Appendix I

Supporting Meeting Summaries, Consultation Letters and Communications

Steele City Communications

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location ENSR

Date/Time of Contact June 11, 2008 / 1:27 p.m.

KXL Team Member(s) Patti Lorenz

Contact Information:

Name	Charlene Besskin
Title	Fish and Wildlife Biologist / TWS Certified Wildlife Biologist
Organization	USFWS South Dakota Field Office
Address	420 South Garfield Avenue, Suite 400 Pierre, SD 57501
County	
Phone	(605) 224-8693 Ext. 231
Email address	Charlene_Bessken@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ___ _Email_____

Issue: Data request___ Concern Level: High___Moderate_x__Low__.

Description:

See email below:


Required Reading for Users of the Whoopir


Reason for Redistributed Migratic


StateSpecific_SD_Fly way.zip


Whooping_Crane_Co nfirmed_Sightings_Th

block_cleared_2005_2.zip

Patti,

Below are the Whooping Crane GIS materials.

Also the map showing that SD is block-cleared for black-footed ferrets.

(See attached file: block_cleared_2005_2.jpg)

Did a quick check for Swift Fox survey protocol and found none - but you could check the bibliography on the official website . . . .

http://wildlife.state.co.us/WildlifeSpecies/GrasslandSpecies/SwiftFoxConservationTeam.htm

Still checking on USFWS easements in western South Dakota.

Cheers,
Charlene "Charlie" Bessken
Fish and Wildlife Biologist / TWS Certified 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
http://www.fws.gov/southdakotafieldoffice

----- Forwarded by Charlene Bessken/R6/FWS/DOI on 06/11/2008 02:20 PM -----

Natalie Gates/R6/FWS/DOI
06/09/2008 11:36 AM

To: Charlene Bessken/R6/FWS/DOI@FWS
cc: Pete Gober/R6/FWS/DOI@FWS
Subject: Fw: Final Whooper Migration map?

----- Forwarded by Natalie Gates/R6/FWS/DOI on 06/09/2008 11:35 AM -----

Martha Tacha/R6/FWS/DOI
05/28/2008 12:16 PM

To: Natalie Gates/R6/FWS/DOI@FWS
cc:
Subject: Re: Final Whooper Migration map?
(Document link: Natalie Gates)

Hi, Natalie.

Attached are the confirmed sightings (through Fall 2007) and migration corridor shapefiles (zipped) for SD. I don't have all the Spring 2008 sightings entered, yet, but will enter the SD sightings first and get you the updated file soon.

The migration corridor analyses have been redone in UTM due to a glitch

associated with how the ArcMap software buffered the data in the geographic projection (I'm stretching myself here, so you need to refer to the attached explanation for the update/redistribution from our GIS guy, Justin). The corridor analysis is based on sightings through Spring 2007, as before. We probably won't redo that every year, since the corridors wouldn't change that much.

You need to unzip these zip files (there are seven individual files that comprise each shapefile) and then import the shapefile into a GIS (ArcMap, if you have it) in order for them to work. Do you have a GIS person in your office? Once you have the shapefiles on your system, you can manipulate them to make any sort of maps you want, export data, etc.- it's really handy.

Let me know if you need something further. I'm bunched up with a backlog of work to get through, but high on the list is re-distributing the UTM migration corridors to the ES offices in the Flyway. [You just get the first out the gate. :-)] I'm pretty backed up, but can make you a .jpg of South Dakota corridors if you need that right away.

Take care.
Martha

Martha C. Tacha
U.S. Fish and Wildlife Service
203 West Second Street
Grand Island, NE 68801
Phone: 308.382.6468, ext 19
Fax: 308.384.8835

(See attached file: Whooping_Crane_Confirmed_Sightings_Thru_Fall_2007.zip) (See attached file: StateSpecific_SD_Flyway.zip)(See attached file: Reason for Redistributed Migration Corridors.doc)(See attached file: Required Reading for Users of the Whooping Crane Migration GIS.doc)

Issue:_____ **Concern Level: High__Moderate__Low__.**

Description:

Required Reading for Users of the Whooping Crane Tracking Project Database

CWCTP-GIS data or derivatives thereof (e.g., shape files, jpegs) may not be distributed or posted on the Internet without this explanatory document.

The Cooperative Whooping Crane Tracking Project (CWCTP) was initiated in 1975 to collect a variety of information on whooping crane migration through the U.S. portion of the Central Flyway. Since its inception in 1975, a network of Federal and State cooperating agencies has collected information on whooping crane stopovers and funneled it to the U.S. Fish and Wildlife Service (Service) Nebraska Field Office where a database of sighting information is maintained. The WCTP database includes a hardcopy file of whooping crane sighting reports and a digital database in various formats based on those sighting reports. A subset of the database along with sight evaluation (habitat) information collected between 1975 and 1999 was summarized by Austin and Richert (2001).*

In the Fall of 2007, the CWCTP database was converted to a GIS format (ArcGIS 9.2) to facilitate input, updates, and provide output options in a spatial context. During this process, inconsistencies between the digital database and sighting report forms were identified and corrected. Location information in various formats was derived from data in the corrected database, and new fields were added to the corrected database (e.g., latitude and longitude in decimal degrees, an accuracy field, and location comment field). The attached file contains observation data through the 2007 Fall migration and is referred to as the CWCTP-GIS (2007).

The appropriate use of the CWCTP-GIS is constrained by limitations inherent in both the GIS technology and bias inherent in any database comprised of incidental observations. Without an understanding of the assumptions and limitations of the data, analyses and output from the spatial database can result in faulty conclusions. The following assumptions and characteristics of the database are crucial to interpreting output correctly. Other, unknown biases also may exist in the data.

- First and foremost, the database is comprised of incidental sightings of whooping cranes during migration. Whooping cranes are largely opportunistic in their use of stopover sites along the Central Flyway, and will use sites with available habitat when weather or diurnal conditions require a break in migration. Because much of the Central Flyway is sparsely populated, only a small percent of stopovers are observed, those observed may not be identified, those identified may not be reported, and those reported may not be confirmed (only confirmed sightings are included in the database). Based on the crane population and average flight distances, as little as 4 percent of crane stopovers are reported. *Therefore, absence of documented whooping crane use of a given area in the Central Flyway does NOT mean that whooping cranes do not use that area or that various projects in the vicinity will not potentially adversely affect the species.*

- In the database, the location of each sighting is based on the first observation of the crane group even though, in many cases, the group was observed at multiple locations in a local area. For this and other reasons described below, only broad-scale analyses of whooping crane occurrences are appropriate. GIS **cannot** be legitimately used with this database for measurements of distance of whooping crane groups from various habitat types or

geographic entities (i.e., using various available GIS data layers). In addition, point locations of whooping crane groups known to roost in various wetlands or rivers may not coincide with those wetlands. The user needs to refer to the attribute table or contact the Nebraska Field office for more specific information on individual observations.

- Precision of the data: When a "Cadastral" location (Township, Range, Section, ¼-Section) was provided on the original sighting form, the geographic point representing that sighting was placed in the center of the indicated Section or ¼-Section and the latitude and longitude of that point were recorded in degrees, minutes, and seconds (DMS). These records are indicated by "Cadastral" in the accuracy field. When Cadastral information was lacking, DMS latitude and longitude were derived by adding seconds (00) to the degrees and minutes of latitude and longitude originally estimated and recorded on the observation form. These observations are identified by "Historic" in the accuracy field. GPS latitude and longitude were used when available, but when none of the above were reported, the point was placed on text description of location (e.g., 3 miles N of Denton), and identified in the accuracy field with "Landmark". DMS latitude and longitude were converted to decimal degrees, which were used to populate the GIS data layer.

- Bias: Bias is an inherent characteristic of any data obtained through incidental sightings. That is, for the subset of crane use that is recorded, relatively more sightings are recorded in areas such as national wildlife refuges where knowledgeable observers are available to look for cranes and report their presence. Conversely, areas of high use may not be documented due to the absence of observers. However, use of areas such as national wildlife refuges is also determined to some extent by habitat management on the areas and availability of alternative habitat in the region. For these reasons, representations of the crane migration corridor based on percent of confirmed sightings should be interpreted conservatively, particularly in Oklahoma and Kansas where a high percent of sightings occur on a few national wildlife refuges. Whooping crane migration patterns and subsequent observations were also likely influenced by regional weather patterns such as wind and precipitation, as well as local farming practices which influence food availability. Factors such as these vary among regions and years and were not considered in this database.

The CWCTP-GIS (2007) will be updated annually following the Fall migration and distributed to State cooperators and Fish and Wildlife Service Ecological Services Field Offices in the Central Flyway. Contact information for these offices can be found at http://www.fws.gov. Federal regulatory agencies and project proponents should contact the appropriate Fish and Wildlife Service for help in evaluating potential project impacts to the endangered whooping crane.

