognize that relocated ABB could be subject to injury or mortality due to increased risk of predation or competition of resources, but beetles may also adapt to relocation sites. Given the Hoback (2012b) and Jurzenski et al. (2011) recapture results, the USFWS believes that ABB survivorship of relocated beetles is high and comparable to non-relocated beetles.

## Summary

Thus, a total level of ABB *injury and mortality* resulting from use of the capture relocation method and Project construction in South Dakota and Nebraska is 351.18 ABB. This was determined by summing the effectiveness of the capture/relocation method (possibly 15.03 ABB left at the construction site after capture and relocation), estimated injury and mortality associated with capture and handling prior to relocation (0.124 ABB), and estimated injury and mortality

associated with relocation (7.34 ABB), and take that would be expected to occur in Tripp County, South Dakota (290.02 offspring+38.67 adult ABB). Actual handling of ABB during capture and relocation is a take through *harassment* as defined by section 9 of ESA (see, 50 CFR §17.3). Thus, the take associated with harassment of ABB through use of the capture relocation method in Nebraska is 126.72 ABB. We have concluded that take which occurs as a result of harassment associated with use of the capture relocation method is preferable to take from injury and mortality that would be expected should the capture relocation method not be used. Therefore in summary, the total amount of take that would be expected to occur through use of the capture relocation method and resulting from Project construction is 477.90 ABB. We have determined that this accounts for all sources of take (i.e., harassment, injury, mortality) as defined by ESA. The project will start during the breeding season in South Dakota and thus adults and larvae are included in the take calculation.

In the previously proposed Project, the pipeline route crossed the Nebraska NDEQ-identified Sandhills Region. Surveys of ABBs showed that this area had high densities of ABB which led to a concern that the capture relocation method, which requires five trap nights, might not have been sufficient to capture all the beetles. In circumstances where beetles could not be cleared due to their high abundance, the USFWS and NGPC agreed to include an additional level of take for ABB. Since the new proposed Project avoids the area where ABB are abundant, there is no longer a concern that five trap nights will be inadequate to clear the area of ABBs.

### **Miscellaneous Impacts of Construction Activities**

Artificial lighting during construction has the potential to attract ABB, as they are known to be positively phototrophic. Lights used during nighttime construction can disrupt ABB foraging behavior and increase predation on ABBs. However, lighting used during construction activities would be down-shielded to reduce the level of light pollution from the activity and limit the impacts to ABB to a smaller area. Localized contamination of soil from diesel fuel or oil spills could occur during refueling or maintenance. However, in the event of a spill, Keystone would implement a SPCCP for potential construction-related fuel spills which would mitigate or avoid any short-term impacts (DOS 2012, Appendix D). In addition, ABB would be unlikely to occur in areas that had been stripped of vegetation, such as the ROW or construction yards, where the refueling and maintenance of equipment would be done. Additionally, all fueling vehicles would carry sufficient absorbent material to contain and facilitate removal of up to moderate fuel spills.

Foraging efficiency of local ABBs would be reduced temporarily by construction activities and permanently from habitat fragmentation due to placement of permanent above ground facilities (pump stations in South Dakota and Nebraska). Reduced availability of carrion may result from greater competition for carrion from vertebrate scavengers attracted to edge effect of pipeline facilities.

### **Operation of the Project**

#### ***Thermal Effects from Heat Dissipation***

Transport of oil through the pipeline creates heat that is dissipated through the soil to the ground surface. A geothermal model was used to predict soil temperature changes at the ground surface and at various depths and distances from the center of the pipeline (Hazen 2011). Combined with

general assumptions about ABB life history, it is possible to estimate whether adverse impacts to ABB would likely result from the increases in soil temperatures caused by operation of the pipeline.

In northern areas of the ABB range, such as Nebraska and South Dakota, soil temperatures decline to below freezing during the winter when the beetles are underground. The ABB in northern parts of their range likely have adapted a survival strategy that requires cooling to or very near freezing to slow metabolism such that fat reserves are sufficient to last until emergence in late May or early June. Whether ABB would suffer mortality from starvation if they were prohibited from freezing is not known, but the USFWS believes that substantial decreases in the length of time that soil temperatures are below freezing might cause the beetles to use too much fat during the winter months when they are underground. In addition, warming of the soil from the pipeline may also cue the beetles to emerge prematurely (i.e., prior to midnight air temperatures reaching about 60 degrees Fahrenheit (F)). This may result in ABBs coming to the surface when air temperatures preclude foraging activity, or to use more resources to re-bury themselves in the soil, assuming temperatures are warm enough to permit such activity. Additionally, the early emergence of ABB may affect their ability to reproduce successfully because they would temporarily be out of synchrony with the vast majority of ABB in the region (i.e., ABBs overwintering outside the zone of temperature change likely would remain underground for days or weeks until natural environmental cues caused them to emerge).

Impacts from heat dissipation vary with the depth that ABBs overwinter in the soil, and there are a broad range of depths reported in the literature. Schnell et al. (2008) noted in field experiments in Arkansas that ABB overwintered at a depth of 20 cm (approximately 8 inches). However, most information refers to depth of carcass burial associated with reproduction and depths of reproductive chambers are described as “several inches” Ratcliffe (1996, p. 46), or up to 60 cm underground (approximately 24 inches) (Wilson and Fudge 1984, Pukowski 1933, and Hinton 1981; as cited in Scott 1998). The ABB is the largest carrion beetle in North America (Ratcliffe 1996), and Eggert and Sakaluk (2000) found that larger beetles buried carcasses deeper in the soil.

Thermal impacts from operation of the proposed pipeline were evaluated by conducting an analysis of modeled temperature changes (compared to background) at depths of 6 inches, 12 inches and 24 inches, and at various distances from the pipeline center line (Table 13). Two basic soil types at different water saturations were included in the analysis. The temperature modeling predicted that background temperatures (i.e., at 80 feet from the center line of the pipe) would be below freezing during the winter at a depth of 24 inches in all but the driest of the two types of soils (Table 13). In the three sandy soils prevalent in the Sandhills (i.e., SH4, SH5, and SH6), background temperatures at 12 inches depth equaled or fell below 32.0 degrees F. during seven or eight two-week intervals during the winter. However, at 11 feet from the pipe (22-foot-wide sub corridor), soil froze during four and six two-week intervals (i.e., in SH5 and SH6), and not at all in SH4 soils (Table 13). Modeling showed a reduction in the incidence of frozen soil from 25 percent (twice) to 100 percent (twice) at a depth of 12 inches and 11 feet from the pipe center line.

Because the model produces output at two-week intervals, the duration of temperature shifts would likely be substantial, and would adversely affect ABB overwintering at those depths. While acknowledging uncertainties and assumptions associated with the modeling and biology of the ABB, the USFWS nevertheless considers the modeled temperature shifts substantial enough to render habitat out to 11 feet from the pipeline (i.e., a 22-foot width) unsuitable to serve as wintering habitat for the ABB and would be considered a permanent habitat loss. It is possible that

the impact extends beyond the 22-foot width, but 11 feet from the pipe center was the maximum modeled distance that could be compared to background temperatures. Therefore, permanent impacts to ABB habitat from operation of the pipeline include the central 22-foot width affected by the heat generated during pipeline operation along the 87-mile long segment of pipeline located in ABB habitat in South Dakota and Nebraska.

### **Crude Oil Spills**

During operation, the proposed Keystone XL pipeline is considered to be a permanent fixture underground, with operations and maintenance occurring nearly continuously for 50 years. DOS (2012) has stated that adverse effects to ABB resulting from a crude oil spill from the operating pipeline are highly improbable due to: a) the low probability of a spill, b) the low probability of a spill coinciding with the presence of ABBs, and c) the low probability of an ABB contacting the spilled product (DOS 2012).

The spill risk to a species is based upon the length of pipeline crossing its migration habitat/habitat and the spill risk incident rate as described in Section 4.14 of the Draft Supplemental Environmental Impact Statement (DOS 2013). For example, based upon a 119 mile pipeline segment that passes through native grass prairie for Sprague's pipit habitat and an incident spill risk of 0.00025 incident/ mile-year, the estimated spill risk occurrence within the habitat is 34 years or 0.030 incidences per year. For other species along the Proposed route, such as ABB, the distance of a species habitat crossed by the Proposed project route is less than that crossed for Sprague's pipit habitat; therefore, the spill risk occurrence for these other species is lower than the 0.030 incidents per year (i.e., more than 34 years before an incident occurs).

Spill volume cannot be predicted for any species mitigation habitat/habitat; however, because 80% of historical spill volumes are less than 50 barrels (bbls), the probable spill volume could be less than 50 bbls which could result in a radial impact from the pipeline of up to 112 feet (34.1 meters)(DOS 2013).

While there is still a very low probability that individual ABBs would come in contact with the oil from a spill, the more likely affect to ABB would come from soil compaction and soil disturbance during spill clean-up activities. We are not exempting any take due to oil spills because a spill is not reasonably certain to occur. If a spill would occur, however, Keystone should notify the U.S. Environmental Protection Agency (USEPA). The USEPA would consult with the USFWS on spill containment, clean-up, and restoration measures to avoid, minimize, and compensate for impacts to the ABB.

### **Pump Station Lighting**

Lights associated with operation and security of above-ground pump stations may have an adverse effect to ABB. However, only one light above each pump station door would be used during pipeline operation and those lights would be of sodium vapor-type and down-shielded in areas within the range of ABBs in South Dakota (Pump Station 21) and Nebraska (Pump Station 22). Use of sodium vapor-type lights and down-shielding lessens the likelihood that ABB would be attracted to them.

## Post-construction and Reclamation

Post-construction activities associated with reclamation, such as grading of lands to approximate pre-construction contours, would not result in additional mortality of beetles on already disturbed lands. On auxiliary lands where the grass may not have been removed, soil compaction from vehicular traffic would have rendered this area unusable for reproduction by ABB (i.e., ABB cannot bury carcasses in compacted soils). Therefore, subsurface tillage of proposed Project lands to loosen compacted soils as part of the reclamation process likely would not result in additional ABB mortality. However, if soil erosion occurs and extends to off-project lands, such erosion may disturb or expose ABB broods or over-wintering adults to adverse environmental conditions if they are displaced. Indirect mortality of eggs and larvae could occur if adults abandon active broods in occupied habitat as a result of disturbance or habitat disruption.

**Table 13. The incidence of modeled soil temperatures at freezing or below (i.e.,  $\leq 32^\circ$  F. at various distances from pipeline center line, and at different depths. Incidence of temperatures  $\leq 32^\circ$  F. are described in W-X-Y-Z format, where W is the incidence of freezing at the ground surface, X is the incidence of freezing at a depth of 6 inches, Y is the incidence of freezing at 12 inches and Z is the incidence at 24 inches deep. Temperature output is modeled at 2-week intervals. Differences in incidence of frozen soil between background (80 feet) and at 11 feet from the center of the pipe (i.e., a 22-foot width) are shown in bold, red, italics.**

Distance from Center Line	Silty Loam Soil			Sandy Soil		
	SH1	SH2	SH3	SH4	SH5	SH6
80 ft. (BkGr)	8-9-6-0	8-8-7-3	9-8-8-2	8-8-7-0	8-8-7-4	9-8-8-5
11 ft.	8-7-0-0	8-8-5-0	9-7-6-0	8-5-0-0	8-7-4-0	9-7-6-0
7 ft.	8-5-0-0	8-6-0-0	7-6-0-0	7-3-0-0	7-5-0-0	7-6-0-0
3 ft.	8-2-0-0	6-0-0-0	5-0-0-0	6-0-0-0	4-0-0-0	4-0-0-0

Regular post-construction maintenance of the ROW through mowing in wooded areas may cause mortality of adult ABB exposed to mowing equipment. However, grassland areas would likely not be mowed as a part of regular maintenance of the ROW (J. Schmidt, pers. comm.). If mowing of the ROW reduces vegetation height to less than 8 inches, the soil may dry to the point that: a) ABBs have difficulty burying carcasses, b) soil may not structurally support reproductive chambers, or c) adult or larval ABB become desiccated (Bedick 2006). Any of these potential consequences of leaving grass and vegetation less than 8 inches tall could adversely affect ABB reproduction.

Exotic, invasive grasses are disruptive to the native ecosystem (Smith and Knapp 2001). Sod-forming, cool season grasses do not promote conservation of the ABB because they slow carcass burial (S. McPherron and W.W. Hoback, pers. comm.). Additionally, genetically modified cultivars of prairie grasses or non-local seed mixes can affect plant community structure, ecosystem function, and the short- and long-term success of grassland restorations (Gustafson et al.

2004; Annese et al. 2006, Martin et al. 2005). For this reason, Keystone will reseed disturbed areas in prime, good, fair, and marginal ABB habitats with a seed mix that matches the Con/Rec designation of the land impacted (see Appendix R of the SDEIS) unless otherwise instructed by the landowner to seed an alternative seed mix. Should the landowner-directed seed mix be determined to not result in full restoration as stipulated in the Reclamation Performance Bond, then the subject acreage amount reseeded will be debited from temporary ABB habitat impacts and credited to permanent ABB habitat impacts and the total amount to the ABB Habitat Conservation Trust will be recalculated.

### **Effects of Mitigation and Conservation Measures**

The following agreements were developed during formal consultation and will go into effect if and only if the Department determines to issue a permit for the proposed Keystone XL pipeline and prior to construction in the states of South Dakota and Nebraska.

### **Monitoring Program**

The Department would retain a third-party contractor to develop and implement an ABB monitoring program or ABB monitoring would be included as a possible wider project level monitoring program for the proposed Project. The program would include monitoring of incidental take of ABB. This monitoring program would be approved and overseen by Department in consultation with USFWS. Keystone would fund the monitoring program prior to construction of the proposed Project.

Monitoring would not replace the environmental quality control plan or the actions that Keystone would put in place, but is in addition to those tasks and would serve as a quality control monitor on behalf of the Department. The monitoring program would include but is not limited to, a combination of site visits, aerial surveillance, and spot checks that would be recorded in monitoring logs with photographs to provide a reasonable level of confidence that avoidance, minimization, and mitigation measures are followed. Monitoring would look at, but is not limited to, replacement of top soil; compliance with seeding specifications and seed mix; erosion control; that construction impacts match permitted footprint, and habitat restoration for the ABB. This monitoring program would identify the number of acres disturbed by the project in the states of South Dakota and Nebraska and the number of acres restored as described in the Reclamation Performance Bond stipulations (Appendix E). The information collected would be used to evaluate whether the impacts to ABB described in this BO are comparable to impacts that result from construction and operation of the proposed Project.

### **ABB Habitat Conservation Trust**

The establishment of an ABB Habitat Conservation Trust as described in Appendix D would offset permanent and temporary losses of ABB habitat in South Dakota and Nebraska at ratios greater than 1:1, and thereby provide long-term benefits to ABB populations in those areas. Land crossed by the pipeline in South Dakota and Nebraska is almost entirely in private ownership. The ABB Habitat Conservation Trust would perpetually protect grasslands through conservation easement or purchase by fee title from willing landowners at ratios greater than 1:1, assuming lands temporarily disturbed are restored to conditions stipulated in the Reclamation Performance Bond (Appendix

E). Protection of privately-owned grasslands at greater than a 1:1 ratio would also incrementally offset habitat loss of grasslands from conversion to agriculture in the South Dakota and Nebraska. The number of acres of prime habitat lost would be mitigated at a 3:1 ratio, and the loss of good habitat would be mitigated at a 2:1 ratio.

These two classifications of quality habitat (combined) comprise 73 percent of the 274.84 acres permanently lost and 68 percent of the 1492.81 acres temporarily lost due to proposed Project construction and operation in South Dakota and Nebraska. Proper management and protection of grasslands through the Habitat Conservation Trust would more than offset permanent and temporary loss of ABB habitat due to construction and operation of the proposed Project and is consistent with recovery actions 1.23 and 5.3 in the Recovery Plan for the ABB (USFWS 1991).

### **Reclamation Performance Bond**

To ensure restoration of disturbed areas within ABB habitat, Keystone would establish a Reclamation Performance Bond that includes the stipulated requirements in Appendix E. Written conditions would ensure this performance bond would be accessible and executed by the Department, or a third party contractor under direction of the Department, in the case that disturbed land in the ABB habitat area, as defined by the 2012 BA (DOS 2012), should fail to re-vegetate in a manner as outlined in Appendix E, and if Keystone fails to take corrective action. Release of funds pursuant to the Bond would be solely at the discretion of the Department after soliciting recommendations from USFWS. The establishment of the Reclamation Performance Bond serves as an additional back-up measure in the Project CMRP which would be undertaken by Keystone to successfully re-vegetate lands temporarily affected by the Project to vegetation conditions in surrounding areas.

### **Effects of Interrelated and Interdependent Actions**

The USFWS is required to evaluate the effects of the action under consideration (i.e., Department potential issuance of a Presidential Permit enabling the proposed Project) "...together with the effects of other activities that are interrelated to, or interdependent with, that action." (50 C.F.R. § 402.02).

### **Power Lines to Pump Stations and Associated Substations**

The construction of power lines to pump stations and the associated substations are interrelated and interdependent actions and may cause adverse impacts to ABB within the range of the species in Nebraska and South Dakota. These impacts might include mortality of ABB during construction of the power lines due to interaction with construction equipment during clearing of vegetation, soil compaction, and during excavation of holes or foundations for the power poles. Restoration of vegetation after construction would not likely cause adverse effects unless grading of undisturbed habitats are involved, and those instances should be infrequent. Maintenance of vegetation under the power lines may also result in ABB injury or mortality if mowing or use of herbicides or pesticides occurs during times when ABB are active above ground.

Only two of the 20 planned power line routes to pump stations would occur within the current occupied range of the ABB: power lines to pump stations 21 and 22 (DOS 2012). The power line

to pump station 21 would be built by Rosebud Electric Cooperative in South Dakota; alignment of that power line is unlikely to have an effect on the ABB given the lack of suitable habitat and anticipated minimal disturbance associated with the proposed power line project. The Nebraska Public Power District and Niobrara Public Power District will construct a power line to provide electrical service to pump station 22. Currently, the length and alignment of that power line is unknown, however, it appears, based on preliminary discussions that the line would be less than 5 miles in length and likely extend along an existing public roadway. Surveys for ABB done in that area did result in captures of the species in low abundance; the habitat in the area is considered marginal because it is partially overgrazed, drought-affected and several center pivots are present to irrigate row crops. Nevertheless, NPPD has agreed, in a letter dated March 4, 2013, to construct the power line during the winter months when the ground is frozen and ABB is inactive and hibernating below the frost line thereby avoiding compaction and negative impacts to the species. It is unlikely that ROW vegetation management would need to occur given that the power line would pass near corners of center pivots irrigation systems and over-grazed pasture. The power lines providing electricity to pump stations 27 and 29 in Kansas will have no effect on the ABB because there is no suitable habitat for the species there.

### **Big Bend to Witten 230 kV Transmission Line**

In South Dakota, the principal population of ABB occurs south of Highway 18 in southern Tripp County. For this reason, impacts to ABB from construction of the pipeline Project were considered only south of Highway 18 (DOS 2012). The Big Bend to Witten 230 kV transmission line in Tripp County, South Dakota, occurs north of Highway 18, outside the southern Tripp County area where ABB occurs in substantial numbers. Therefore, impacts from this interrelated and interdependent Big Bend to Witten transmission line are not likely to result in adverse impacts to ABB.

### **Bakken Marketlink Project**

Aside from the Keystone XL pipeline to transport the oil, this interrelated and interdependent project would consist of piping, booster pumps, meter manifolds, two storage tanks, and one operational tank near Baker, Montana. In addition, the project would include a proposed pipeline, approximately 5 miles long, originating at an existing Montana tank farm facility in Township 7N, Range 58 East, Section 4. The ABB does not occur in Montana, so the Bakken Marketlink Project would have no impact on the ABB.

### **Cumulative Effects**

Cumulative effects are those effects of future, non-federal state, tribal, local government, and private actions that are reasonably certain to occur in the action area considered in this BO. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

In addition to those projects with a federal nexus that undergo consultation, there are numerous actions that do not require federal funding, permitting, or authorization and consequently do not require consultation with the USFWS. Any of several private development projects may occur in South Dakota and Nebraska. Examples of these include conversion of native prairie rangeland to cropland.

When large areas of native woodland and native grasslands are affected, loss and fragmentation of these habitats incrementally reduce the recovery potential of ABBs by damaging the functionality of these supporting ecosystems. Philpott (2013) reported 1.3 acres of grassland was converted from grassland to cropland in Nebraska, South Dakota, Iowa, Minnesota, and North Dakota from 2006 to 2011, due to high grain prices and federally subsidized crop insurance. In South Dakota, over 650,000 acres of grassland was converted to corn and soybeans. In Nebraska, over 300,000 acres was converted from grass to corn and soybeans and a considerable amount of this conversion has been with the ABB range in Nebraska. For example, one owner of approximately 1,500 acres of grassland in Keya Paha County, Nebraska, converted that grassland to row crops in 2012; in 2013, approximately 720 acres are planned for conversion. Trapping for ABB adjacent to this grassland found low densities of ABB present, but all of the ABB using the converted grasslands would be lost when the grasslands are converted to row crops.

Commercial development is expanding to undeveloped lands on the periphery or in suburbs of cities. Residential developments are being constructed outside city limits or in previously undeveloped or rural areas. The specific numbers of new or anticipated projects and associated acres of disturbance are difficult if not impossible to quantify. However, it is clear that there are numerous, continuing, and expanding impacts to ABBs and their habitat from projects without a federal nexus. All of the above activities can cause loss and further fragmentation of ABB habitat in Nebraska and South Dakota. Construction activities that disturb soils within the current range of ABB cause mortality of ABB adults, and (potentially) ABB larvae and eggs. Although direct mortality of ABB from individual construction activities is local and constitutes a short-term adverse effect, the cumulative loss of ABB from multiple development projects in a larger area may eventually reduce the ability of a given population to survive in a fragmented landscape.

Lighting associated with construction of new roads (i.e., not associated with the proposed Project) and new residential developments can result in harassment and disruption of normal feeding behavior when ABB are attracted to lights. Future construction and developments of this type by state or private entities may harass the ABB and interfere with feeding or breeding by distracting the species from meeting life requisites.

## **Conclusion**

After reviewing the current status of the ABB, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the USFWS's opinion that the proposed Project is not likely to jeopardize the continued existence of the ABB. "Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR §402.02). No critical habitat has been designated for this species; therefore, none would be affected. Our determination is based on the following primary factors.

- Since the Recovery Plan was developed in 1991, numerous other populations have been discovered, and the recovery objective of reducing the immediate threat of extinction through discovery or establishment of new populations has been met as discussed in the 5-year review completed for the ABB (USFWS 2008a). Currently, at least four eco-regions support ABB populations estimated at greater than 1,000 individual ABBs (USFWS

2008a). Based on population modeling, K. Holzer, Amaral et al. (eds) (2005) surmised that a population of greater than 1,000 ABB has the potential to remain demographically viable over the long term in the absence of severe catastrophic events or reductions in carrying capacity through reduced carcass availability, habitat loss, or fragmentation.

In 2010, more than 1,000 ABB were trapped in the eastern Sandhills in Holt County, Nebraska with relatively limited trapping. During the course of the ABB capture relocation efforts for the previously proposed Project that were done along the previous route through the Sandhills, 2,486 ABB were captured in Keya Paha, Holt, Garfield, and Wheeler Counties (TransCanada 2011), well exceeding 1,000 individuals needed for a viable population. Trapping of ABB in Tripp County, South Dakota by Backlund et al. (2008) also showed that the population there exceeds 1,000 individuals. These large ABB populations in Nebraska and South Dakota are located in the general Project area and demonstrate the large, apparently viable ABB population that occurs there. Based on these survey results and previous population modeling, we have concluded that the short term loss of ABB at the anticipated levels that are described above, resulting from the proposed Project is not likely to appreciably reduce survival and recovery of the species in the wild.

- The sentinel population of ABB on Block Island off the coast of Rhode Island is stable. The population of ABB in southern Tripp County, South Dakota is thought to be stable, however, this assertion is based on data collected eight years ago, in 2005 (Backlund et al. 2008), which may no longer be representative of the population. We are admittedly concerned about the viability status of this population. However, the USFWS has determined that Backlund et al. (2008) represents the best available scientific information for the ABB population in Tripp County. A large ABB population from the eastern Sandhills of Nebraska is one of the most abundant in the United States. The moderately large Nebraska Loess Hills population was thought to be declining in 2006 and 2007, but that short-term decline was likely caused by the effects of drought on carrion availability (W.W. Hoback, pers. comm.), and that population has increased in recent years with relief from the drought. Additionally, several habitat improvement projects in the Loess Hills have or will soon remove counterproductive red cedars from the Loess Hills, improving ABB habitat there. Population levels of ABB in Oklahoma and Arkansas fluctuate every other year or so, but downward or upward trends in the long term are difficult to ascertain. Fort Chaffee in western Arkansas and Fort Gruber in eastern Oklahoma have robust populations of ABB that, along with populations in Nebraska, are believed to be resilient to the effects of stochastic weather events (USFWS 2008a). Little information is available on trends in the small populations of ABB in Kansas and there is some evidence that a small population of ABB in northern Lamar County, Texas, may be declining (USFWS 2008a). Therefore, although one small population on the periphery of the range may be declining, available evidence indicates that populations of ABB are relatively stable further supporting the assertion that the proposed Project is not likely to appreciably reduce survival and recovery of the species in the wild.
- The loss of ABBs from a limited area in the current range of the ABB known to have a large viable population constitutes a short-term pulse of adverse effect, and has a smaller effect on the species' ability to survive than a longer-term, chronic effect. The proposed Project extends through large grassland areas which provide suitable habitat for ABB. As

such, it is reasonable to expect recolonization of areas that were disturbed during project construction from nearby areas. Additionally, ABB naturally experience fluctuations caused by poor reproduction in some years (e.g., due to weather, disease, etc.), and these short-term stochastic events do not have long-term effects in robust populations like those known in South Dakota and Nebraska. Other factors having little to do with construction and operation of the proposed Project, such as climate change may also affect the ABB in the future. However, for the reasons discussed above, the USFWS has determined that loss of ABB at the anticipated levels is not likely to appreciably reduce survival and recovery of the species in the wild.