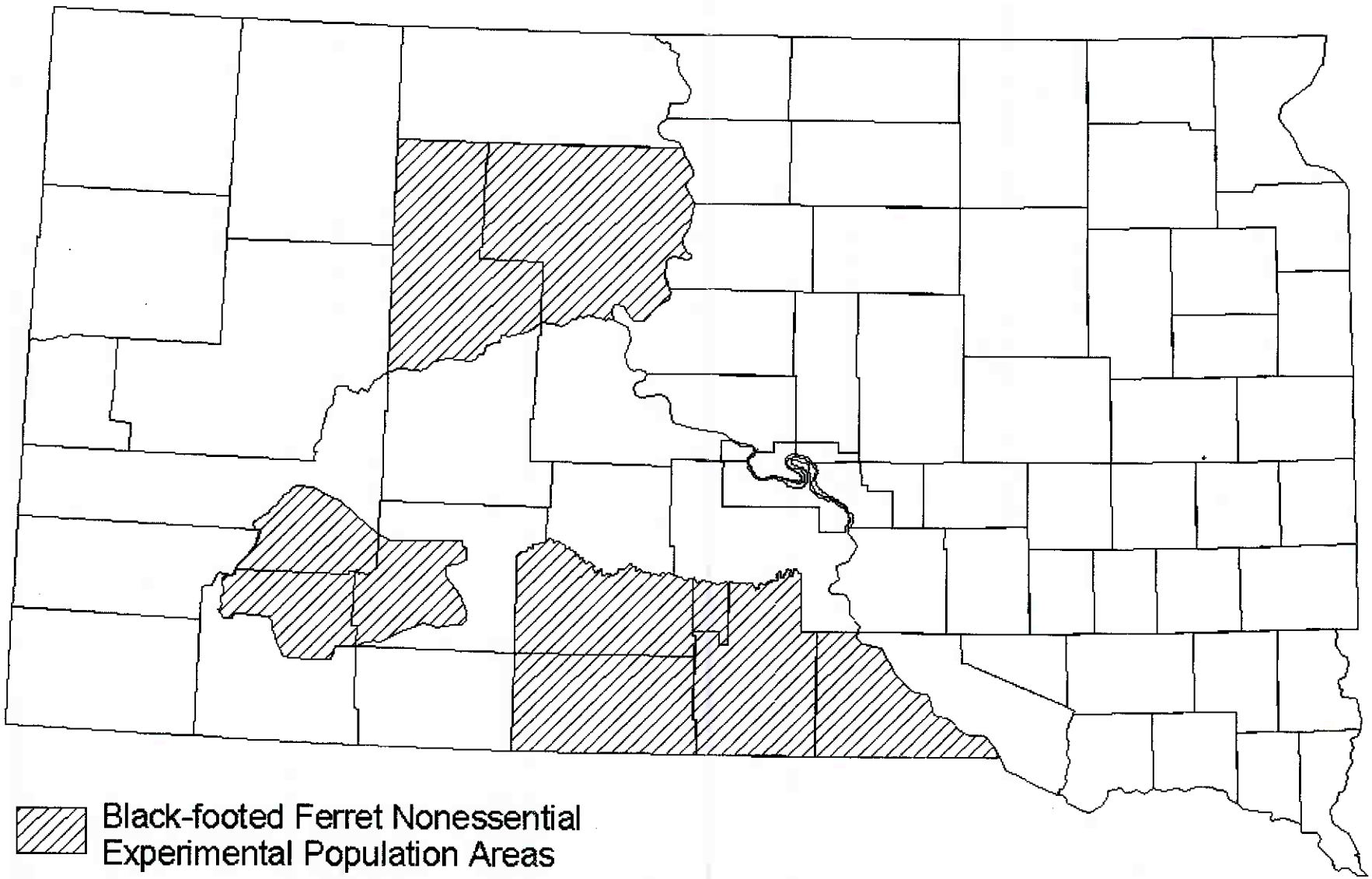
* Austin, E.A. and A.L. Richert. 2001. A comprehensive review of observational and site evaluation data of migrant whooping cranes in the United States, 1943-99. U.S. Geological Survey. Northern Prairie Wildlife Research Center, Jamestown, North Dakota, and State Museum, University of Nebraska, Lincoln, Nebraska. 157 pp.

Reason for Redistributed Migration Corridors

The intent of the frequency analysis was to define the average number of sightings that took place within certain distances of the corridor centerline. Arbitrarily, the distance of 5 miles was chosen. Buffers were drawn in ArcMap using 5 mile increments as the buffer distance. The first series of flight corridors were buffered in the North American Datum 1983 Geographic Coordinate System. Due to that map projection, the buffers did not turn out in consistent increments. While the frequencies calculated on these buffers (and the flyways derived from these frequencies) are not incorrect, the fact that the analysis was difficult to repeat was undesirable.

The flyway analysis has now been reworked in the UTM NAD 83 ZONE 14 projection. This projection provides the expected 5 mile buffer zones, and is easier to understand and repeat. The resulting flyway corridors are very similar in width to the original analysis, but vary slightly in shape in the extreme north and south. In addition the corridors now maintain a much more consistent distance from the flyway centerline over the entire length of the flyway.

South Dakota



Black-footed Ferret Nonessential
Experimental Population Areas

Entire State has been Block Cleared for Black-footed Ferrets

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location	ENSR
Date/Time of Contact	July 1, 2008 / 8:23 a.m.
KXL Team Member(s)	Patti Lorenz (ENSR)

Contact Information:

Name	Martin Miller
Title	Data assistant
Organization	Montana Natural Heritage Program
Address	1515 E 6th Ave. PO Box 201800 Helena, MT 59620-1800
County	
Phone	(406) 444-3290
Email address	Miller, Martin [martinm@mt.gov]

Contact Information:

Type of Contact (phone, in-person, etc.): email

Issue: Heritage data request **Concern Level: High___Moderate___Low_x_.**

Description:

Hi, Patti,

I've placed a zip file, named "XL_soc.zip", on our ftp site at: ftp://nris.mt.gov/ . It contains shapefiles for Species of Concern (SOC), ecological sites (sites), a cover letter, explanatory material, metadata (metadata for sites is not available) and an Excel spreadsheet (gen_desc.xls) that contains habitat descriptions for data in the SOC shapefile. The data can be linked on EO_ID.

Please let me know when you have downloaded the data so I can remove it from the ftp site and let me know if you have any questions.

Thanks,

Martin Miller
(406) 444-3290
Data Assistant
Montana Natural Heritage Program

From: Lorenz, Patricia [mailto:plorenz@ensr.aecom.com]
Sent: Monday, June 30, 2008 3:06 PM
To: Miller, Martin
Subject: RE: Data Request for proposed pipeline project

Thank you Martin. It's on the way.

Patti Lorenz
Biologist
ENSR | AECOM
1601 Prospect Parkway
Fort Collins, CO 80525
T: (970) 493-8878 x3410
F: (970) 493-0213
plorenz@ensr.aecom.com

From: Miller, Martin [mailto:martinm@mt.gov]
Sent: Monday, June 30, 2008 11:16 AM
To: Lorenz, Patricia
Subject: Data Request for proposed pipeline project


data use agreement
.doc

Hi, Patti,

Adam Messer passed along your request for information on Montana plant and animal species of concern. He passed along the shapefiles you emailed him and they will be helpful in processing your request.

In order to provide you with GIS information, I'm required to obtain a signed data use agreement. An example document is attached. Please read it. If it looks acceptable, sign it and fax it to me at 406-444-0581.

Let me know if you have any questions.

Thanks,

Martin Miller
(406) 444-3290
Data Assistant
Montana Natural Heritage Program

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

July 8, 2008

RE: TransCanada Pipeline in western South Dakota

Patti Lorenz, Biologist
ENSR
1601 Prospect Parkway
Fort Collins, CO 80525

Patti:

As requested, I have searched the South Dakota Natural Heritage Database for records of rare, threatened or endangered plants and animals. The enclosed CD has the shapefiles and associated data.

The lack of records for any location along the route does not indicate absence of rare or T&E species. Most of the area along the proposed pipeline has probably never been biologically surveyed.

The shapefiles show the known occurrences of rare or T&E species. The large circles do not indicate occupied habitat, instead they indicate precision of the locational data. If a record, a museum specimen for example, only gives a location such as "near Faith, SD", we use a general precision record (within five miles) and that is indicated by the large circles. Smaller circles indicate better precision.

The large polygon in the lower portion of the route is the area known to be occupied by the American burying beetle, *Nicrophorus americanus*. All of this area is potential habitat for this endangered insect. The highest population densities are in southern Tripp County and in SW Gregory County.

If you have any questions, please contact me.

Sincerely,

Doug Backlund
Wildlife Biologist

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

INVOICE

July 8, 2008

ENSR
1601 Prospect Parkway
Fort Collins, CO 80525

ATTN: Patti Lorenz

1 hour of staff time @ $30.00 per hour	$60.00
One computer search @ $30.00 per search	$30.00
TOTAL	**$90.00**

For review of the following project sites:

TransCanada Pipeline-Western South Dakota

Make check payable to **SD Dept. of Game, Fish and Parks**

Submit payment to:

South Dakota Dept. of Game Fish and Park
523 E. Capitol-Foss Bldg.
Pierre, SD 57501
ATTN: Doug Backlund

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location	ENSR
Date/Time of Contact	July 9, 2008 / 11:54 a.m.
KXL Team Member(s)	Patti Lorenz (ENSR)

Contact Information:

Name	Doug Backlund
Title	
Organization	S. D. Dept. of Game Fish and Parks S.D. Natural Heritage Program
Address	523 E. Capitol-Foss Bldg. Pierre, S.D. 57501
County	
Phone	
Email address	Doug.Backlund@state.sd.us

Contact Information:

Type of Contact (phone, in-person, etc.): ___email_____

Issue: Geotech Work__ **Concern Level:** High_x__Moderate___Low___.

Description:

Patti:

It is unlikely that there are any state or federal listed species that would be disturbed. Keep in mind that this work is scheduled within the whooping crane migration period. It is very unlikely that whooping cranes would show up at one of these sites, but it is possible.

Doug

Doug Backlund
S. D. Dept. of Game Fish and Parks
S.D. Natural Heritage Program
523 E. Capitol-Foss Bldg.
Pierre, S.D. 57501

http://www.sdgfp.info/wildlife/diversity/Index.htm

-----Original Message-----
From: Lorenz, Patricia [mailto:plorenz@ensr.aecom.com]
Sent: Thursday, September 11, 2008 12:42 PM
To: Charlene_Bessken@fws.gov; Kirk, John (GFP, Pierre); Backlund, Doug

FOR INTERNAL KXL PROJECT USE ONLY

Subject: KXL - Request for information regarding geotechnical work

Charlie, John, and Doug:

KXL would like to begin geotechnical investigations at proposed HDD locations along the route. They would like to conduct the work between October 13 and November 13, 2008. Below is a description of the work that will be conducted:

"**Geotechnical investigations** - In specific areas, such as large river or road crossings, geotechnical teams would identify subsurface soil and bedrock characteristics. At these geotechnical bore sites, a truck-mounted drilling rig would drill a three- to six-inch-diameter hole and obtain soil and bedrock samples. Typically, two to four small trucks with trailers support this work. If required, TransCanada would request landowner permission to move heavy equipment to and from the survey site. After completion, the boreholes are completely back-filled, and the work site restored."

I would like to request any information on potential T&E / wildlife conflicts and any corresponding mitigation or permits required. Attached are maps of the locations for these investigations. Please give me a call with any questions or concerns. Thank you for your attention to this request.

Sincerely,

Patti Lorenz
Biologist
ENSR | AECOM
1601 Prospect Parkway
Fort Collins, CO 80525
T: (970) 493-8878 x3410
F: (970) 493-0213
plorenz@ensr.aecom.com

Follow-up Required / Requested

Additional Comments

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location ENSR

Date/Time of Contact July 9, 2008 / 11:54 a.m.

KXL Team Member(s) Patti Lorenz (ENSR)

Contact Information:

Name	Doug Backlund
Title	
Organization	S. D. Dept. of Game Fish and Parks S.D. Natural Heritage Program
Address	523 E. Capitol-Foss Bldg. Pierre, S.D. 57501
County	
Phone	
Email address	Doug.Backlund@state.sd.us

Contact Information:

Type of Contact (phone, in-person, etc.): email

Issue: Heritage data request **Concern Level:** High___Moderate___Low_x_.