- The cumulative effect of loss of ABB habitat from the conversion of grasslands to cropland in Nebraska and South Dakota and multiple development projects may eventually reduce the ability of a given ABB population to survive and recover in a fragmented landscape. We remain concerned about the effects of the large acreages of grasslands converted to corn and soybeans in Nebraska and South Dakota (Philpott 2013) on ABB populations. However, this level of cumulative impact apparently has not yet been reached in Nebraska and South Dakota, where ABB population levels (as shown from survey efforts) appear healthy and stable in a landscape that still consists of broad areas of native grassland. Thus, based on the best available information, current levels of moderate to high quality ABB habitat are supporting populations of ABB across the vast majority of its current range. For this reason, we have concluded that loss of ABB due to cumulative impacts is not likely to appreciably reduce survival and recovery of the species in the wild. And, for the reasons stated above, we do not believe that any loss from these cumulative effects combined with the loss from the proposed Project, is likely to jeopardize the ABB.
- A total of approximately 274.84 acres of ABB habitat would be permanently lost in South Dakota (Table 9) and Nebraska (Table 10) of which 73 percent of the same or 201.10 acres are classified as prime or good ABB habitat. Of the 1,492.81 acres of ABB habitat temporarily lost in South Dakota (Table 9) and Nebraska (Table 10) due to construction of the proposed Project, 1013.91 acres, or 68 percent is categorized a prime or good ABB habitat. However, the loss of this amount of habitat spread over approximately 82 miles of ROW (35 miles in South Dakota + 47 miles in Nebraska) and areas under isolated pump stations does not constitute a significant portion of available habitat for ABB breeding, feeding and sheltering. To put these figures into perspective, in Nebraska and South Dakota, this combined acreage represents, 0.071 percent of grasslands (1492.81/2,098,876) in the counties with ABB affected by the Project (i.e., Holt County (1,184,143 grassland acres) Keya Paha County (398,016 grassland acres), and Tripp County (516,717 grassland acres south of Highway 18)) that would be temporarily lost. Similarly, 0.013 percent of the grasslands (274.81/2,098,876) in the same area would be permanently lost. Given this acreage comparison, we have determined that these permanent and temporary habitat losses would not appreciably reduce the likelihood of survival and recovery of the ABB.

Conservation measures included as part of the Keystone XL Project especially the ABB Habitat Conservation Trust (Appendix C) would likely result in a net increase in protected ABB habitat. The Reclamation Performance Bond (Appendix E) would provide assurances that disturbed habitat would be restored following proposed Project construction. Within the context of stable or increasing populations in the northern portion of the species range, an increase in protected ABB

habitat in an area where a portion of unprotected habitat may be lost through conversion to agriculture would improve the likelihood of survival and recovery of the species. Establishment of the ABB Habitat Conservation Trust and the habitat protection it would enable are consistent with recovery actions 1.23 and 5.3 in the recovery plan (USFWS 1991). Protection of privately-owned grassland habitat that is vulnerable to loss through conversion to agriculture would be particularly beneficial and facilitate survival and recovery of the species in the northern portion of the species range. Protection of privately-owned grassland habitat that is vulnerable to loss through conversion to agriculture would be particularly beneficial and facilitate survival and recovery of the species in the northern portion of the species range. Thus, these conservation measures contribute to the recovery of the ABB.

The combination of the ABB monitoring program (Appendix C) and the Reclamation Performance Bond (Appendix E) would provide assurances that the acres disturbed by the Project would be restored appropriately. A 1:1 ratio (i.e., 3:1 or 2:1 for prime and good habitat, respectively) habitat mitigation ratio would be applied to supplemental vegetation reclamation if restoration for ABB habitat failed and Keystone fails to take corrective action. These actions are also consistent with recovery actions 1.23 and 5.3 in the recovery plan (USFWS 1991).

In Nebraska, trapping and relocating of ABB from Project lands, followed by measures to discourage reestablishment of ABB on Project lands prior to pipeline construction (e.g., carrion removal, mowing, and windrowing), would substantially reduce injury and mortality of ABB caused by construction and operation of the pipeline. Based on our calculations, 119.26 ABB would be successfully removed from Project lands using the capture relocation method, and moved to prime or good habitats at release sites known to be occupied by the species. Procedures implemented at the release site further promote ABB survival and success at their new location. These measures would minimize adverse effects to survival of the ABB population in Nebraska.

In summary, after reviewing the effects of the action, including the effects of interrelated and interdependent activities, and any cumulative effects on the ABB, we conclude that the reproduction, numbers, or distribution, of the ABB will not be reduced in such a manner that would reduce appreciably the survival and the recovery of the ABB.

### **Incidental Take Statement**

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS as an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the USFWS as intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered

to be prohibited under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Department so that they become binding conditions for any action, grant, or permit issued, as appropriate, for the exemption in section 7(o)(2) to apply. The Department is the lead agency with oversight of the activity covered by this incidental take statement. If the Department: (1) fails to assume and implement the terms and conditions or (2) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Department must report the progress of the action and its impact on the species to the USFWS as specified in the Incidental Take Statement. [50 C.F.R § 402.14(i) (3)].

### **Amount and Extent of Incidental Take Anticipated**

#### **Anticipated Take from Pre-construction Activities**

Incidental take of ABB associated with implementation of the pre-construction capture relocation method in Nebraska will result in the take through *harassment* of 126.72 or 127 ABB in Nebraska (141.75 x .106) (see previous section: Capture Relocation method).

#### **Anticipated Take from Construction and Operation Activities**

Incidental take in the form of *mortality or injury* of individual ABBs is likely to occur as a result of the proposed Project construction in South Dakota and Nebraska; injury and mortality could also result from use of the capture relocation method in Nebraska. We calculated a total of 351.18 or 352 ABBs that would be injured or die from capture and relocation in Nebraska and construction in both Nebraska and South Dakota.

The USFWS requires that incidental take of ABB be monitored during the Project using survey methods advocated by the USFWS and NGPC (2008) by comparing the number of ABB captured during surveys done immediately before Project construction (within 9 months; should construction begin in May, surveys would be done the previous August while ABB is active) with the number of ABBs used for calculating the incidental take (39 individual ABBs (see Table 11) and 19 individual ABBs (see Table 12)), the previously calculated level of take for adults expected in the South Dakota and Nebraska segments of the Project, respectively. Results of the Pre-construction surveys should be run through the calculations in Table 11 and 12 and then the comparison should be made. These figures are not inclusive of ABB eggs or larvae because of their difficulty in detection when underground.

### **Reasonable and Prudent Measures (RPMs) to Minimize Incidental Take, and Corresponding Terms and Conditions for the RPMs**

The USFWS believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the ABB. In order to be exempt from the prohibitions of section 9 of the Act, Keystone and its contractors must comply with the terms and conditions, which implement the reasonable and prudent measures and outline required reporting requirements. These terms and conditions are non-discretionary.

**RPM 1:** Injury and mortality that occurs during the capture relocation method can be minimized to the extent possible through the use of knowledgeable field technicians experienced in the use of the American Burying Beetle Trapping Protocol, Conservation Measures, Distribution Map, and Qualification Criteria (Appendix B).

**Terms and Conditions for RPM 1:**

**1(a):** Only field technicians who have been trained and have experience trapping and relocating ABB according to the approved protocols (Appendix B) will participate in the pre-construction “clearing” effort in Nebraska. Keystone must submit in writing to the Nebraska Field Office USFWS how field technicians meet the ABB Qualification Criteria, April 2012 (USFWS 2012).

**1(b):** The trapping and relocation protocols will be consistently followed. These protocols are described in two December 2008 documents in Appendix B: “American Burying Beetle - Nebraska Trapping Protocol” and “Conservation Measure for the American Burying Beetle (ABB),” developed by the USFWS and NGPC. If any deviations from the protocol are necessary due to unforeseen circumstances, a change in field activity may be made only after consultation with both the USFWS Nebraska Field Office and the NGPC.

**1(c):** ABB must be relocated to good or prime rated habitat a distance of three to five miles from the point of capture.

**1(d):** To reduce the potential for post-release, intra-specific competition for carrion at relocation sites, no more than 50 beetles will be released at any re-location site, and the release site will be at least three to five miles from the capture site.

**1(e):** All injuries or deaths of ABBs will be recorded along with apparent cause of mortality at the time of observation, and reported immediately to Mike Fritz at the NGPC (phone 402-471-5419), and Robert Harms at the USFWS (phone 308-390-0871). Following the capture relocation effort, a report will be submitted to the Nebraska Field Supervisor, USFWS, and to the NGPC by October of the trapping year, documenting the trapping, relocation, and habitat maintenance (of cleared sites) activities. The report would include, at a minimum, a summary of mortality by age class (e.g., senescent or teneral) and site, number and age class (e.g., senescent or teneral) of ABB captured per trap night, and average catch per trap night per pipeline mile post and other Project land, and whether the site was “cleared.” Where, when, and at what distance ABB were released with a habitat rating of all release sites would also be documented, along with a description of post-clearing habitat modification activities.

**1(f):** The Department designated point of contact would contact the USFWS point of contact when the Reasonable and Prudent Measures and Terms and Conditions set forth in the USFWS’s BO are not being met to remedy the situation(s). Reinitiation of consultation will occur if incidental take associated with the capture and relocation method exceeds 10 ABB in 2013 and 10 ABB in 2014 in Nebraska. This level of take was previously developed by biologists familiar with the population and life history of the ABB in Nebraska and are included in individual recovery permits for the ABB in Nebraska.

**RPM 2:** Incidental take of ABBs will be monitored during Project construction.

**Terms and Conditions of RPM 2:**

**2(a):** Pre-construction ABB surveys will be conducted (within 9 months; should construction begin in May, surveys would be done the previous August while ABB is active) from pipeline mile post 566 to 600 in Tripp County, South Dakota and from mile post 600 to 659 in Keya Paha and Holt counties in Nebraska, the pipeline segment where ABB is known to occur. ABB surveys will be conducted in accordance with ABB survey protocols in Appendix B.

**2(b):** Results of the Pre-construction ABB surveys will be compared to the calculated amount of individual ABBs that would be taken in South Dakota (39 individual ABBs from Table 11) and Nebraska (19 individual ABBs from Table 12).

**2(c):** The Department designated point of contact would contact the USFWS point of contact when the Reasonable and Prudent Measures and Terms and Conditions set forth in the USFWS's BO are not being met to remedy the situation(s). Reinitiation of consultation will occur should ABB numbers resulting from Pre-construction surveys (following the calculation method in Tables 11 and 12) exceed the estimates of take calculated for South Dakota (39 individuals) or Nebraska (19 individuals).

**RPM 3:** Keystone will use restoration methods described in Appendix A of the BA, in conjunction with agreements developed with the USFWS and NGPC, to restore lands to the condition of adjacent land as they were found immediately prior to construction and within a time frame between May 15, 2013 and May 15, 2014 on Project ROW and work areas.

**Terms and Conditions of RPM 3:**

**3(a):** By October 1 of each year after construction, the Department would submit an annual monitoring report to the USFWS documenting the monitoring accomplished and progress of restoration of Project lands. The report would detail and document the number of acres affected by Project activities, and the number of acres meeting reclamation stipulations of the bond [Appendix E]). At the end of this Agreement, all original files and documents would be provided to the USFWS.

**3(b):** The Department designated point of contact would contact the USFWS point of contact when the Reasonable and Prudent Measures and Terms and Conditions set forth in the USFWS's BO are not being met and work with the Department to remedy the situation(s). Reinitiation of consultation will occur if the number of acres of ABB habitat permanently lost within the current range of the species (i.e., as calculated in the effects section of this BO - 593.1 acres) plus the number of acres in the same areas where restoration (as defined by Reclamation Bond stipulations) fails to occur by the fall of post-construction year 8, is greater than anticipated in this BO.

**RPM 4:** The ABB avoidance and minimization measure benefits will be maximized to reduce impacts to adult ABB; and young-of-the-year ABB which comprise the following years breeding individuals.

#### **Terms and Conditions of RPM 4:**

**4(a):** In Nebraska, the capture relocation method will be implemented prior to the start of Project construction.

**4(b):** Where capture and relocation efforts have not been completed, the proposed Project will not start during the ABB breeding season in Nebraska which extends from June 1 through August 31.

#### **Conservation Recommendations**

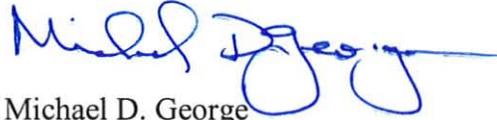
1. Conduct research on the ABB coordinated with the USFWS. For example, provide funding to: a) monitor use of restored Project lands by ABB or, b) evaluate success of various vegetation restoration methods or, c) investigate the effect of soil compaction on non-endangered burying beetles or, d) measure the actual temperature increases surrounding the operating pipe to determine accuracy of modeled temperature dissipation around operating pump or, conduct an ABB mark recapture study on ABB in South Dakota to assess the viability of the population.
2. The Department can promote actions supporting conservation of ABB through its responsibilities under section 7(a) (1) of the Act.
3. Minimize habitat loss and alteration by minimizing soil disturbance to the extent feasible, utilizing existing roads, staging areas, etc.
4. Develop educational/informational materials, with the assistance of the USFWS, for placement onsite to inform visitors of the potential ABB presence in the area, encourage reporting of sightings, and potentially reduce the risk of potential disturbance scenarios.

#### **Closing Statement**

This concludes formal consultation on the actions outlined in the December 21, 2012, request from the Department for formal consultation on the construction and operation of the Keystone XL pipeline, as described in the Final Biological Assessment and subsequent additions/amendments to same. As provided in 50 C.F.R. § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control is authorized by law and if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, especially as this information relates to climate change and the ability of ABB to overwinter and tolerate dryer environments over the next 50 years (i.e., the life of the Project); 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not in this opinion; or 4) a new species is listed or critical habitat designated that may be affected by the action.

The USFWS appreciates the cooperation extended by the Department, Keystone, Hoback Consulting, and multiple USFWS Ecological Services Field Offices and State resource agencies in this consultation. If further assistance or information is required, please contact Mr. Robert R. Harms or me at the above address or telephone (308) 382-6468.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael D. George", with a long horizontal flourish extending to the right.

Michael D. George  
Nebraska Field Supervisor

cc: Regional Director, USFWS, Denver, CO

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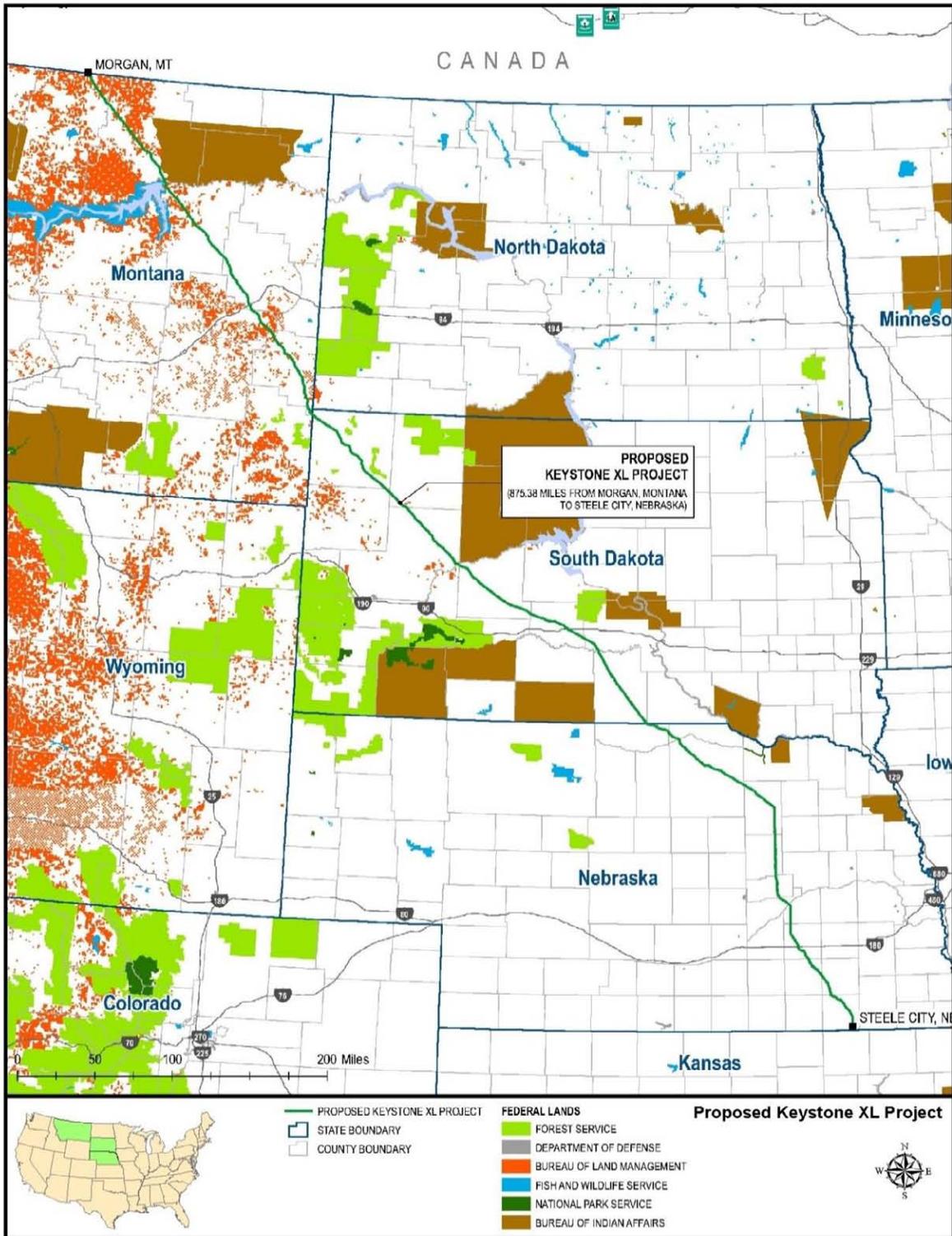
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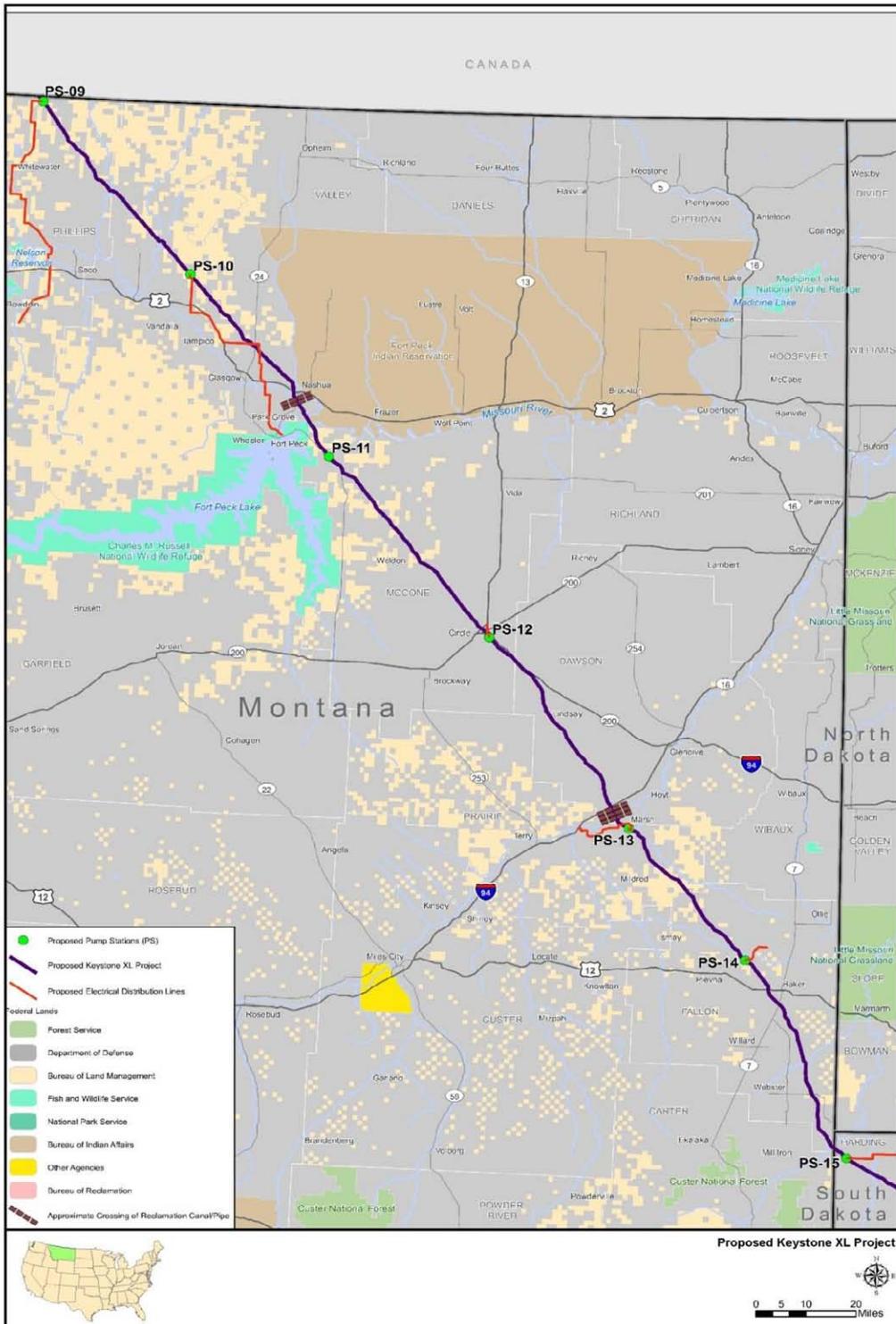
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## **Appendix A**