Description:

Patti:

I have searched the SD Natural Heritage Database for records of rare, threatened and endangered plants and animals in a five-mile buffer along the TransCanada pipeline route. I will send the shapefiles and associated data table along with an invoice.

The only critical habitat that has been designated by the FWS in SD is along the Missouri River and all outside of the project area, to the best of my knowledge. However, you should verify that with the US FWS.

I do not have data or shapefiles for locations of big game ranges, federal and state owned properties or state and federal conservation easements. I'm cc'ing (and forwarding the shapefiles for the pipeline route) to Chris Marsh, our agency GIS specialist. He will be able to help you with the state land ownership and easement layers. You will need to contact the US FWS for the federal conservation easements.

As far as data on big game ranges, I'd recommend contacting Tom Kirschenmann (phone: 605) 773-4193 Tom.Kirschenmann@state.sd.us). Tom is our game staff specialist and will be able to answer questions regarding big game ranges.

Let me know if you have any further questions.

Doug

Doug Backlund
S. D. Dept. of Game Fish and Parks
S.D. Natural Heritage Program
523 E. Capitol-Foss Bldg.
Pierre, S.D. 57501

http://www.sdgfp.info/wildlife/diversity/Index.htm

-----Original Message-----
From: Lorenz, Patricia [mailto:plorenz@ensr.aecom.com]
Sent: Thursday, June 19, 2008 12:10 PM
To: Backlund, Doug
Subject: RE: swift fox survey protocol

Hello Doug,

I wanted to check in with you regarding a heritage data request. In order to address potential impacts to aquatic and terrestrial plant and animal species, ENSR would like to request occurrence data, including shapefiles, for:

- Federally listed, proposed, and candidate species;
- Designated critical habitat of federally listed species;
- State listed or state sensitive species;
- Locations of big game ranges; and
- Unique ecosystems or sensitive communities.

Because of the mobility of wildlife species, ENSR would like to request sensitive wildlife information 5 miles beyond the proposed project boundary. We also would like to request sensitive plant data 3 miles beyond the proposed project boundary.

In addition, ENSR would like to request occurrence data, including shapefiles, for:

- Federal and state owned properties; and
- Properties with federal and state conservation easements.

Thank you for your help with this data request. ENSR would be happy to comply with any confidentiality agreements required to obtain this data. I have attached the shapefile of the proposed route through South Dakota. Let me know if you need any additional information.

Thank you,

Patti Lorenz
Biologist
ENSR | **AECOM**
1601 Prospect Parkway
Fort Collins, CO 80525
T: (970) 493-8878 x3410
F: (970) 493-0213
plorenz@ensr.aecom.com

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location	ENSR
Date/Time of Contact	October 8, 2008 / 1:18 p.m.
KXL Team Member(s)	Patti Lorenz

Contact Information:

Name	John Cochnar
Title	Assistant Field Supervisor
Organization	U. S. Fish and Wildlife Service
Address	203 West Second Street Grand Island, NE 68801
County	
Phone	Office: (308) 382-6468. Ext. 20 Cell: (308) 379-8550
Email address	John_Cochnar@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ___ _email_____

Issue: Geomorph/Geotech Work **Concern Level: High__x__Moderate__Low__.**

Description:

FWS-NE 2009-004_Keystone)

Patti:

As we discussed, attached is a US Fish and Wildlife Service letter identifying the conservation measures for conducting surveys for whooping cranes on the Niobrara and Cedar rivers. Please contact me if you have questions.

(See attached file: FWS-NE 2009-004_Keystone XL_.pdf)

John Cochnar
Deputy Nebraska Field Supervisor
U.S. Fish and Wildlife Service

203 West Second Street
Grand Island, NE 68801
Office: (308) 382-6468. Ext. 20
Cell: (308) 379-8550
Fax: (308) 384-8835
E-mail: john_cochnar@fws.gov

"If you pick up a starving dog
and make him prosperous, he will not bite you;
that is the principal difference between a dog and a man" - Mark Twain

"Lorenz, Patricia" <Patricia.Lorenz@aecom.com>

10/08/2008 01:02 PM

To <John_Cochnar@fws.gov>

cc

Subject KXL - Geotech locations/access roads

John,

I just spoke with Kristal about the use of access roads for the upcoming geotech work and she concurred the use of those roads would not have any negative impacts on fish and wildlife resources. Do you agree? Let me know, they would like to begin work on Monday if possible.

On a side note, I am having difficulties with my email. They changed our email address but the new one seems to have some bugs. If you have trouble with it, please use the old email address: plorenz@ensr.aecom.com.

Thanks,

Patti Lorenz
Wildlife Biologist
ENSR | AECOM
1601 Prospect Parkway
Fort Collins, CO 80525
T: (970) 493-8878 x3410
F: (970) 493-0213
patricia.lorenz@aecom.com

PLEASE NOTE NEW EMAIL ADDRESS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

October 8, 2008

FWS-NE: 2009-004

Patti Lorenz
ENSR | AECOM
1601 Prospect Parkway
Fort Collins, CO 80525

RE: Proposed Geomorphological Test Pits for the Keystone XL Pipeline, Rock, Keya Paha, and Wheeler Counties, Nebraska

Dear Ms. Lorenz:

This responds to your September 30, 2008, request to the U.S. Fish and Wildlife Service (Service) regarding the subject project. The Service has responsibility for conservation and management of fish and wildlife resources for the benefit of the American public under the following authorities: 1) Endangered Species Act of 1973 (ESA), 2) Fish and Wildlife Coordination Act (FWCA), 3) Bald and Golden Eagle Protection Act (The Eagle Act), and 4) Migratory Bird Treaty Act (MBTA). The National Environmental Policy Act (NEPA) requires compliance with all of these statutes and regulations.

ENDANGERED SPECIES ACT

Proposed Project

Pursuant to section 7 of ESA, every federal agency, in consultation or conference with the Service, is required to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any federally listed or proposed species and/or result in the destruction or adverse modification of designated and/or proposed critical habitat. In accordance with section 7(a)(2) of ESA, the lead federal agency or its designated representative should determine if any federally listed threatened or endangered species and/or designated/proposed critical habitat would be directly and/or indirectly affected by this proposed project. The assessment of potential impacts (direct and indirect) must include an "effect" or "no effect" determination and be presented to the Service in writing. If the Service agrees with the determination, this office would provide a letter of concurrence. If federally listed species and/or designated/proposed critical habitat would be adversely affected by this action, the lead federal agency would need to formally request further section 7 consultation with the Service prior to making any irretrievable or irreversible commitments of resources in support of the proposed highway construction project.

In accordance with section 7 of ESA, the Service has determined that the following federally listed species may occur in the proposed project area or be affected by the proposed project:

Listed Species	Expected Occurrence
Whooping crane (*Grus americana*)	Roosting, migrant

Whooping Crane

Whooping cranes, federally listed as endangered, use shallow, sparsely vegetated streams and wetlands in which to feed and roost during migration. Migration periods for the whooping crane in Nebraska are from approximately March 23 through May 10 and from September 16 through November 16. Major river systems used by whooping cranes in Nebraska include the Platte, Loup, Republican, Cedar, 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. 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.

The Service recommends that the project proponent implement the following Conservation Measures when work activities are to be conduct on the Niobrara River (Rock and Keya Paha Counties) and on the Cedar River (Wheeler County) to avoid disturbing roosting whooping cranes.

Time of Survey:

1. Prior to sunrise (published clock time) to make use of the beginning daylight hours, record start and stop time
2. Evening survey (after 4:00 pm) to check for birds potentially coming into roost
3. Do east side of river first to reduce glare from sun.

Method of Survey:

1. Look at all up and down stream channels as far as you can see
2. Use binoculars or spotting scope
3. Watch for at least 15 minutes overall
    a. Look for bird movements – possibly moving within channel among vegetation
    b. Look for whooping cranes among sandhill crane groups or other bird species
4. If cloudy, overcast or foggy and visibility is reduced to below 0.5 miles, allow time for fog to clear– take additional time to ensure the best survey possible.
5. Keep of record of surveys including start/stop times, weather conditions, surveyor(s), results of surveys, etc.

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:

6. Do not start work.
7. Stop work if seen at times other than the morning survey.
8. Contact John Cochnar (Service) (office phone (308) 382-6468, extension 20 or cell phone (308) 379-8550) and Kristal Stoner (Nebraska Game and Parks Commission (402) 471-5444) immediately.

Provided these Conservation Measures are implemented, the Service concurs that the proposed activities for the Keystone XL Pipeline Project may affect but not likely to adversely affect the endangered whooping crane.

The Service appreciates the opportunity to provide comments on this proposed project Should you have any questions regarding these comments, please contact me at john_cochnar@fws.gov or (308) 382-6468, extension 20.

Sincerely,

John Cochnar

John Cochnar
Acting Nebraska Field Supervisor

cc: NGPC; Lincoln, NE (Attn: Kristal Stoner)

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location	ENSR
Date/Time of Contact	April 16, 2009 / 3:00 p.m.
KXL Team Member(s)	Patti Lorenz

Contact Information:

Name	Lou Hanebury
Title	Fish and Wildlife Biologist
Organization	U. S. Fish and Wildlife Service
Address	Ecological Services Billings Sub Office 2900 4th Ave. N., Suite 301 Billings, MT 59101-1228
County	
Phone	(406) 247-7367
Email address	Lou_hanebury@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ___ _phone_____

Issue: SSS surveys/mitigation **Concern Level: High_X__Moderate__Low__.**

Description:

Meeting requests to finalize special status species survey protocols and mitigation measures were sent to Lou on 12/22/08 and on 1/12/09 without a response. On April 16, 2009, I sent Lou an email containing the information discussed with MFWP and BLM on 2/3/09 and 2/5/09 for input from the Montana FWS. Lou called me at 3:00 p.m. to discuss. The following is a summary of the phone conversation:

Regarding the Survey Protocol Document:
Raptors:
Lou concurs with the protocol.

Bald Eagles:
The Yellowstone and Missouri River is the only known location for bald eagle nests along the route in Montana. If nests are found in other locations, please notify Alison Begly or Christy Duboise (MFWP).

Golden Eagles:
Golden eagle populations are declining in Montana. They are known to nest along the route in ponderosa pine

forests and badland areas.

Interior least tern:

Terns are found along the project route at the Yellowstone River only. I summarized my discussions with Arnold Dood (MFWP) and the decision to conduct surveys prior to construction only in coordination with MFWP annual surveys. I mentioned that MFWP surveys that stretch of river each year and will provide us with the results.

Lou recommended changing the buffer from 0.25 miles from a nest site to line-of-sight. This might mean more than 0.25 mile.

Piping Plover:

The piping plover is a transient only on the Yellowstone River. Also, I spoke to Lou regarding the need to conduct surveys for nesting plovers in Valley County as originally recommended in 2008. I described the habitat based on the 2008 wetland/waterbody surveys and informed him that the habitat crossed by the route was not suitable for nesting plovers. Lou also mentioned that surveys have been conducted in Valley County but nesting plovers have never been identified. Therefore, Lou does not recommend surveys for piping plovers in Valley County. He also recommends conducting incidental surveys for individual plovers while conducting the interior least tern surveys at the Yellowstone River.

Burrowing Owl:

Lou mentioned that even though MFWP recommends surveys within all small mammal burrows, he recommends conducting surveys for burrowing owls within prairie dog towns only. It is very rare for a burrowing owl to be found in other mammal burrows. He mentioned that if an occupied burrowing owl nest is found within the ROW, it is considered "take" according to the MBTA to destroy that nest at any time of the year (i.e., including outside of the breeding season). If an occupied nest is identified, we need to contact the FWS for further mitigation measures.

Mountain Plover:

Lou recommends surveys for the mountain plover in prairie dog towns and bentonite fields in Valley County only. I mentioned that we do not cross any bentonite fields and only two prairie dog towns in Montana. I also mentioned that MFWP said that they would send me their survey transects for mountain plover. Lou was unaware that MFWP had survey transects. Lou is unsure of the exclusion window of May 1 – June 15. He will look into it and get back to me.

Greater Sage-grouse/Sharp-tailed Grouse:

Lou defers all recommendations to MFWP and the BLM.

Black-footed Ferret:

Surveys will only be necessary for very large prairie dog towns. Send information on towns to Lou for additional mitigation requirements.

Pallid Sturgeon:

Lou agrees that there will be no impacts to the pallid sturgeon due to the project.

FOR INTERNAL KXL PROJECT USE ONLY

TransCanada – KXL Phase II Pipeline
Contact Summary Form

Communication Location Phone

Date/Time of Contact June 25, 2009 / 10:00 a.m.

KXL Team Member(s) Patti Lorenz

Contact Information:

Name	Charlene Besskin
Title	Fish and Wildlife Biologist / TWS Certified Wildlife Biologist
Organization	USFWS South Dakota Field Office
Address	420 South Garfield Avenue, Suite 400 Pierre, SD 57501
County	
Phone	(605) 224-8693 Ext. 231
Email address	Charlene_Bessken@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ___ _Phone_____

Issue: 2009 Geotech locations___ Concern Level: High__x_Moderate_x__Low__.

Description:

Information requesting agency concurrence for biological clearance for the 2009 geotech activities in Nebraska and South Dakota was sent to Charlene on 6/24/09. Charlene called me with concerns for the southern Tripp County location at MP 581.36, US 183. This location is within the known range of the American burying beetle in South Dakota. Charlene advises that the work should wait until after August to be conducted, reducing impacts to active beetles. All other locations are clear for geotech work in July.

Charlene also asked when the DOS was going to initiate consultation with the USFWS. I gave her an update on the BA and informed her that a draft BA was going to be filed with the DOS in the near future. I also clarified that the DOS/Entrix would be responsible for submitting the BA and that it would most likely be filed with the EIS.

Finally, Charlene said that the USFWS in SD would be leaning to a "likely to adversely affect but non jeopardy" finding for the beetle in South Dakota.

Jennifer Isett

From: Jennifer Isett
Sent: Monday, December 13, 2010 11:41 AM
To: Keystone XL
Subject: FW: blowout penstemon
Attachments: blowout penstemon distr in NE.doc

From: Martha_Tacha@fws.gov [mailto:Martha_Tacha@fws.gov]
Sent: Monday, November 29, 2010 7:12 AM
To: Lynn Noel
Cc: John_Cochnar@fws.gov
Subject: blowout penstemon

Hi, Lynn.

Attached is a brief excerpt from the draft 5-yr review of the blowout penstmon. This Dec 2008 information is from Dr. James Stubbendieck, the Nebraska authority on the species, and is the most up-to-date we have. As you can see, there is a population of the plant in Rock County, but it is substantially west of the proposed pipeline route. In addition, I anticipate pipeline construction would avoid active, open sand blowouts (b. penstemon habitat) for a number of reasons unrelated to the endangered plant. Therefore, I don't anticipate adverse affects to the endangered plant from the proposed project.

Hope you had a good Thanksgiving break.

Martha

Martha C. Tacha
U.S. Fish and Wildlife Service
203 West Second Street
Grand Island, NE 68801
Phone: 308.382.6468, ext 19
Fax: 308.384.8835

(See attached file: blowout penstemon distr in NE.doc)

2.3.1.2 Distribution, abundance, and population trends (e.g. increasing, decreasing, stable), demographic features (e.g., age structure, sex ratio, family size, birth rate, age at mortality, mortality rate, etc.), or demographic trends

Blowout penstemon are found in the Sandhills region of north central Nebraska and the northeastern Great Divide Basin in Carbon County, Wyoming- (Figures 2 and 3) (Kottas 2008, Heidel et al. 2007). The Nebraska Sandhills is an area of stabilized sand dunes covering 5 million hectaures (approximately 12.4 million acres) in north central Nebraska (Figure 2). Currently 32 blowout penstemon populations groups (i.e., 10 native sites and 22 introduced populations) occur in the Sandhills region of Nebraska (Stubbendieck 2008) (Figure 2).

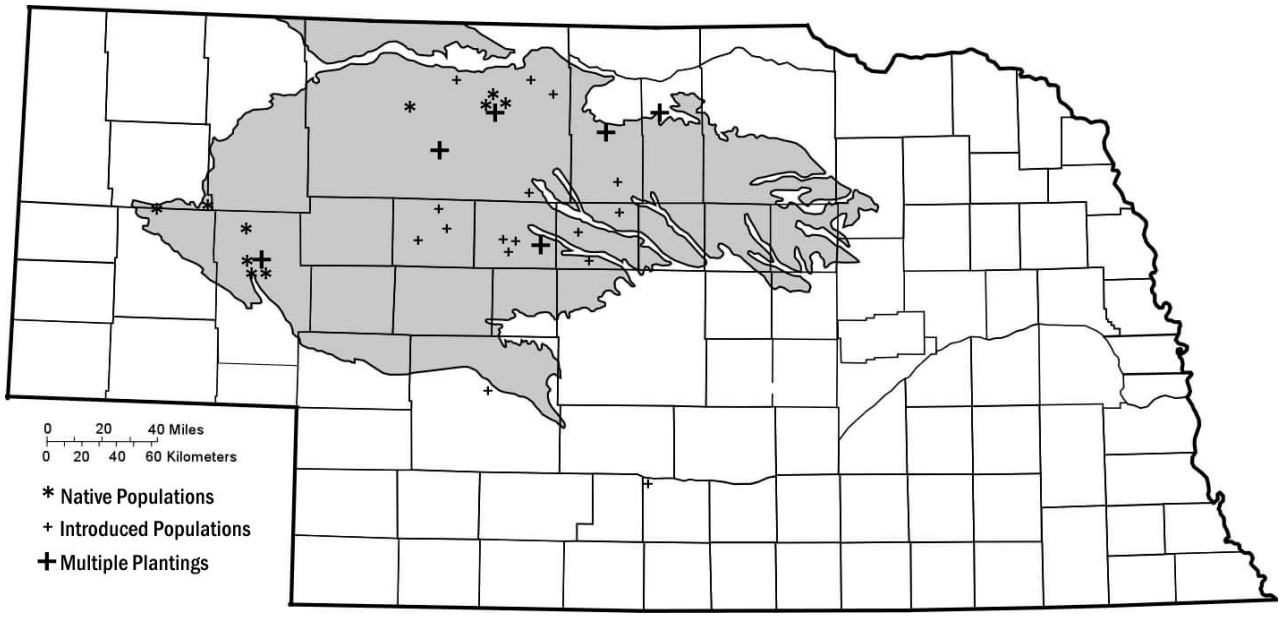


Figure 2. Location of blowout penstemon population groups and the Sandhills region in Nebraska. (Source: Jim Stubbendieck, 2008, used with permission).

Steele City Consultation Documents

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

April 18, 2008

Ms. Carey Grell
Environmental Analyst
Realty and Environmental Services Division
Nebraska Game and Parks Commission
2200 N 33rd St.
Lincoln, NE 68503

Dear Ms. Grell:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the biological survey program for the TransCanada Keystone XL Project (Project), and requesting your feedback and concurrence on certain proposed actions. Keystone has requested that ENSR be designated as the non-federal representative for the Bureau of Land Management (BLM) under Section 7 of the Endangered Species Act. As with the Keystone project, it is expected that BLM will approve this role so that we can help facilitate the consultation process.

Project Description

As outlined during our recent meeting, the Keystone XL Project is a proposed pipeline to transport crude oil from fee property of TransCanada located in Heartland, Alberta, Canada, to Nederland, Texas, and the Houston Ship Channel area of Texas, in the United States (U.S.). The current, planned delivery points will be located in Nederland, Texas, and the Houston Ship Channel area in Texas. The Keystone XL Project will originate with a nominal throughput of 700,000 barrels per day (bpd) with the possibility of an ultimate nominal capacity of 900,000 bpd.

The Canadian component of the Project consists of 329 miles of new 36-inch pipeline co-located approximately 87 percent with the existing TransCanada system and approximately 13 percent with other existing linear disturbances for a total of 100 percent. In Canada, the Project will require three tanks each with a capacity of 350,000 barrels, three metering facilities, and 13 pump stations.

The U.S. component of the Project consists of approximately 1,375 miles of new 36-inch-diameter pipeline which does not include the 298 miles of 36-inch pipeline constructed under the initial Keystone Project to extend the separate and ongoing Keystone Project from Steele City, Nebraska, to Cushing, Oklahoma in the U.S (known as the Cushing Extension). The permitting and construction of the Cushing Extension has been analyzed in the National Environmental Policy Act (NEPA) process for the Keystone Project, and is not included in the scope of this Project.

In the U.S., the Project will require six tanks each with a capacity of 350,000 barrels. Three would be located at Steele City, Nebraska, and three would be located at either the junction point off the Keystone XL mainline for the Houston Lateral or at the end of the Houston Lateral. Metering facilities would be installed at delivery points at Cushing, Nederland, and at the end of the Houston Lateral. Thirty new pump stations will be installed along the pipeline in the U.S.

Phase 1 (Oklahoma and Texas) is scheduled to be in service by the fourth quarter of 2010 with Phase 2 (Montana, South Dakota, and Nebraska) by the fourth quarter of 2011.