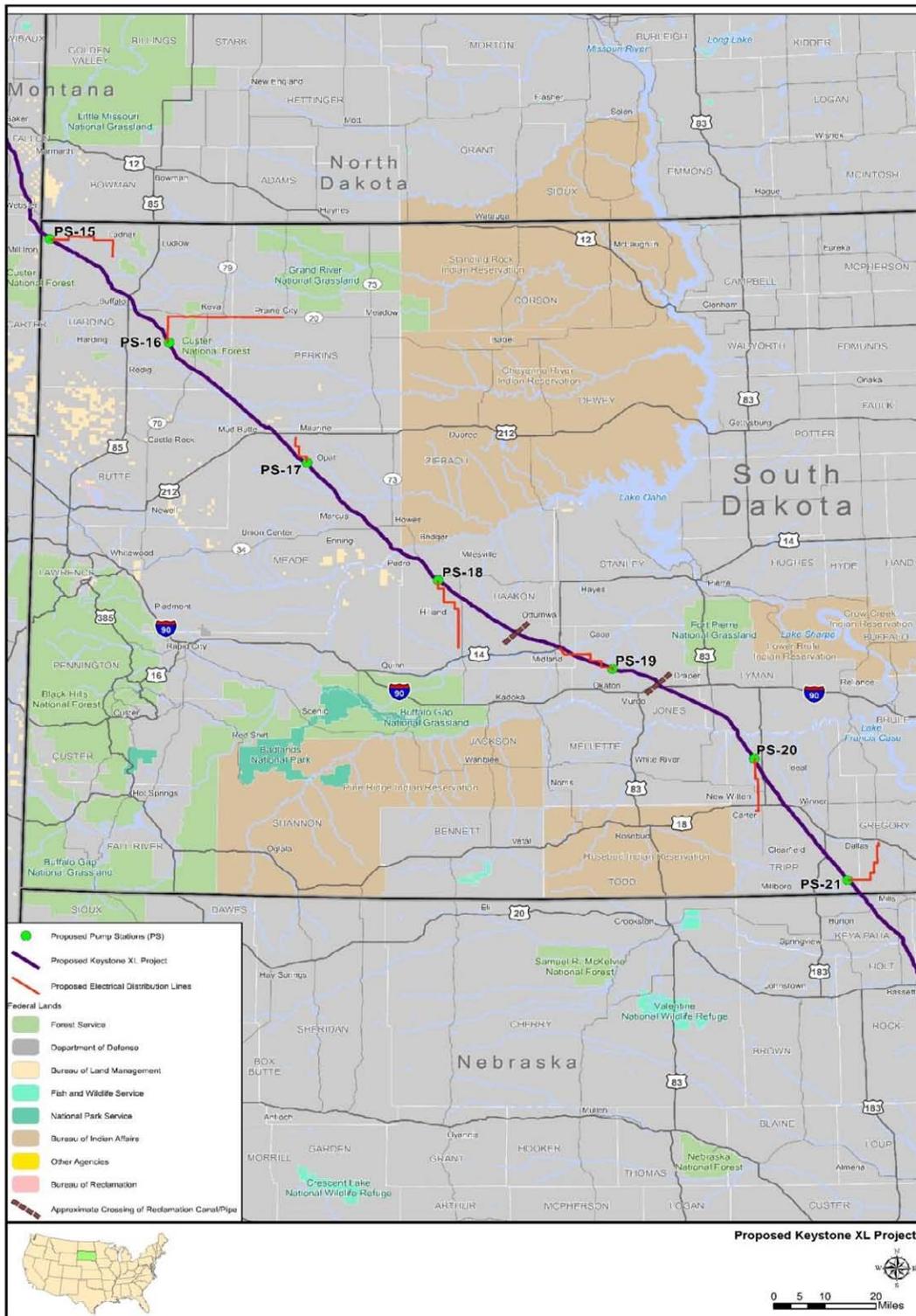
### **Project Maps**



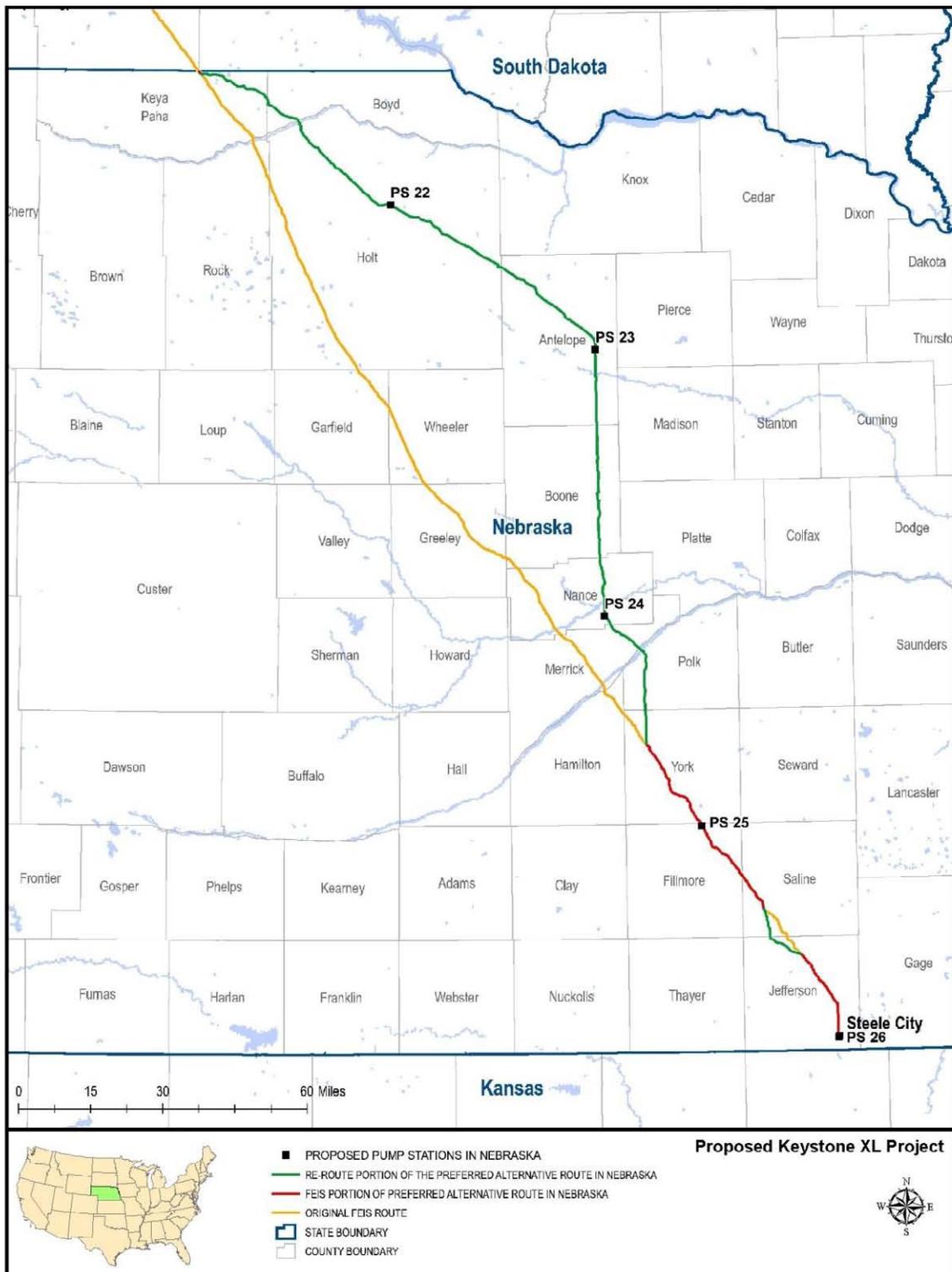
**Figure 1. Overview of Keystone Pipeline Project**



**Figure 2. Montana segment of the Keystone Pipeline Project**



**Figure 3. South Dakota segment of the Keystone Pipeline Project**



**Figure 4. Nebraska segment of the Keystone Pipeline Project**



## **Appendix B**

### **American Burying Beetle**

**Trapping Protocol**  
**Conservation Measures**  
**Qualification Criteria**

**Nebraska**

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# Trapping Protocol

December 2008

Trapping methods are used for both Presence/Absence surveys and Capture and Relocation. Trapping for the American burying beetle (*Nicrophorus americanus*) (ABB) will be conducted with a modified version of the U.S. Fish and Wildlife Service's (1991) protocol, as described by Bedick et al. (2004). Trapping for the ABB may be conducted during two periods in the year in Nebraska.

The first period in early summer (approximately June 7<sup>th</sup> to July 1) is after beetles have emerged from hibernation and prior to beetles going underground during the larvae rearing cycle. The second trapping period is in late summer (approximately August 7<sup>th</sup> to September 1<sup>st</sup>), after the larval cycle when both senescent and teneral beetles are present. For the early summer period, trapping will be conducted when the average temperature at midnight is 60 degrees Fahrenheit or greater. It is recommended that trapping be conducted when the average temperature at midnight is 60 degrees Fahrenheit or greater. Trapping of ABB may be conducted during this period when the average temperature at midnight is 55 degrees Fahrenheit or greater, however, false negative presence data may be obtained under these conditions.

A positive control should be used in association with trapping. A positive control establishes that conditions were correct in a given geographic area and that ABB were active during the timeframe of the trapping. Only one ABB capture is necessary to establish a positive control. The positive control window may be up to seven days prior to trapping, or during, but not after the trapping timeframe. There are several locations within Nebraska with a recent history of dense populations and that have been documented through regular research.

Coordination with the U.S. Fish and Wildlife Service (USFWS) and Nebraska Game and Parks Commission (NGPC) may provide existing projects with positive controls. When trapping south of the Platte River, Lincoln County may be used and for trapping north of the Platte River, an area near the town of Chambers can be used.

Adult ABBs will be captured by use of baited pitfall traps consisting of a five-gallon (18.92 Liter) plastic bucket (diameter 28.5cm). Bedick (1997) found a five-gallon bucket to be the most appropriate pitfall trap when sampling for the ABB because they provide a larger surface area for each beetle to escape from other carrion beetles. Alternatively, a one-gallon bucket may be used as a pitfall trap in those instances where burial of the five-gallon bucket would be difficult.

All buckets will be washed using bleach and thoroughly rinsed prior to being used as traps. All buckets will be buried in the ground, with approximately 4-5 cm of the bucket above ground

level. Soil will then be built-up around the bucket, creating a gradient from ground level upwards to the bucket rim. This will be done to limit the amount of water entering the buckets through runoff and splashing of water during rainfall events. Buckets will be located on elevated terrain so as to prevent inundation during rainfall events as beetles can drown very easily in even a small amount of water. Traps should not be placed within 10 feet of ant colonies, as they can kill the beetles that have been captured. Approximately 5-8 cm of moist soil will be placed in the bottom of the bucket to give trapped carrion beetles room to burrow into the soil to avoid competitors, high temperatures, and low moisture levels above the soil. To prevent rainfall and debris from directly entering the bucket, a square piece of plywood (37 cm by 37 cm) will be placed on top of the trap, supported by two or more sticks/narrow boards ranging from 1.5-2.5 cm in thickness. Additional weight (e.g. soil plug, rocks, etc.) will then be placed on top of the trap cover to reduce bait loss to vertebrate scavengers and to prevent the cover from being moved by wind or small animals.

It is recommended that all traps be baited with previously-frozen, 275-374 g laboratory rats (*Rattus norvegicus* – available from online dealers such as RodentPro.com). If rats are not available, bait items of comparable size and structure may be used. The bait will be aged in airtight containers for 3 to 7 days, depending on the temperature and other weather conditions. In contrast to the previous protocol, the bait will not be placed into containers within the traps. What is critical is that the bait is ripe and emits a powerful odor as beetles key in on odor to locate food. With larger numbers of traps spread across a relatively large area, it is better to allow carrion beetles to feed on the bait, which also helps maintain moisture levels in the soil within the trap and reduces stress. This will also prevent loss of beetles to inter-beetle predation and desiccation, which has been determined to be a potential mortality factor for Silphidae on hot mornings by Bedick (1997). Traps will be spaced no farther than 1 mile (1.6 km) apart to ensure that the entire survey area will be covered by the predicted radius of the trap (0.5-mile (800 m)). Traps will be set on the first trap day before 1800 hours and checked every subsequent morning by 1100 hours.

Trapping will be conducted for a minimum of five consecutive days. When trapping for ABB, if weather conditions are unsuitable for trapping during the 5 consecutive days, it is not necessary to begin the 5-day session again, but rather add one night of trapping for each night of unsuitable conditions. Unsuitable weather conditions include nights when the temperature drops below 55°F or if it is raining. It is assumed that on nights with unsuitable conditions, beetles will not be active.

At each trap site, a GPS location and digital photograph will be taken to document the location of the trap and the general habitat characteristics there. All carrion beetles captured will be identified to species whenever there is available time and resources, and the ABB will be sexed by use of Ratcliffe (1996). If the goals and objectives of the survey effort are to assess

population status and requires marking beetles, all ABB captured will be recorded and marked using a drop of model paint (such as Testors) placed on the pronotum or the posterior portion of one or both elytra. Paint will be applied in a manner that will not cause damage to the elytra. If the purpose of the trapping effort is to clear an area, marking beetles is not necessary.

All ABB captured during the second trapping period (August 7<sup>th</sup> through September 1) will be evaluated for being either teneral or senescent, if the surveyor(s) have been properly trained. Captured ABB will be released as quickly as possible. For research purposes, the ABB may be released at the point of capture or at locations away from the capture point if such release methods are identified in an approved research design and the release sites have been evaluated as providing suitable habitat for the beetle. For the purpose of clearing a site of ABB prior to disturbance activities, captured beetles will be released in suitable habitat at a minimum distance of two miles away from the capture site. The release sites should be included in proposed conservation measures by the project proponent for concurrence on the project. All captures of ABB will be recorded in the format of the Natural Heritage's Database housed by the NGPC, including recording captures in a Geographic Information System Database, as applicable, for future reference and analysis. Results of surveys will be sent to the NGPC and USFWS in accordance with applicable federal and state permit requirements.

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## Conservation Measures

### Background

The federal and state endangered American burying beetle (ABB) is the largest member of the carrion beetle family and has a lifespan of about one year. It ranges from 1 to 1.5 inches in length, has four red-orange spots on its wing covers, and is distinguished by its larger size and its orange-red pronotum. The ABB was common over the eastern half of North America as recently as the 1920's, but has disappeared over 90 percent of their historic range (Sikes and Raithel 2002). The ABB's current range now includes Rhode Island, Oklahoma, Arkansas, and Nebraska. Reasons for its decline are not well understood but habitat loss and degradation, human activity, light pollution, and pesticides are all considered contributing factors (Sikes and Raithel 2002). In Nebraska, historical records of ABB have been observed in Antelope, Custer, and Lancaster counties. Other counties that have suitable habitat include: Antelope, Blaine, Boone, Boyd, Brown, Cherry, Custer, Dawson, Frontier, Garfield, Gosper, Grant, Holt, Hooker, Keya Paha, Lincoln, Logan, Loup, Rock, Thomas, Valley, and Wheeler.

The ABB has been captured in a variety of habitats including grasslands, grazed pasture, bottomland forest, riparian zones, and oak-hickory forests (Creighton et al. 1993; Lomolino and Creighton 1996; NatureServe Explorer 2007; and U.S. Fish and Wildlife Service 1991) and have been labeled a vegetation generalist (Lomolino et al. 1995). In Nebraska, ABB have been found in mesic areas such as wet meadows and wetlands in association with relatively undisturbed semi-arid, sandhill and loam grasslands. Such areas have been observed to have a thick stand of grassland vegetation with some woody vegetation. The ABB are also found in the Loess Canyons, primarily located in Lincoln County. These steep loess hills and canyons support mixed-grass prairie, but much of the area is heavily invaded by eastern red cedars (Schneider et al. 2005).

It is suspected that carrion availability in a given area is more indicative of ABB presence than vegetation structure since carrion is the sole food source for ABB and is an essential component in a complex reproductive cycle for the species (U.S. Fish and Wildlife Service 1991). The ABB is able to efficiently locate carrion (Bedick et al. 1999) and can move over two miles to a carrion source (Creighton and Schnell 1998). Because of their habit of feeding on carrion, their sole food source, the species may be found in marginal habitat like roadsides where they likely forage on roadkill.