Biological Survey Program

General habitat assessments and Wetland/Waterbody delineation surveys will be initiated in May 2008 to fine-tune identified habitat for special status species potentially located along the proposed Keystone

XL Project route as well as to identify wetlands and waterbodies that have met U.S. Army Corps of Engineers (ACOE) Pre-Construction Notification (PCN) requirements. These surveys will cover a comprehensive list of ecological areas (e.g. wetlands/waterbodies, prairie dog colonies, and native landscapes) that have been identified through high-resolution aerial photography reviews and pre-construction notification (PCN) requirements of the ACOE. We have included a table of locations that will be surveyed as a part of this overall habitat assessment effort. The results of the comprehensive habitat surveys will be used to help fine-tune the currently proposed species-specific survey locations.

Species-specific biological surveys also will be conducted in 2008 and 2009 for several species potentially located along the Keystone XL Project route. We are including a table of special status species that may be impacted by the proposed project for your review and concurrence. These species, sensitive species habitats, and proposed survey locations have been determined through federal and state agency website searches, document reviews, and high-resolution aerial photography interpretation. Consultations with agency personnel have not occurred to date; therefore, the biological survey program requires your review and concurrence. To facilitate your review of the Keystone XL project biological survey program, ENSR is providing you with the following materials:

- Special Status Species Screening Table – This document includes all special status species that have the potential to occur within the project area through the detailed reviews mentioned above. It assisted us in determining the need for surveys and the locations of those surveys for each species. Your review, input, and concurrence with these proposed survey areas is imperative, and future consultations will be based on this information.

- CD containing shapefiles of the proposed project centerline.

Copies of these materials also are being distributed to BLM offices in Montana, FWS field offices in Montana, South Dakota, Nebraska, and Kansas; and to the appropriate state wildlife agencies in each state. Because our habitat assessment surveys and wetland delineations are scheduled to begin in May 2008, we are sincerely hoping that the enclosed materials will provide you with enough detail to confirm survey locations and methodologies. ENSR will be meeting with you at your earliest convenience to discuss this material in further detail and to request your concurrence with our proposed survey protocols. If you have any questions regarding the enclosed materials, please contact Patti Lorenz or me at (970) 493-8878 or email spatti@ensr.aecom.com or plorenz@ensr.aecom.com. We truly appreciate your prompt assistance.

Sincerely,

Scott J. Patti
Project Manager

PL/SJP/

Ref: 10623-007

Enc: Special Status Species Screening Table
Nebraska Comprehensive Survey Location Table
Shapefiles of the proposed centerline (including mileposts, and permanent and temporary easements)

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

April 21, 2008

Mr. Craig Haynes
U.S. Bureau of Land Management
5001 Southgate Drive
Billings, MT 59101

Dear Mr. Haynes:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the biological survey program for the TransCanada Keystone XL Project (Project), and requesting feedback and concurrence from BLM biologists on certain proposed actions. Keystone has requested that ENSR be designated as the non-federal representative for the Bureau of Land Management (BLM) under Section 7 of the Endangered Species Act. As with the Keystone project, it is expected that BLM will approve this role so that we can help facilitate the consultation process.

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landscapes) that have been identified through high-resolution aerial photography reviews and PCN requirements of the ACOE. We have included a table of locations that will be surveyed as a part of this overall habitat assessment effort. The results of the comprehensive habitat surveys will be used to help fine-tune the currently proposed species-specific survey locations.

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Sincerely,

Scott J. Patti
Project Manager

PL/SJP/

Ref: 10623-007

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Montana Comprehensive Survey Location Table
Shapefiles of the proposed centerline (including mileposts, and permanent and temporary easements)

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

April 21, 2008

Mr. John Cochnar
U.S. Fish and Wildlife Service
Ecological Services Field Office
203 West Second Street
Federal Building, Second Floor
Grand Island, NE 68801

Dear Mr. Cochnar:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the biological survey program for the TransCanada Keystone XL Project (Project), and requesting your feedback and concurrence on certain proposed actions. Keystone has requested that ENSR be designated as the non-federal representative for the Bureau of Land Management (BLM) under Section 7 of the Endangered Species Act. As with the Keystone project, it is expected that BLM will approve this role so that we can help facilitate the consultation process.

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Sincerely,

Scott J. Patti
Project Manager

CB/SJP

Ref: 10623-007

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Shapefiles of the proposed centerline (including mileposts, and permanent and temporary easements)

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

April 21, 2008

Mr. Lou Hanebury
U. S. Fish and Wildlife Service
Montana Field Office
2900 4th Avenue North #301
Billings, Montana 59101-1228

Dear Mr. Hanebury:

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Sincerely,

Scott J. Patti
Project Manager

CB/SJP

Ref: 10623-007

Enc: Special Status Species Screening Table
Montana Comprehensive Survey Location Table
Shapefiles of the proposed centerline (including mileposts, and permanent and temporary easements)

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

April 21, 2008

Mr. T.O. Smith
Montana Fish, Wildlife, and Parks
1420 E 6th Avenue
Helena, MT 59620-0701

Dear Mr. Smith:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the biological survey program for the TransCanada Keystone XL Project (Project), and requesting your feedback and concurrence on certain proposed actions. Keystone has requested that ENSR be designated as the non-federal representative for the Bureau of Land Management (BLM) under Section 7 of the Endangered Species Act. As with the Keystone project, it is expected that BLM will approve this role so that we can help facilitate the consultation process.

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Phase 1 (Oklahoma and Texas) is scheduled to be in service by the fourth quarter of 2010 with Phase 2 (Montana, South Dakota, and Nebraska) by the fourth quarter of 2011.

Biological Survey Program

General habitat assessments and Wetland/Waterbody delineation surveys will be initiated in May 2008 to fine-tune identified habitat for special status species potentially located along the proposed Keystone XL Project route as well as to identify wetlands and waterbodies that have met U.S. Army Corps of Engineers (ACOE) Pre-Construction Notification (PCN) requirements. These surveys will cover a comprehensive list of ecological areas (e.g. wetlands/waterbodies, prairie dog colonies, and native

landscapes) that have been identified through high-resolution aerial photography reviews and PCN requirements of the ACOE. We have included a table of locations that will be surveyed as a part of this overall habitat assessment effort. The results of the comprehensive habitat surveys will be used to help fine-tune the currently proposed species-specific survey locations.

Species-specific biological surveys also will be conducted in 2008 and 2009 for several species potentially located along the Keystone XL Project route. We are including a table of special status species that may be impacted by the proposed project for your review and concurrence. These species, sensitive species habitats, and proposed survey locations have been determined through federal and state agency website searches, document reviews, and high-resolution aerial photography interpretation. Consultations with agency personnel have not occurred to date; therefore, the biological survey program requires your review and concurrence. To facilitate your review of the Keystone XL project biological survey program, ENSR is providing you with the following materials:

- Special Status Species Screening Table – This document includes all special status species that have the potential to occur within the project area through the detailed reviews mentioned above. It assisted us in determining the need for surveys and the locations of those surveys for each species. Your review, input, and concurrence with these proposed survey areas is imperative, and future consultations will be based on this information.

- Shapefiles of the proposed project centerline.

Copies of these materials also are being distributed to Montana FWS field office and Montana BLM field offices. Because our habitat assessment surveys and wetland delineations are scheduled to begin in May 2008, we are sincerely hoping that the enclosed materials will provide you with enough detail to confirm survey locations and methodologies. ENSR will be meeting with you at your earliest convenience to discuss this material in further detail and to request your concurrence with our survey protocols. If you have any questions regarding the enclosed materials, please contact Patti Lorenz or me at (970) 493-8878 or email spatti@ensr.aecom.com or plorenz@ensr.aecom.com. We truly appreciate your prompt assistance.

Sincerely,

Scott J. Patti
Project Manager

CB/SJP

Ref: 10623-007

Enc: Special Status Species Screening Table
Montana Comprehensive Survey Location Table
Shapefiles of the proposed centerline (including mileposts, and permanent and temporary easements)

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

May 29, 2008

Ms. Charlene Bessken
U. S. Fish and Wildlife Service
420 S. Garfield Avenue, Suite 400
Pierre, SD 57501-5408

Dear Ms. Bessken:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the biological survey program for the TransCanada Keystone XL Project (Project), and requesting your feedback and concurrence on certain proposed actions. Keystone has requested that ENSR be designated as the non-federal representative for the Bureau of Land Management (BLM) under Section 7 of the Endangered Species Act. As with the Keystone project, it is expected that BLM will approve this role so that we can help facilitate the consultation process.

Project Description

As outlined during our recent meeting, the Keystone XL Project is a proposed pipeline to transport crude oil from fee property of TransCanada located in Heartland, Alberta, Canada, to Nederland, Texas, and the Houston Ship Channel area of Texas, in the United States (U.S.). The current, planned delivery points will be located in Nederland, Texas, and the Houston Ship Channel area in Texas. The Keystone XL Project will originate with a nominal throughput of 700,000 barrels per day (bpd) with the possibility of an ultimate nominal capacity of 900,000 bpd.

The Canadian component of the Project consists of 329 miles of new 36-inch pipeline co-located approximately 87 percent with the existing TransCanada system and approximately 13 percent with other existing linear disturbances for a total of 100 percent. In Canada, the Project will require three tanks each with a capacity of 350,000 barrels, three metering facilities, and 13 pump stations.

The U.S. component of the Project consists of approximately 1,375 miles of new 36-inch-diameter pipeline which does not include the 298 miles of 36-inch pipeline constructed under the initial Keystone Project to extend the separate and ongoing Keystone Project from Steele City, Nebraska, to Cushing, Oklahoma in the U.S (known as the Cushing Extension). The permitting and construction of the Cushing Extension has been analyzed in the National Environmental Policy Act (NEPA) process for the Keystone Project, and is not included in the scope of this Project.

In the U.S., the Project will require six tanks each with a capacity of 350,000 barrels. Three would be located at Steele City, Nebraska, and three would be located at either the junction point off the Keystone XL mainline for the Houston Lateral or at the end of the Houston Lateral. Metering facilities would be installed at delivery points at Cushing, Nederland, and at the end of the Houston Lateral. Thirty new pump stations will be installed along the pipeline in the U.S.

Phase 1 (Oklahoma and Texas) is scheduled to be in service by the fourth quarter of 2010 with Phase 2 (Montana, South Dakota, and Nebraska) by the fourth quarter of 2011.

Biological Survey Program

General habitat assessments and Wetland/Waterbody delineation surveys will be initiated in 2008 to fine-tune identified habitat for special status species potentially located along the proposed Keystone XL Project route as well as to identify wetlands and waterbodies that have met U.S. Army Corps of Engineers (ACOE) Pre- Construction Notification (PCN) requirements. These surveys will cover a

comprehensive list of ecological areas (e.g. wetlands/waterbodies, prairie dog colonies, and native landscapes) that have been identified through high-resolution aerial photography reviews and pre-construction notification (PCN) requirements of the ACOE. The results of the comprehensive habitat surveys will be used to help fine-tune the currently proposed species-specific survey locations.

Species-specific biological surveys also will be conducted in 2008 and 2009 for several species potentially located along the Keystone XL Project route. We are including a table of special status species that may be impacted by the proposed project for your review and concurrence. These species, sensitive species habitats and proposed survey locations have been determined through federal and state agency website searches, document reviews, and high-resolution aerial photography interpretation. Consultations with agency personnel have not occurred to date; therefore, the biological survey program requires your review and concurrence. To facilitate your review of the Keystone XL project biological survey program, ENSR is providing you with the following materials and asking for your review of the proposed actions:

- Special Status Species Screening Table – This document includes all special status species that have the potential to occur within the project area through the detailed reviews mentioned above. It assisted us in determining the need for surveys and the locations of those surveys for each species. Your review, input, and concurrence in this area is imperative and future consultations will be based on this information.

- Shapefiles of the proposed project centerline.

Copies of these materials also are being distributed to the South Dakota Game Fish and Parks office. Because our habitat assessment surveys and wetland delineations are scheduled to begin May, 2008, we are sincerely hoping that the enclosed materials will provide you with enough detail to confirm survey locations and methodologies. Thank you for agreeing to meet with us to discuss this material in further detail. If you have any questions regarding the enclosed materials, please contact Patti Lorenz or me at (970) 493-8878 or email spatti@ensr.aecom.com or plorenz@ensr.aecom.com. We truly appreciate your prompt assistance.

Sincerely,

Scott J. Patti
Project Manager

PL/SJP/

Ref: 10623-007

Enc: Special Status Species Screening Table
Shapefiles of the proposed centerline

ENSR
1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

May 29, 2008

Mr. John Kirk
South Dakota Game Fish and Parks
523 East Capitol Avenue
Pierre, SD 57501

Dear Mr. Kirk:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the biological survey program for the TransCanada Keystone XL Project (Project), and requesting your feedback and concurrence on certain proposed actions. Keystone has requested that ENSR be designated as the non-federal representative for the Bureau of Land Management (BLM) under Section 7 of the Endangered Species Act. As with the Keystone project, it is expected that BLM will approve this role so that we can help facilitate the consultation process.

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Phase 1 (Oklahoma and Texas) is scheduled to be in service by the fourth quarter of 2010 with Phase 2 (Montana, South Dakota, and Nebraska) by the fourth quarter of 2011.

Biological Survey Program

General habitat assessments and Wetland/Waterbody delineation surveys will be initiated in 2008 to fine-tune identified habitat for special status species potentially located along the proposed Keystone XL Project route as well as to identify wetlands and waterbodies that have met U.S. Army Corps of Engineers (ACOE) Pre- Construction Notification (PCN) requirements. These surveys will cover a

comprehensive list of ecological areas (e.g. wetlands/waterbodies, prairie dog colonies, and native landscapes) that have been identified through high-resolution aerial photography reviews and pre-construction notification (PCN) requirements of the ACOE. The results of the comprehensive habitat surveys will be used to help fine-tune the currently proposed species-specific survey locations.

Species-specific biological surveys also will be conducted in 2008 and 2009 for several species potentially located along the Keystone XL Project route. We are including a table of special status species that may be impacted by the proposed project for your review and concurrence. These species, sensitive species habitats and proposed survey locations have been determined through federal and state agency website searches, document reviews, and high-resolution aerial photography interpretation. Consultations with agency personnel have not occurred to date; therefore, the biological survey program requires your review and concurrence. To facilitate your review of the Keystone XL project biological survey program, ENSR is providing you with the following materials and asking for your review of the proposed actions:

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- Shapefiles of the proposed project centerline.

Copies of these materials also are being distributed to the FWS field office in South Dakota. Because our habitat assessment surveys and wetland delineations are scheduled to begin May, 2008, we are sincerely hoping that the enclosed materials will provide you with enough detail to confirm survey locations and methodologies. Thank you for agreeing to meet with us to discuss this material in further detail. If you have any questions regarding the enclosed materials, please contact Patti Lorenz or me at (970) 493-8878 or email spatti@ensr.aecom.com or plorenz@ensr.aecom.com. We truly appreciate your prompt assistance.

Sincerely,

Scott J. Patti
Project Manager

PL/SJP/

Ref: 10623-007

Enc: Special Status Species Screening Table
Shapefiles of the proposed centerline

Steele City Meeting Notes

Meeting Notes
USFWS/NGPC Meeting
May 5, 2008
2:00 – 3:40
Lincoln, NE

U.S. Fish and Wildlife Service (USFWS) – Grand Island, NE Field Office
Nebraska Game and Parks Commission (NGPC)

Attendees:
John Cochnar (USFWS)
Rick Schneider (NGPC)
Kristal Stoner (NGPC)
Carey Grell (NGPC)
Mike Fritz (NGPC)
Scott Patti (ENSR)
Patti Lorenz (ENSR)

Purpose:
To gather information about special status species that may be impacted by the TransCanada proposed oil pipeline project and review proposed species specific surveys.

Project Updates

- The project route is not firm and will change;
- Aerial raptor surveys were conducted in April and included 100% cover of the proposed right-of-way (ROW) to date;
- Ground surveys for wetland/waterbodies and sensitive habitats (e.g. prairie dog towns) will begin at the end of May.

Survey tables/schedules/protocols were developed through public information without agency consultation. Sources included USFWS and NGPC websites and the NGPC Wildlife Conservation Strategy.

Q (RS): Will NGPC get the results of survey work? NGPC did not see any results for either the REX-West or Keystone Pipelines.
A (ENSR): We will need to look into this. There is no reason why the agencies shouldn't see the results of the surveys.

Species Specific Information

Black-footed Ferret: No surveys required

River Otter: Surveys Required

Add the following recommended locations to the Species Screening Table for the river otter:

- Niobrara River (release site upstream of KXL crossing);
- NF Elkhorn River;
- Elkhorn River; and
- Loup River (records exist in Mellete County).

HDD would prevent impacts to river otters. Surveys should focus on denning sites. It is possible to conduct denning habitat surveys in the winter prior to the denning season if the surveyor is qualified to identify otter signs (e.g. slides).

Bald Eagle: Surveys Required
Bald eagle surveys are included in the aerial raptor surveys. 100% cover of the route is recommended because bald eagle nests in Nebraska have been documented along smaller than typical waterbodies. Also, bald eagles have been documented utilizing dense cedar stands for winter roost sites. Bald eagle numbers are increasing in Nebraska and plans to de-list the species as state threatened are scheduled for October 2008. Consider winter roost surveys in addition to nesting surveys. In Nebraska, winter roost sites can consist of two types of habitat:

1. Stands of cottonwood trees along waterbodies; and
2. Stands of dense cedar trees along waterbodies (e.g. Loup and Cedar Rivers).

Whooping Crane: Surveys Required
If construction is to occur during the spring and fall migrations within known stop-over locations, surveys in those areas should be conducted to determine presence/absence before commencing any daily construction. Once the locations for construction have been determined and wetland/waterbody surveys have been conducted, the USFWS and NGPC will provide know location information to allow surveys prior to the start of any construction activity that day in that area. If a whooping crane is identified, construction activities will be delayed until the individual(s) have left. In addition, if a crane is identified, the USFWS will immediately be notified and a 1 mile buffer from any disturbance will be applied. Finally, all staging areas and equipment storage areas should be located away from the known stop-over areas.

For facilities requiring transmission lines, requirements will include either marking those lines or burying the lines within whooping crane migration routes.

Piping Plover: Surveys Required
Note all critical habitat in NE has been vacated and will not be treated as such. The South Fork Elkhorn River can be eliminated from the table. Survey locations will remain as the Niobrara, Platte, and Loup Rivers.

Interior Least Tern: Surveys Required
See notes for Piping Plover – same locations.

Blacknose Shiner, Northern Redbelly Dace, and Finescale Dace: Surveys Required

NGPC would like surveys for these species within all small streams in Rock County in addition to the Holt Creek location in Keya Paha County. Focus on tributaries of the Niobrara River and the South Fork Elkhorn River.

Comment (SJ): Surveys at all stream locations in Rock County may lead to further discussions regarding feasibility. He asked NGPC if they would consider allowing the proposed project to assume presence and consider what mitigation would be required if we assume they are there, instead of surveying for them.
Response (NGPC): Would be willing to consider options.

Spawning season restrictions would be required in addition to future mitigation decisions. NGPC will provide ENSR with spawning periods. For streams with the presence of these fish species, HDD stream crossing methods are preferred, followed by fume methods, and then dam and pump methods.

Topeka Shiner: No Surveys Required
KXL is out of the Topeka shiner range in NE.

Massasauga: Surveys Required
Modify habitat description on the Special Status Species Screening Table to include wet seeps with reed canary grass and prairie cordgrass; draws, and sidehill seeps.

Hibernacula surveys should include:

1. Habitat evaluation (wetland/waterbody surveys will tell us more) – wetlands with crayfish burrows present; and
2. Presence/absence – drift fence surveys

American Burying Beetle: Surveys Required
Dr. Wyatt Hoback has been contacted for NE and SD ABB work. His procedure will include:

1. Conducting a habitat assessment;
2. Trapping in marginal or unknown areas to eliminate future survey needs in those areas; and
3. Trapping in known areas prior to construction to trap and relocate individuals from construction impacts.

Question (RS): Why does the "Survey Justification" column limit surveys to road crossings. The concern is also located in some isolated areas (e.g. sandhills) as well.
Comment (PL): That was the approved protocol for REX but can be modified to include those areas for this project. We will involve the USFWS, NGPC, and Dr. Hoback on protocol development.

Question (JC): Is Wyatt going to handle Oklahoma as well?
Answer (SP): It is unknown what work is being done with Phase I right now.

Small White Lady's Slipper and Western Prairie Fringed Orchid: Surveys Required

Wetland/waterbody surveys will give a better idea of suitable habitat. It is recommended that multiple year surveys be conducted due to the nature of these plants. It is possible that they may not flower each year, making it difficult to identify.

MBTA:
No conclusive results as of yet – avoid and minimize impacts during the nesting season.