For the ABB to use the carrion for reproductive purposes, the carrion must also be the approximate size of a squirrel and also be located in an area where soil conditions are conducive to excavation by ABBs (Anderson 1982, Lomolino and Creighton 1996). When the ABB locates a suitable carcass, a mated pair will bury the carcass for egg deposition and brood rearing. The larvae feed on the carcass and remain underground through the pupal stage and the parents care

for the developing young underground. The development process from egg to adult takes approximately 48 – 65 days (Ratcliffe and Spomer 2002). Adults and newly-hatched adults (teneral) will emerge from the ground to feed in preparation for winter hibernation. Current research suggests that the adults return to the ground to overwinter. In Nebraska, ABB have been found in association with soils composed of some clay with a prominent duff (litter) layer have also been observed.

Adult ABB are fully nocturnal and are typically active when night time temperatures reach 60° F. Thus, the ABB active period in Nebraska can be as long as April 1 to October 29, with peak periods of activity in June and August. The first peak active period in early summer (approximately June 7 to July 1) is after beetles have emerged from hibernation and prior to beetles going underground during the larvae rearing cycle. The second peak active period is in late summer (approximately August 7 to September 1), after the larval cycle when both senescent and teneral beetles are present. The ABB enter an inactive period spent underground throughout the winter when the nighttime low temperatures are consistently 60° F or below. In Nebraska, this typically occurs from October 29 to April 1.

## **Purpose**

Surveys for ABB are designed to ensure awareness and resolution to any potential conflicts between ABB and potentially disruptive human activities. To prevent conflict, two types of actions are recommended, depending on the location: **Presence/Absence Surveys and Capture/Relocation Conservation Measures**. In addition, **Maintaining Clear Activities** may be necessary depending on the situation. One factor when deciding which actions are necessary is the ABB Distribution Map (Attached). In areas of counties with ABB, first a Presence/Absence Survey should be conducted to determine if relocation is necessary. Habitat for ABB should assume presence and Capture and Relocation conservation measures should be implemented, followed by Maintaining Clear Activities.

These measures/surveys and activities are to occur in areas of suitable habitat in construction areas. Construction areas include areas that will be impacted by construction, where heavy equipment and materials will be staged and/or stored, all areas within the Limits of Construction, potential haul or temporary roads and borrow site areas. Areas of unsuitable habitat are defined below. Since this species is found in a variety of habitats, the NGPC and USFWS encourage the project proponent to discuss additional unsuitable habitat or potential habitat if the project proponent desires further guidance in determining where conservation activities are necessary.

If the project proponent chooses to conduct a survey, the Nebraska ABB Survey Protocol is recommended (See Attached). A valid section 10 permit from the USFWS and Scientific and Education Permit from the NGPC are required for anyone conducting such surveys. All survey

results, positive or negative, must be submitted in writing to these Agency offices for review prior to initiating any ground disturbing activities.

### **Presence Absence Survey (PA)**

An initial screening of the project may reduce the area where the PA survey is necessary. Urban areas dominated by pavement, areas dominated by row crop agriculture, and areas consistently inundated with water need not be surveyed for presence or absence. Wet meadows, often associated with wetlands and riparian areas are ideal habitat and cannot be eliminated. Open grassland areas with scattered cottonwood trees also represent potential habitat. If the project proponent chooses to reduce the PA survey area based on these habitat criteria, a revised area where the PA survey will be conducted should be submitted to the USFWS and the NGPC to ensure areas of potential habitat are not inadvertently omitted.

The PA Survey needs to be conducted when the ABB is active. Research suggests that when the average temperature at midnight is 60 degrees Fahrenheit or greater, detection results are the most consistent. The PA Survey for ABB may be conducted during this period when the average temperature at midnight is 55 degrees Fahrenheit or greater, however, false negative presence data may be obtained under these conditions. Each situation is unique and the project proponent will need to determine, based on local conditions if surveys are valid or if a repeat PA Survey is necessary. The USFWS and NGPC welcome questions as they arise during a survey. A photograph should be taken of each trap site and sent to the NGPC.

The Presence Absence Survey needs to be conducted for a minimum of 5 consecutive trap nights. If no beetles are captured during those 5 nights, the ABB is considered absent and the area is considered “clear.” This information needs to be sent to the USFWS NGPC. If the project has concurrence from these agencies, then *no further conservation measures are necessary and construction may begin*. If a beetle is caught anytime during those 5 days, this is considered a positive survey and the P/A may cease. Depending on the project, if capture and relocation measures are recommended, they may begin immediately if conditions are adequate. If capture and relocation measures will not follow the P/A survey, any ABB captured during the PA Survey should be released on site. Notify the USFWS and NGPC of any change of trapping type. Survey results must be submitted to both the NGPC and USFWS. A photo should be taken of the first ABB captured to serve as a voucher specimen.

### **Capture and Relocation (CR) Conservation Measure**

An initial screening of the project may reduce the area where the CR Conservation measure is necessary. Urban areas dominated by pavement, areas dominated by row crop agriculture, and areas consistently inundated with water need not have an attempt to remove ABB because the species would not be present there. Wet meadows, often associated with wetlands and riparian

areas are ideal habitat and cannot be eliminated. Open grassland areas with scattered cottonwood trees also represent potential habitat. If the project proponent decides to reduce the CR area based on these habitat criteria, a revised area where the CR Conservation measures will be conducted should be submitted to the USFWS and NGPC to ensure areas of potential habitat are not inadvertently omitted.

The CR Conservation Measures needs to be conducted when the ABB is active. Research suggests that when the average temperature at midnight is 60 degrees Fahrenheit or greater, detection and capture results are the most consistent. The CR Conservation Measure for ABB may be conducted during this period when the average temperature at midnight is 55 degrees Fahrenheit or greater, however, false negative presence data may be obtained under these conditions. Each situation is unique and the project proponent will need to determine, based on local conditions if surveys are valid or if a repeat is necessary. The USFWS and NGPC welcome questions as they arise during a survey or trapping series. A photograph should be taken of each trap site and sent to the NGPC.

When trapping for ABB, if weather conditions are unsuitable for trapping during the 5 consecutive days, it is not necessary begin the session again, but rather add one night to the end of the session. Unsuitable weather conditions include nights when the temperature drops below 55°F or it is raining.

Trapping for relocation must be conducted for a minimum of 5 consecutive nights. For an area to be “cleared” the last three consecutive nights must have no ABB. Any captured ABB must be moved to suitable habitat areas located at least 2 miles from the area of construction. Photo documentation of the release sites should be taken and submitted to the USFWS and NGPC. Upon completion of the capture and relocation measures, if the project is within the known ABB distribution, *Maintaining Clear Activities must be implemented within 3 days of establishing “clear,” regardless of the presence or absence of ABB.* If the project is not in the current distribution area of the map and no ABB were detected, no further conservation actions are necessary for that calendar year. Results of the survey must be submitted to both the NGPC and USFWS. A photo should be taken of the first ABB captured to serve as a voucher specimen.

If a site cannot be cleared by the capture and relocation procedure after 10 days of trapping, contact the USFWS and NGPC for additional guidance. This situation is considered unlikely, and will need to be dealt with on a case by case basis. Additionally, no more than 50 ABB should be moved to each re-location site.

If the project will impact suitable ABB habitat or impact areas of known ABB occurrences for multiple years, a new survey, the capture/relocation procedure and the standard conservation measures may be necessary for each year of construction. Surveys results are typically only

valid for one season. The sequence of construction will determine what measures are necessary. In this situation, it is recommended that the details and necessary measures be determined through the information consultation process between the NGPC and USFWS.

### **Maintaining Clear Activities**

The purpose of Maintaining Clear (MC) Activities is to ensure that once an area is “cleared” that ABB are not attracted to the site during construction. MC Activities are necessary when the ABB is active, so depending on the disturbance timeframe, the maximum time they may be necessary is from April 1 through September 15. Upon completion of Capture and Relocation Conservation Measures, Maintaining Clear Activities must be implemented within 3 days. However, these activities may be implemented prior to survey or capture/relocation completion. These activities are designed to deter ABB from utilizing the site, so it may be in the project proponent’s best interest to begin these activities as early as April 1. If only these activities are being implemented (if the clearing activities occurred the previous fall), then these activities should begin by April 15<sup>th</sup> if the construction will occur after that time. If construction will occur on or before April 15<sup>th</sup>, then these MC Activities should begin 2 weeks prior to April 15<sup>th</sup>.

The project proponent will prepare the area by removing any and all carcasses prior to construction. Carcasses as small as songbirds are ideal food for ABB, so this removal activity must be thorough. Carcass removal must continue until September 15 or until construction is completed, whichever is earlier. Carcass removal can be done at any time throughout the day, but the preferred timing is late afternoon. This will ensure that the nocturnal ABB is not drawn to the area by road kill caused by daytime traffic. Disposal of carcasses should be at least 0.5 miles from the project site.

In addition, the area of construction should be mowed such that the vegetation is as low as possible without causing erosion. This short vegetation height shall be maintained by the project proponent for the duration of the project. Along with mowing, the residual vegetation from mowing needs to be removed from the area. Possible methods are raking, windrowing or bailing. Alternatively, mowing can be done approximately every 2 weeks and the vegetation kept less than 8 inches tall. No vegetation removal is necessary if this height is maintained. All construction, work vehicles and personal vehicles should be staged in mowed areas.

Photo documentation of these MC activities is in the best interest of the project proponent. The USFWS and NGPC request that photographs of mowing and carrion that is removed be included in weekly reports to the Environmental Analyst (NGPC) and Fish and Wildlife Biologist (Service).

### **Unusual Circumstances**

This protocol was developed as a standard for most projects that may disturb ABB habitat, but unique situations may require an individualized approach. If the project proponent has an

alternative to the suggested conservation actions described in this protocol, the USFWS and NGPC will discuss potential alternative methods for avoiding take of ABB.

## Night Work and Light Pollution Concerns

Artificial light sources have been implicated in causing insect population losses (Pyle *et al* 1981). The ABB's attraction to artificial lighting could cause it to fly from suitable habitat resulting in excessive energy expenditure and reduced reproductive success as well as make it vulnerable to nocturnal predators such as other insects and bats. The USFWS and NGPC are aware that the ABB is attracted to ultraviolet light since several individuals have been trapped on other project areas using black light traps. In addition, forms of insect control used at residential areas, which involve the use of black lights as an attractant and a lethal electric grid have been known to kill ABBs.

To avoid attracting the ABB from nearby habitats to the proposed project site, it is recommended that the following conservation measures be implemented for permanent structures:

- No light traps should be used as a means of insect control.
- All exterior lighting sources should be low pressure sodium vapor lights;
- All exterior lighting should have downward shields installed to direct light to the ground and not illuminate the project area;
- All exterior lighting should be low mast to minimize light dispersion thereby reducing the attraction to the ABB;
- Where possible, a vegetative screen consisting of native trees and shrubs should be established between the proposed permanent facilities and nearby habitats that may harbor the ABB; and
- In areas of known ABB populations or where ABB have been positively identified night work may need to be restricted during the ABB active seasons due to potential impacts to the species.

The appropriate course of action involving all or a subset of the above bulleted items would need to be determined on a case by case situation.

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## **American Burying Beetle**

### **Qualification Criteria**

**April 2012**

It is important that individuals conducting research on the American burying beetle (ABB) meet the following qualifications for handling and surveying for the species. Survey work done incorrectly can cause unnecessary injury and/or mortality to the ABB. All potential Permit holders must have at least a bachelor's degree in wildlife management, entomology, biology, wildlife ecology, or similar field; or have worked in one of these fields for at least 10 years. All individuals range wide must operate under a Section 10(a)1(A) recovery permit, have undergone training, and have met the following qualifications prior to conducting surveys for the species.

#### **Qualifications**

- a) Provide citations for ABB literature reviewed to gain knowledge about the species before training begins.
- b) Familiarity with local and national survey protocols.
- c) Familiarity with ABB conservation measures.
- d) Training in the ability to identify suitable ABB habitat.
- e) Identification of ABB including sex, age (teneral/senescent), size, and other *Nicrophorus* species occurring in the state for which the applicant will be permitted.
- f) Trap preparation, bait selection and preparation, trap site selection, and trap installation.
- g) Under the supervision of a qualified surveyor, complete a whole field trapping sequence/cycle in which an ABB is captured. The cycle is to include trap installation, trap checking, burying beetle identification, bait checking and replacement, ABB handling, and release, relocation, trap removal, and site reclamation.
- h) Survey reporting and completion of all required forms, whether federal and/or state.
- i) Familiarity with a section 10 recovery permit, including special conditions for the ABB and annual reporting requirements.

Applications for a section 10 recovery permit will include the application for the permit, a curriculum vitae or resume, and signed documentation from the trainer attesting to the completion of all qualification requirements.

## **Appendix C**

### **Monitoring Program**

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## **Compliance Monitoring Program for the American Burying Beetle**

### **Keystone XL Pipeline**

The U.S. Department of State (DOS) will retain a third-party contractor to develop and implement an American burying beetle (ABB) monitoring program or ABB monitoring would be included as a possible wider project level monitoring program for the proposed Project to assure that the provisions of the USFWS's Keystone XL Pipeline Biological Opinion under section 7 of the Endangered Species Act (ESA) (16 U.S.C. § 1536(a) (2)) are met through monitoring and habitat reclamation activities. This monitoring program would be approved and overseen by DOS in consultation with USFWS. TransCanada Keystone Pipeline, LP (Keystone) would fund the monitoring program prior to construction of the proposed Keystone XL pipeline (Project) in the states of South Dakota and Nebraska.

Monitoring will not replace the environmental quality control plan or the actions that Keystone would put in place, but is in addition to those tasks and will serve as a quality control monitor on behalf of DOS. The monitoring program would include, but is not limited to, a combination of site visits and aerial surveillance to provide a reasonable level of confidence that avoidance, minimization, and mitigation measures are being followed during construction of the Project. Monitoring would include, but is not limited to, implementation of conservation measures and reasonable and prudent measures and associated term and conditions as identified in the BO, including ensuring that construction impacts match permitted footprint, and habitat restoration for the ABB. Monitoring will not include surveys for the ABB that are recommended to be conducted to monitor incidental take expected during the course of Project construction.

This monitoring program will identify the number of acres disturbed by the Project in the states of South Dakota and Nebraska, and the number of acres restored as described in Appendix D.

The third party contractor will monitor the project for four (4) years commencing on the date of construction of the proposed Project in the states of South Dakota and Nebraska. With concurrence of the DOS and the USFWS, the monitoring program may be continued for another four (4) years in the event of failure of habitat reclamation or delays in construction of the Project and/or reclamation activities.

The third-party contractor would undertake the following:

1. By October 1 of each year submit an annual monitoring plan for the following fiscal year in a letter to the DOS. This plan would include the anticipated work effort and schedule, subject to the variability of weather, construction season, etc.
2. Maintain monitoring logs, photographs, and documents and provide DOS a summarized monthly report during construction and a biannual report in the years after construction. At the end of this Agreement, all original files and documents will be provided to DOS with copies retained by USFWS.

3. Contact the DOS designated point of contact when listed conservation measures and Reasonable and Prudent Measures and Terms and Conditions set forth in the USFWS's Biological Opinion are not being met and work with DOS to remedy the situation(s).
4. Be available to DOS for meetings or phone calls concerning the proposed Project, as the agencies deem appropriate.
5. Have designated inspector(s) attend safety training or meet other requirements Keystone may have for inspector(s) to access construction job sites.
6. Recognize and support that DOS, in consultation with USFWS, will have final determination of appropriate remedies for any failures by Keystone to comply with the requirements of the USFWS Biological Opinion, exclusive of the Migratory Bird Treaty Act.

## **Appendix D**

### **American Burying Beetle Habitat Conservation Trust**

## **AGREEMENT**

### **Habitat Conservation Trust American Burying Beetle Habitat Keystone XL Pipeline**

U.S. Fish and Wildlife Service, U.S. Department of State, TransCanada Keystone Pipeline, LP

#### **PURPOSE**

This Agreement (Agreement) is entered into by and between the U.S. Fish and Wildlife Service (USFWS), the U.S. Department of State (DOS), and TransCanada Keystone Pipeline, LP (Keystone). The purpose of this Agreement is to establish responsibilities of the three parties for compensatory mitigation to offset temporary and permanent loss of habitat for the federally endangered American burying beetle (ABB) resulting from construction and operation of the proposed Keystone XL Project pipeline (Project) in the states of South Dakota and Nebraska consistent with the USFWS Biological Opinion, dated May 15, 2013.

Keystone agrees to provide compensation for temporary and permanent ABB habitat loss due to Keystone XL pipeline construction and operations in areas where the species is likely to be impacted including: south of Highway 18 in Tripp County in South Dakota and Keya Paha and Holt counties (north and west of Highway 281 or the City of O'Neil) in Nebraska (Attachment A).

Compensation is based on total acres impacted and has been modified by habitat quality rating multipliers with prime habitat compensation at 3 times the total impact acres, good habitat at 2 times the total impact acres, fair habitat at 1 times the total impact acres, and marginal habitat at 0.5 times the total impact acres. Rating multipliers were developed based on the temporal loss of habitat. Higher quality, prime habitat would reasonably be expected to be more important to ABB than marginal habitat and thus, its loss is reflective by applying a larger habitat multiplier. No compensation is required for poor habitat. Temporary habitat impacts are scaled for the period of time anticipated for recovery of vegetation cover at 4 years over the 50 year life of the Project or 8% of total calculated impacts. All compensation is based on habitat ratings and the number of acres affected, and is compliant with verbal agreements between DOS, USFWS and Keystone.

The ABB Habitat Conservation Trust (Trust) will be used to acquire lands and easements from willing sellers, and to develop conservation plans and agreements with landowners for protecting and enhancing ABB habitat in Nebraska and South Dakota. Additionally, up to 10 percent of the Trust funds may be used for appropriate research such as research on recolonization of ABB on disturbed sites and other research which would contribute to the recovery of the ABB. Funds will be placed with a nongovernmental organization (NGO) experienced and familiar with managing conservation trust funds or a similar mutually agreeable NGO. Habitat projects and land or easement acquisitions for the benefit of the ABB will be approved for funding by the NGO in coordination with USFWS offices in South Dakota and Nebraska. There will be no time limit on when the funds can be expended, but it is expected that most of the work and opportunities will occur within the first five years after the fund is established. To help ensure a continuous source of funds are available, 10% of the funds will go to a permanent endowment, also managed by the NGO for the long-term benefit

and management of endangered and other at risk species in Nebraska and South Dakota in coordination with the South Dakota and Nebraska USFWS offices and the Nebraska Game and Parks Commission.

**PAYMENT TERMS & SCHEDULE**

Keystone will establish a conservation trust to be managed by NCF/nongovernmental organization within six months of approval of the Presidential Permit for the proposed Project and prior to Project construction in South Dakota and Nebraska, consistent with funds transfer and accounting documents as may be required by the USFWS as calculated in Attachment A to this Agreement.

Total compensatory mitigation for ABB habitat impacts based on the attached valuation (Attachment A) is summarized in Table 1.

**Table 1. Compensatory Mitigation for ABB Habitat Impacts Resulting from Construction and Operation of the proposed Keystone XL Project.**

<b>Temporary ABB Habitat Impacts</b>			<b>Permanent ABB Habitat Impacts</b>		<b>Total</b>
<b>State</b>	<b>Acres</b>	<b>Value</b>	<b>Acres</b>	<b>Value</b>	
South Dakota	526.28	\$181,684.08	102.51	\$491,112	\$672,796.08
Nebraska	728.28	\$232,017.12	140.25	\$517,482	\$749,499.12
<b>Total</b>	<b>1,254.56</b>	<b>\$413,701.20</b>	<b>242.76</b>	<b>\$1,008,594</b>	<b>\$1,422,295.20</b>

**INDEPENDENT AUTHORITIES**

This agreement in no way diminishes the independent authorities or responsibilities of either the DOS or the USFWS.

**DESIGNATED POINTS OF CONTACT**

For USFWS:  
 Michael D. George  
 Project Leader, Nebraska Ecological Services, U.S. Fish & Wildlife Service, Grand Island, NE

For DOS: [reserved]

For Keystone:  
 Sandra Barnett  
 Environmental Manager  
 Keystone Pipeline Project  
 TransCanada Keystone Pipeline, L.P.

**EFFECTIVE DATE**

This agreement becomes effective upon approval by signature of USFWS, DOS, and Keystone.

**MODIFICATION AND/OR TERMINATION**

This Agreement may be modified upon agreement by all of the Parties.

This Agreement may be terminated by either the DOS or the USFWS upon 30 days notification to the other party. If there are any unspent funds from the amount transferred from Keystone to the conservation trust at the time of termination, such funds shall be returned to Keystone within 60 days of the date of termination of the Agreement.

**U.S. FISH & WILDLIFE SERVICE**

BY: \_\_\_\_\_ DATE \_\_\_\_\_

**TRANSCANADA KEYSTONE PIPELINE, LP**

BY: \_\_\_\_\_ DATE \_\_\_\_\_

**U.S. DEPARTMENT OF STATE**

BY: \_\_\_\_\_ DATE \_\_\_\_\_

**Attachment A: ABB Habitat Conservation Trust Calculations**

Table A1. Conservation measures to ameliorate impacts to ABB habitat resulting from construction and operation of the Keystone XL pipeline in South Dakota. Project spatial data supplied by Keystone were used by DOS to determine acres of habitat affected (DOS 2012).

**Permanent Impacts<sup>a</sup>**

Habitat Rating	ABB Acres Impacted	Modifier	Weighted Acres	Land Value/Acre (\$)	Amount (\$)
<b>Prime</b>	75.83	3	227.49	1,800	409,482
<b>Good</b>	21.34	2	42.68	1,800	76,824
<b>Fair</b>	0	1	0	1,800	0
<b>Marginal</b>	5.34	0.5	2.67	1,800	4806
<b>Total</b>	102.51				491,112

**Temporary Impacts<sup>b</sup>**

Habitat Rating	ABB Acres Impacted	Modifier	Weighted Acres	Land Value/Acre (\$)	Conservation Amount (\$)
<b>Prime</b>	325.94	3	977.82	1,800	1,760,076
<b>Good</b>	95.80	2	191.60	1,800	344,880
<b>Fair</b>	80.01	1	80.01	1,800	144,018
<b>Marginal</b>	24.53	0.5	12.26	1,800	22,077
<b>Total</b>	526.28				2,271,051

<sup>a</sup> Permanent impacts are caused by the placement of permanent above-ground facilities (i.e., pump stations), and the 22-foot corridor spanning the center of the pipeline ROW affected by heat dissipation from the operating pipeline.

<sup>b</sup> Temporary impacts are caused by temporary construction workspace, and construction of temporary access roads. Note: Miles are the same for both temporary and permanent impacts as both are calculated using the pipe centerline. Note: Temporary habitat impacts are scaled for the period of time anticipated for recovery of vegetation cover at 4 years over the 50 year life of the Project or 8% of total calculated impacts (0.08 x 2,271,051). Thus, the total amount contributed would be \$181,684.08.

Table A2. Conservation measures to ameliorate impacts to ABB habitat resulting from construction and operation of the Keystone XL pipeline in Nebraska. Project spatial data supplied by Keystone were used by DOS to determine acres of habitat affected (DOS 2012).

**Permanent Impacts<sup>a</sup>**

Habitat Rating	ABB Acres Impacted	Modifier	Weighted Acres	Land Value/Acre (\$)	Conservation Amount (\$)
Prime	61.47	3	184.41	1,800	331,998
Good	42.46	2	84.92	1,800	152,856
Fair	0	1	0	1,800	0
Marginal	36.32	0.5	18.16	1,800	32,482
<b>Total</b>	140.25				517,482

**Temporary Impacts<sup>b</sup>**

Habitat Rating	ABB Acres Impacted	Modifier	Weighed Acres	Land Value/Acre (\$)	Conservation Amount (\$)
Prime	365.57	3	1,096.71	1,800	1,974,078
Good	226.59	2	453.18	1,800	815,724
Fair	13.44	1	13.44	1,800	24,192
Marginal	122.68	0.5	61.34	1,800	110,412
<b>Total</b>	728.28				2,900,214

<sup>a</sup> Permanent impacts are caused by the placement of permanent above-ground facilities (i.e., pump stations), and the 22-foot corridor spanning the center of the pipeline ROW affected by heat dissipation from the operating pipeline.

<sup>b</sup> Temporary impacts are caused by temporary construction workspace, and construction of temporary access roads.

Note: Miles are the same for both temporary and permanent impacts as both are calculated using the pipe centerline

Note: Temporary habitat impacts are scaled for the period of time anticipated for recovery of vegetation cover at 4 years over the 50 year life of the Project or 8% of total calculated impacts (0.08 x 2,900,214). Thus, the total amount contributed would be \$232,017.12.

## **Appendix E**

### **Reclamation Performance Bond**

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## **Performance Reclamation Bond**

A reclamation performance bond will be established for a period of eight years. The bond will be applied to supplemental vegetation reclamation if restoration for American burying beetle (ABB) habitat failed, as discussed during consultation among the U.S. Department of State (DOS), U.S. Fish and Wildlife Service (USFWS), and Keystone. This performance bond will be accessible and executed by DOS, or a third party at the discretion of the DOS, if and when disturbed land in the ABB habitat area, as defined by the Biological Assessment (BA) (DOS 2012), should fail to revegetate in a manner outlined below, and Keystone fails to take corrective action. Release of the bond will be solely at the discretion of DOS after soliciting recommendations from the USFWS and the Nebraska Game and Parks Commission.

### **Bond Stipulations**

Bond covers cost of supplemental reclamation for failure of land to appropriately revegetate, starting four years after commencement of construction.

Bond coverage is limited to ABB habitat areas as defined in the BA (except for smaller areas within ABB habitat that are unsuitable for beetle occupation, such as crests of windblown hills).