Discussion/Action Items

- NGPC will send ENSR shapefiles they have developed with the special status species' ranges.
- NGPC would be concerned with any crossing of their property. Happy to hear reroute will take KXL off of Holt Creek WMA.
- Facilities located in isolated areas will have lighting restrictions.
- Concern for impacts to the Pallid sturgeon due to water depletions down stream but not at any of the river crossings along the route.
- No concerns for winter construction other than species with hibernacula concerns.
- USFWS/NGPC will work with ENSR to develop species specific survey protocols.

Meeting Notes
USFWS/MFWP Meeting
May 8, 2008
9:00 – 11:30
Helena, MT

U.S. Fish and Wildlife Service (USFWS) – Billings, MT Field Office
Montana Fish, Wildlife, and Parks (MFWP)

Attendees:
Hugh Zachheim (MFWP)
Paul Sihler (MFWP)
Lou Hanebury (USFWS)
Windy Davis (MFWP)
T.O. Smith (MFWP)
Chad Barnes (ENSR)
Patti Lorenz (ENSR)

Purpose:
To gather information about special status species that may be impacted by the TransCanada proposed oil pipeline project and review proposed species specific surveys.

Project Updates
Note: None of the attendees from the MFWP were present at the introductory meeting and were given an overview of the project before discussing the specifics of special status species.

In addition to the general overview of the proposed KXL project through Montana, the following updates were given:

- The project route is not firm and will change;
- Aerial raptor surveys were conducted in April and included 100% cover of the proposed right-of-way (ROW) to date;
- Ground surveys for wetland/waterbodies and sensitive habitats (e.g. prairie dog towns) will begin at the end of May.

Survey tables/schedules/protocols were developed through public information without agency consultation. Sources included USFWS and NGPC websites and the NGPC Wildlife Conservation Strategy.

MFWP/USFWS Concerns

- MFWP is concerned about impacts to MFWP land and easements including lands with federal and NGO easements (e.g. Nature Conservancy). In addition, the MFWP is also concerned about the impacts to partnership incentive programs with landowners.

- FWS would like ENSR to contact the FWS refuge offices for locations of any FWS properties including refuges, satellite refuges, waterfowl production areas, etc. Specifically, get information on CMR and Medicine Lake properties.
- River crossing procedures, including intermittent prairie streams. The prairie streams include sensitive native prairie fish species.
- Because the project is scheduled for 2011 construction, the USFWS recommends that we treat species of concern as listed species. The mountain plover and the greater sage grouse are examples of species where the status of these species could change prior to construction. Impacts to these species should be avoided in order to avoid having to reconsult with the FWS at a later time.
- Focus on minimizing impacts to native grasslands. The MFWP was pleased to learn that the proposed pipeline will be buried under ground and reclaimed using native seed mixes.
- The FWS Western Raptor Guidelines for raptor buffer zones are still in draft form. ENSR can use buffer zones from past projects until the new guidelines are released.
- Impacts of concern for the MFWP include
    - Short-term impacts;
    - Long-term (permanent) impacts;
    - Oil spills;
    - Pump Stations;
    - Pipe construction; and
    - Environmental
- Lydia Bailey with the heritage database should be contacted to assist with impact analysis. ENSR will need to sign a confidentiality agreement before receiving any information. Lydia will be able to provide T&E information as well as landownership information.
- ENSR should also contact Region 6 of the MFWP for input on landownership.
- MFWP recommended scheduling an additional meeting with MFWP specialists to hear their recommendations and receive more specific site/survey information.
- MFWP is concerned about impacts to native grassland birds. Cobern Currier would be the contact for more specific information regarding these species. The FWS commented that the take of migratory birds needs to be avoided under the conditions of the MBTA.
- MFWP would like to know more about the legal framework for pipelines, specifically eminent domain.
- Big game ranges will also be important to identify. There is antelope winter range in the northern portion of the proposed project.
- The MFWP mentioned the Milk River Cooperative agreement. More information will be needed regarding specific mitigation.

Species Specific Information

<u>Townsend's Big-eared Bat and Spotted Bat</u>:
Survey requirements will require a consultation with Kristi Dubois, the bat specialist with MFWP. The primary habitat will be cottonwood trees for roost sites.

Black-footed Ferret:
Survey requirements will depend on prairie dog town delineations. If the prairie dog towns meet the requirements of the 1989 USFWS Black-footed Ferret survey protocol, then black-footed ferret surveys may be required. If large prairie dog towns are found, further consultation with the FWS will be required. Black-footed Ferrets are not extirpated or block-cleared in the state of Montana.

MFWP can provide a prairie dog town GIS layer of known towns along the route. ENSR should also reference the MT prairie dog management plan. Allison Puchniak is the specialist to contact.

Swift Fox:
Surveys for den sites are recommended. The need for den surveys will depend on the 2008 pedestrian survey results. The FWS noted that swift fox are present north of the Missouri River and the presence of dens or the need for surveys south of the Missouri River is unlikely. Ryan Rauscher (MFWP) in Glasgow is the swift fox expert and the contact for more information.

Bald Eagle:
Bald eagle surveys are included in the aerial raptor surveys. Contact Kristi Dubois to access the MFWP bald eagle database and follow the Montana Bald Eagle Management Plan. In Montana, there is more concern on impacts to golden eagles than bald eagles.

Peregrine Falcon:
Peregrine falcon surveys are included in the aerial raptor surveys. Contact Kristi Dubois for the state database and known nest locations.

Whooping Crane:
The locations and habitat quality of stop-over locations will be better known after the wetland/waterbody surveys have been conducted. The USFWS provided ENSR with the guidelines of the Whooping Crane Sighting Project. Using this information and the results of the 2008 pedestrian surveys, areas of suitable habitat along the proposed route should be identified. Sightings of whooping cranes have occurred in 11 counties in eastern Montana, including areas near the proposed project route. Contact Tom Stein (FWS Whooping Crane coordinator) for further consultation. Contact Martha Tacha (USFWS -NE) for the migration period dates.

Suggested protocol: If a whooping crane is identified, construction activities will be delayed until the individual(s) have left. In addition, if a crane is identified, the USFWS will immediately be notified and a 1 mile buffer from any disturbance will be applied.

For facilities requiring transmission and/or distribution lines, requirements will include either marking those lines or burying the lines within whooping crane migration routes within suitable habitat where sightings have occurred.

Piping Plover:
Surveys will be recommended on alkali wetlands in Valley County only. The Missouri River and Frenchmen's Creek will not require surveys. The proposed route will stay out of all critical habitat for this species.

Interior Least Tern:
Surveys are recommended on the Yellowstone River only. The Missouri and Milk Rivers can be eliminated from future analysis.

Long-billed Curlew:
The MFWP is concerned with impacts to the long-billed curlew. There has been a heavy reduction to this species' range. Recommend surveying heavily grazed habitat.

Mountain Plover:
Surveys will be recommended within prairie dog towns (within all MT counties) and the bentonite fields in Valley County along the proposed route. Impacts for the mountain plover should be analyzed as a federally listed species due to the timescale of the project and the chance of a change in listing status. Refer to the BLM ACEC regarding mountain plovers.

Greater Sage Grouse:
Surveys required. Surveys will be required within all suitable habitat, not just BLM lands. Aerial surveys are recommended. Refer to the sage grouse protocol for Montana. Windy can provide more information for this species. Change breeding (lekking) period dates to mid-March to end of April.

MFWP provided ENSR with a map of known lek sites. These sites need to be avoided. Lek sites cannot be reclaimed. Sage grouse will not return to the site once it has been disturbed. The buffer distance is still being decided but there will be no surface occupancy within at least one mile but could be up to a four mile buffer.

There is a population of sage grouse that have known lek sited in Fallon County just over the eastern boarder of Montana that are considered to be sage grouse from the Dakotas. This population will be genetically sensitive and may required further consultations.

Sharp-tailed grouse: (Need to add to table)
MFWP requested that sharp-tailed grouse be added to the Special Status Species Screening Table in Dawson, Fallon, and Prairie Counties. This is a game bird in Montana.

Burrowing Owl:
Surveys recommended in prairie dog towns. This species is protected under the MBTA.

Blue Sucker and Pallid Sturgeon:

Surveys required for the Missouri and Yellowstone Rivers only. The Milk River can be eliminated for this species. Windy Davis, Bob B., and Montana State University are good sources for fish databases for the MFWP. Should these rivers be crossed using HDD methods, impacts to these species will be eliminated and surveys will not be required for these fish species.

Yellowstone River:
Need to reduce and minimize impacts to the Yellowstone River. Yellowstone River Conservation needs to be considered an impact issue. HDD would be the preferred crossing method.

Spiny Softshell:
Survey requirements TBD and additional consultation may be required. The MFWP/Natural Heritage Program is currently conducting surveys for this species. Bruce Maxell with the Natural Heritage Program is the contact for this species.

MBTA:
Avoid and minimize impacts during the nesting season. The Keystone Protocol is recommended.

Discussion/Action Items

- Get all contact information for specialists listed above from the MFWP and USFWS.
- Sign a confidentiality agreement with Lydia Bailey and the Natural Heritage Program in order to obtain shapefiles and data on T&E and Landownership. T.O. Smith will provide us with that contact information.
- MFWP can provide prairie dog town locations to ENSR.
- MFWP can provide known peregrine falcon nest locations.
- ENSR will send T.O. Smith an electronic version of the Special Status Screening Table to distribute to species specialists at MFWP.
- MFWP asked ENSR to set a deadline for the MFWP specialists to get species specific information back to ENSR. ENSR mentioned that it would be helpful to get that information prior to pedestrian ground surveys beginning at the end of May.
- Schedule a meeting with MFWP species specials to go over survey locations.

Meeting Notes
USFWS/SDGFP Meeting
June 10, 2008
10:00 – 11:45
Pierre, SD

U.S. Fish and Wildlife Service (USFWS) – Pierre, SD Field Office
South Dakota Game Fish and Parks (SDGFP)

Attendees:
Charlene Besskin (USFWS)
John Kirk (SDGFP)
Doug Backlund (SDGFP)
Silka L. F. Kempema (SDGFP)
Patti Lorenz (ENSR)

Purpose:
To gather information about special status species that may be impacted by the TransCanada proposed oil pipeline project and review proposed species specific surveys.

Project Updates
The proposed project route has changed between the April and May centerlines. The May centerline will incorporate a reroute that eliminates Mellette and Jackson County and adds Lyman County. In addition, the Keya Paha River will no longer be crossed in South Dakota. It will be crossed in Keya Paha County, Nebraska.

Aerial raptor surveys were conducted in April and included 100% cover of the proposed right-of-way (ROW) at that time. Additional aerial raptor surveys are expected prior to construction.

Ground surveys for wetland/waterbodies and sensitive habitats (e.g. prairie dog towns) began at the end of May in Nebraska and Montana but have not started in South Dakota.