Successful reclamation criteria:

- Reclamation will be measured four years after the commencement of construction.
- For reclamation to be deemed successful, native grasslands restored on the right-of-way (ROW) must be comparable to those on adjacent undisturbed lands.
- 70 percent of the dominant species on the ROW must be the same as those that occur on adjacent off-ROW lands.

Reclamation success will be determined by inspection of the defined areas jointly by Keystone and DOS or its designated agent.

Reclamation will not be deemed successful on private lands where the landowner makes alterations to the seed mix proposed in the project's CMRP and Con/Rec unit.

The value of the bond will be based on an assumed reclamation 10 percent failure rate, using the market cost of seed and an appropriate labor cost totaling \$300/acre, and the habitat acreages and multipliers reflected on the attached spreadsheet. On this basis, the initial amount of the bond will be \$113,899.62.

At year four, the bond amount will be adjusted to reflect the actual acreage where reclamation has not met the reclamation criteria. Each year after year four, for the duration of the bond period, the bond amount will be readjusted to reflect the remaining acreage that has not met the reclamation criteria.

If Keystone should fail to meet the conditions of these bond stipulations, funds from the bond up to the full amount available, will be released to DOS or its designated agent(s) to complete the reclamation work.

**Performance Bond Calculations for ABB habitat reseeded failure**

<b>Habitat Quality Rating</b>	<b>SD Acres</b>	<b>NE Acres</b>	<b>Total</b>	<b>Quality Multiplier</b>	<b>Acreage Value</b>
<b>TEMP Prime</b>	325.94	365.57	691.51	3	2,074.53
<b>TEMP Good</b>	95.80	226.59	322.39	2	644.78
<b>TEMP Fair</b>	80.01	13.44	93.45	1	93.45
<b>Total potential ABB acres affected</b>					<b>3451.54</b>
<b>10% Failure rate after 4 years (acres)</b>					345.15
<b>10% Failure rate after 8 years (acres)</b>					34.52
<b>Total acres for performance bond</b>					379.67
<b>Total Bond (acres x \$300)</b>					113,899.62

## **Appendix F**

### **Whooping Crane Survey Protocol**

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## Whooping Crane Fact Sheet



Whooping Cranes in Flight



Foraging Whooping Cranes



Adult with juvenile

The Whooping Crane (*Grus americana*) is a federal and state listed endangered migratory species. The Whooping Crane was federally listed as endangered in 1967. Major river systems used by whooping cranes in Nebraska include the Platte, Loup, Republican, and Niobrara rivers. Additionally, a 3-mile-wide, 56-mile-long reach of the Platte River between Lexington and Denman, Nebraska, has been federally designated as critical habitat for whooping cranes. (Information from U.S. Fish and Wildlife Service)

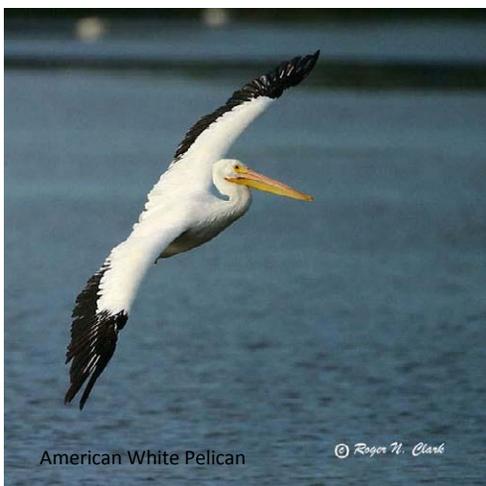
### Whooping Crane (*Grus americana*)

**Order:** *Gruiformes*

**Family:** *Gruidae*

**Status:** State and Federally Endangered. **Description:** L 52"(132 cm) W 87"(221 cm). Sexes similar but males are larger. White body with red and black facial markings. Yellow bill and long dark legs. Immature is white with tawny head and neck, and reddish-brown mottling on rest of body. **Habitat:** In Nebraska is found along the Platte Valley, with its wide slow moving river and associated sandbars and islands. Nearby wet meadows, croplands, and marshlands are important for foraging. **Status/Range:** Occasional spring and fall migrant along Platte Valley. 90% of sightings within 30 miles of Platte River, and 80% occurred between Lexington and Grand Island. **Call:** Shrill "ker-loo-ker-lee-loo" trumpet. **Comments:** Endangered. Management and protection programs slowly succeeding.

**Similar:** Sandhill Crane, Snow Geese, and especially American White Pelicans in flight: (Information from Nebraska Game and Parks Commission website)



The Whooping Crane is one of the rarest birds in North America and also one of the largest. Whooping cranes are vulnerable to accidents during migration. Each spring they travel north from their wintering grounds around Aransas National Wildlife Refuge in Texas to their breeding grounds in Wood Buffalo National Park in central Canada (2,400 miles). Each fall this route is reversed. Their journey traverses eastern Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas. In Nebraska, they stop to rest and feed on the Platte, North and Middle Loup and Niobrara Rivers. (Information taken from the USFWS Draft Revised International Whooping Crane Recovery Plan Jan 2005)

## Whooping Crane Survey Protocol

*Whooping Cranes can be disturbed by sight (human figures, equipment within sight) and sound (loud equipment, banging, etc.) that are abnormal (roadway traffic is normal), therefore surveys are needed to ensure disturbance is minimized.*

### Dates of Survey:

- Spring Migration – March 23 – May 10
- Fall Migration – September 16 – November 16
- Surveys should be conducted daily during these two time frames.

### **Bridge Projects (Roosting Survey)**

#### Time of Survey:

- Prior to sunrise (published clock time) to make use of the beginning daylight hours, record start and stop time
- *Optional* evening survey (after 4:00 pm) to check for birds potentially coming into roost
- Do east side of bridge first to reduce glare from sun.

#### Method of Survey:

- Stand at the four corners of the bridge – look at all up and down stream channels as far as you can see
- Use binoculars or spotting scope
- Watch for at least 15 minutes overall
  - Look for bird movements – possibly moving within channel among vegetation
  - Look for Whooping Cranes among Sandhill Crane groups
- If cloudy, overcast or foggy and visibility is reduced to below 0.5 miles, allow time for clearing– take additional time to ensure the best survey possible

### **Linear Projects (Foraging Survey)-not crossing a major river**

#### Time of Survey:

- Survey project within one hour of start of workday, with at least one survey done no later than 10 am. Record start and stop time.
- Survey using binoculars or spotting scope area within 0.5 miles of project.

*\*\*For projects which are a combination of bridge and linear work use both methods.\*\**

**If Whooping Cranes are not seen during the morning survey, work may begin after completion of the survey.**

#### **If Whooping Cranes are spotted within 0.5 miles of the active construction:**

- Do not start work. Contact the Commission or the USFWS for further instruction.
- Stop work if seen at times other than the morning survey.
- Work can begin or resume if birds move off; record sighting, bird departure time, and work start time on survey form.

## **Appendix G**

**Western Prairie Fringed Orchid**

**Habitat Conservation Trust**

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## **AGREEMENT**

### **Habitat Conservation Trust**

Western Prairie Fringed Orchid Habitat

Keystone XL Pipeline

U.S. Fish and Wildlife Service, U.S. Department of State, TransCanada Keystone Pipeline, LP

### **PURPOSE**

This Agreement (Agreement) is entered into by and between the U.S. Fish and Wildlife Service (USFWS), the U.S. Department of State (DOS), and TransCanada Keystone Pipeline, LP (Keystone). The purpose of this Agreement is to establish responsibilities of the three parties for compensatory mitigation to offset loss of habitat for the federally threatened western prairie fringed orchid (WPFO) resulting from construction and operation of the proposed Keystone XL Project pipeline (Project) in the states of South Dakota and Nebraska consistent with the USFWS's Biological Opinion, dated May 15, 2013.

Keystone agrees to provide compensation for impacts to the western prairie fringed orchid through a Habitat Conservation Trust (Trust) in areas where the species is likely to be found including: southwest of Highway 18 in Tripp County, South Dakota and Keya Paha, Holt, Rock, Antelope, and Boone counties in Nebraska. Compensation will be based on total acres impacted where suitable western prairie fringed orchid habitat is present, regardless of presence/absence survey results. Compensation will be calculated based on total acres impacted (currently unknown) multiplied by 31 percent, the probability of encountering a western prairie fringed orchid in suitable habitat during the course of habitat survey work (NGPC 2013). Habitat surveys will be used to evaluate western prairie fringed orchid habitat. The resultant acreage will be designated as WPFO potentially occupied habitat. A 3:1 habitat mitigation ratio would be applied to the WPFO potentially occupied habitat to offset temporal loss of habitat between the time construction begins and the time orchid habitat is fully restored. The resultant mitigation total acres would be multiplied by the value of an acre of land.

Funds will be placed with a nongovernmental organization (NGO) experienced and familiar with managing conservation trust funds or another mutually agreeable NGO. The Trust will be used by the NGO to acquire lands and easements from willing sellers, and to develop conservation plans and agreements with landowners for protecting and enhancing WPFO habitat in Nebraska and South Dakota. Additionally, up to 10 percent of the Trust funds may be used for appropriate research which would contribute to the recovery of the WPFO. Habitat projects and land or easement acquisitions for the benefit of the WPFO will be approved for funding by the nongovernmental entity in coordination with the South Dakota and Nebraska USFWS offices. There will be no time limit on when the funds can be expended after the fund is established. To help ensure a continuous source of funds are available, 10 percent of the funds will go to a permanent endowment, also managed by the NGO, for the long-term benefit and management of endangered and other at risk species in

coordination with the South Dakota and Nebraska USFWS offices and the Nebraska Game and Parks Commission.

**PAYMENT TERMS & SCHEDULE**

Keystone will establish a conservation trust to be managed by a NGO within six months of approval of the Presidential Permit for the proposed Project and prior to Project construction in South Dakota and Nebraska, consistent with funds transfer and accounting documents as may be required by the USFWS as calculated in Attachment A to this Agreement.

Total compensatory mitigation for WPFO habitat impacts is based on the attached valuation (Attachment A) and is summarized in Table 1.

**Table 1. Compensatory Mitigation for WPFO Habitat Impacts Resulting from Construction of the proposed Keystone XL Project.**

**Permanent WPFO Habitat Impacts**

<b>State</b>	<b>Acres</b>	<b>Value (\$)</b>
South Dakota	X	Z3(X(.31))
Nebraska	X	Z3(X(.31))

**Total**

**INDEPENDENT AUTHORITIES**

This agreement in no way diminishes the independent authorities or responsibilities of either the DOS or the USFWS.

**DESIGNATED POINTS OF CONTACT**

For USFWS:  
Michael D. George  
Project Leader, Nebraska Ecological Services, U.S. Fish & Wildlife Service, Grand Island, NE

For DOS: [reserved]

For Keystone:  
Sandra Barnett  
Environmental Manager  
Keystone Pipeline Project  
TransCanada Keystone Pipeline, L.P.

**EFFECTIVE DATE**

This agreement becomes effective upon approval by signature of USFWS, DOS, and Keystone.

**MODIFICATION AND/OR TERMINATION**

This Agreement may be modified upon agreement by all of the Parties.

This Agreement may be terminated by either the DOS or the USFWS upon 30 days notification to the other party. If there are any unspent funds from the amount transferred from Keystone to the conservation trust at the time of termination, such funds shall be returned to Keystone within 60 days of the date of termination of the Agreement.

**U.S. FISH & WILDLIFE SERVICE**

BY: \_\_\_\_\_ DATE \_\_\_\_\_

**TRANSCANADA KEYSTONE PIPELINE, LP**

BY: \_\_\_\_\_ DATE \_\_\_\_\_

**U.S. DEPARTMENT OF STATE**

BY: \_\_\_\_\_ DATE \_\_\_\_\_

**Attachment A: WPFO Habitat Conservation Trust Calculations**

Table A1. Conservation measures to ameliorate impacts to WPFO habitat resulting from construction of the Keystone XL pipeline in South Dakota. Data used to develop this table is from DOS (2012) and based on habitat surveys conducted in summer 2013.

**Permanent Impacts (South Dakota)**

<b>WPFO Suitable Habitat Acres Impacted</b>	<b>Probability of Encounter</b>	<b>Acres likely Encountered</b>	<b>Modifier</b>	<b>Weighted Acres</b>	<b>Land Value/Acre (\$)</b>	<b>Amount (\$)</b>
X	31%	X(.31)	3	3(X(.31))	Z	Z3(X(.31))

Table A2. Conservation measures to ameliorate impacts to WPFO habitat resulting from construction of the Keystone XL pipeline in Nebraska. Data used to develop this table is from DOS (2012) and based on habitat surveys conducted in summer 2013.

**Permanent Impacts (Nebraska)**

<b>WPFO Suitable Habitat Acres Impacted</b>	<b>Probability of Encounter</b>	<b>Acres likely Encountered</b>	<b>Modifier</b>	<b>Weighted Acres</b>	<b>Land Value/Acre (\$)</b>	<b>Amount (\$)</b>
X	31%	X(.31)	3	3(X(.31))	Z	Z3(X(.31))