Survey tables/schedules/protocols were developed through public information without agency consultation. Sources included USFWS and SDGFP websites and the SDGFP Wildlife Conservation Strategy.

At this time, the lead Federal agency has not been decided and the project has yet to be publically announced.

Questions and Comments from Discussion
What are the plans for river crossings? Which rivers will be crossed using HDD measures?

There has not been a definite decision regarding river crossing methods at this time. It is likely that the Cheyenne and White Rivers will be crossed using HDD methods.

Harding County is currently undergoing a lot of oil exploration. Will the project route be in close proximity to any of those areas?

Will check – no information about this subject at this time.

How many easements will be included on a property? Just one easement for the construction ROW, or two easements: one for the construction ROW and one for the permanent ROW?

Will check – no information about this subject at this time.

ENSR should contact the South Dakota Heritage Program for information on wildlife county occurrence data. Doug can provide the information within a certain buffer distance.

ENSR would like to request wildlife information within 5 miles of the proposed centerline and rare plant information within 3 miles.

The South Dakota Heritage Program will not be able to provide information regarding state and federal land easements.

The USFWS will look into easement locations including wetland and grassland easements. There will not be very many USFWS easements in the western portion of the state.

Species Specific Information

Black-footed Ferret:

The USFWS can provide a block clearance list for prairie dog towns in South Dakota. Prairie dog town delineations will be based off of the USFWS1989 Black-Footed Ferret Survey Guidelines. The USFWS does not foresee the need for black-footed ferret surveys along the proposed route in South Dakota. They are interested in seeing the survey results for the locations of prairie dog towns.

The SDGFP provided the *South Dakota Black-tailed Prairie Dog Colony Acreage and Distribution* report from 2006. They also mentioned that plague has been detected. The Farm Service Agency can provide aerial photos to account for year-to-year changes in prairie dog towns.

Swift Fox:

Denning surveys are recommended if construction occurs during the denning period. Reintroduction sites have occurred in the badlands, Lower Brule Reservation, and Turner Ranch. SDGFP notes that an area triangulated between these locations should be surveyed for swift fox den sites. A survey protocol can be found on the Swift Fox Conservation Team Website headed by the Colorado Division of Wildlife.

River Otter:

Denning surveys are recommended for river otters along the Cheyenne, White, and Bad Rivers. The rivers should have perennial flows and/or be spring fed. Beaver presence is also strongly associated with river otter occurrence.

Bald Eagle:
Bald eagle surveys are included in the aerial raptor surveys. Surveys for nesting and roosting sites are recommended along the entire route in South Dakota. They have been identified nesting in agricultural lands as well as major waterbodies. The USFWS provided a map of known nesting locations.

Peregrine Falcon:
Peregrine falcon surveys are included in the aerial raptor surveys. There are no known breeding pairs of peregrine falcons in South Dakota, migrants only.

Whooping Crane:
The locations and habitat quality of stop-over locations will be better known after the wetland/waterbody surveys have been conducted. The USFWS provided a map of the migration corridor through South Dakota.

Suggested protocol: If a whooping crane is identified, construction activities will be delayed until the individual(s) have left. In addition, if a crane is identified, the USFWS will immediately be notified and await further mitigation.

For facilities requiring transmission lines, requirements will include either marking those lines or burying the lines within whooping crane migration routes. The locations of these facilities have not been identified at this time.

Piping Plover:
Breeding piping plovers have not been identified within the proposed project area. No surveys are required.

Interior Least Tern:
Surveys will be required on the Cheyenne River only. The SDGFP plans to conduct breeding surveys this year.

Blacknose Shiner, Northern Redbelly Dace, Pearl Dace:
Surveys are recommended within tributaries of the Keya Paha River including Cottonwood Creek. Spawning period restrictions are also recommended. More data regarding stream crossings will be available with the completion of the 2008 ground surveys.

Sturgeon Chub:
Surveys are recommended within the Cheyenne and White River crossings. HDD methods would eliminate impacts to this species.

American Burying Beetle:

American burying beetles are present in Tripp County. The USFWS and SDGFP do not recommend trapping or relocating beetles. They recommend that we assume presence and consider off-site mitigation. The agencies are interested in purchasing land suitable for beetles in lieu of survey costs. This process will include the issue of a take permit.

Questions/Comments

There are no established buffer zone guidelines for raptors for South Dakota. Most widely accepted has been a 0.5 mile buffer zone for eagles or within line of sight.

The USFWS wondered what affect warm pipelines have on habitats (e.g. do they not allow some wetlands to freeze in the winter) and migrations.

Will check – no information about this subject at this time.

The USFWS would like to add the Western Prairie Fringed Orchid to the Special Status Species list. Surveys are recommended in wet meadows in Tripp County along the route south of Hwy 18.

SDGFP is interested in pump station locations. They would benefit from the purchase of lands being used for the sites by possibly gaining tracks of land to expand current state properties.

SDGFP is concerned with game birds including sage grouse, sharp-tailed grouse, and greater prairie chickens. It is recommended that ENSR contact the SDGFP game specialist Tom Kirschenmann on specifics concerning lek sites and game ranges.

TransCanada – Keystone Pipeline
Meeting Summary E-Mail Posting Form

Meeting Location: MFWP Office, Glasgow, MT

Date & Time: July 29, 2008 / 9:00 – 11:00 a.m.

Keystone Team Members: Patti Lorenz

Agency Contact Information:

Name	Organization	Title	Phone / E-mail address
Kelvin Johnson	MFWP	Wildlife Biologist	406-228-3700 / kelvinj@mt.gov
Ryan Rauscher	MFWP	Native Spp. Biologist	406-228-3700 / rrauscher@mt.gov
Howard Burt	MFWP	Wildlife Biologist	406-377-4556 / hrburt@mt.gov
Harold Wentland	MFWP	R6 Wildlife Manager	406-228-3710 / hwentland@mt.gov
John Carlson	BLM	BLM Wildlife Biologist	406-228-3762 / john_carlson@blm.gov
Mike Ruggles	MFWP	Fisheries Coordinator	406-526-3287 / mikeruggles@mt.gov
Pat Gunderson	MFWP	Wildlife Biologist	406-228-3704 / pgunderson@mt.gov
T.O. Smith	MFWP	Fish and Wildlife Plan Coordinator	406-444-3889 / tosmith@mt.gov

Meeting Purpose:

ENSR met with the MFWP and BLM to discuss issues pertaining to wildlife and special status species that have been identified for the Project. The goals of this meeting were to: 1) obtain concurrence on the proposed survey protocols and survey locations; and 2) discuss other issues or concerns that MFWP and BLM have regarding the Project.

Action Items:

Issue Description/Responsible Parties/Concern Level

MFWP asked if we were considering impacts to game species as well as special status species. Answer- yes and we have information from the MT Natural Heritage Program regarding big game ranges. Also concerned about impacts to grouse with the construction of power lines. This creates raptor perches. MFWP is concerned about silver sage habitat crossed north of Hwy 2 – sensitive sage grouse area. MFWP is also concerned about the route crossing the Porcupine Grasslands, a remnant native grassland area.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

MFWP stated that if the Missouri, Yellowstone, and Milk Rivers are crossed using HDD methods, there will be no impacts to fishes found in those rivers. Would also like to recommend including the Milk River on the list of HDD rivers due to the location of the crossing near the spillway. There are additional fishery concerns with the crossing of the Redwater River.

Issue Description/Responsible Parties/Concern Level

MFWP concerned about the pearl dace within prairie streams crossed by the project. Recommend researching the prairie streams database / research available on the MFWP website. MFWP can assist with any additional information on the streams crossed by the project. MFWP would like more information on water use for hydrostatic testing.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

MFWP would like more information on TransCanada's Standard Mitigation Measures and the locations of permanent structures (e.g. pump stations, access roads, and transmission lines)

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

Construction specifics were discussed including the width of the disturbance areas and what will be permanently impacted. A 50 ft. permanent easement will be maintained for the life of the pipeline. This involves managing vegetation to a certain height (e.g. trees will not be allowed to grow within that 50 feet). This fact brings up the concern for the removal of cottonwoods along the route. There is a conservation group that would be concerned with this impact.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

Impacts to grassland birds are a concern. BLM recommends surveying for these grassland birds in July. This part of the state contains a large diversity of grassland birds and is considered a globally important area. Bitter Creek WSA in northern Valley County will be crossed by the route and may be designated as a BLM ACEC. It is also considered an important bird area by the National Audubon List. To avoid impacts to these birds and comply with the MBTA, it is recommended that construction occur outside of the breeding season, more specifically, in the fall and winter. Surveys and clearing activities prior to construction are not affective mitigation measures.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

MFWP recommends burying transmission lines associated with the project.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

MFWP emphasized the need to comply with the Major Facilities Siting Act. Thomas Ring with the DEQ would be the contact.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

MFWP would like to know what TransCanada is willing to do as far as mitigation is concerned. They view mitigating for impacts to an entire community rather than individual T & E species. These communities include species of concern. They emphasized mitigating for what is directly impacted by the project. For example, if impacts included the loss of sagebrush habitat, MFWP would like compensation for that habitat and is not in agreement with mitigating for another habitat not impacted by the project. MFWP understands that not all impacts can be avoided.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

As far as surveys go, MFWP has an interest in knowing who will be conducting the surveys and may be interested in doing them if they could receive payment for their work. They would need to hire additional staff to complete that type of work.

Concern Level : High Moderate Low

Follow-up Required / Requested

MFWP Needs:

- Landuse / habitat impacts – amount crossed;
- Reports on any surveys completed;
- TransCanada's Standard mitigation measures;
- Locations of power lines, access roads, and permanent structures (e.g. pump stations and valve sights). They would like to add input to these locations; and
- If and when surveys are conducted – information on specialists conducting those surveys.

ENSR needs:

- As much location information as can be provided – willing to sign confidentiality agreements;
- Would like MFWP and BLM to review the SSS Table list and add input (response from MFWP is that it will take some time to do that); and

- Sensitive time windows (i.e., spawning dates, survey periods, winter range exclusion dates, etc.).

Additional Comments

MFWP would like to review the meeting notes and add concurrence.

TransCanada – Keystone XL Phase II Pipeline Meeting Summary E-Mail Posting Form

Meeting Location: SDGFP, Pierre, SD

Date & Time: January 27, 2009 / 9:00 a.m. – 10:45 a.m.

Keystone Team Members: Patti Lorenz

Agency Contact Information:

Name	Organization	Title	Phone / E-mail address
Charlene Besskin	U.S. Fish and Wildlife Service	Fish and Wildlife Biologist / TWS Certified Wildlife Biologist	(605) 224-8693 Ext. 231 Charlene_Bessken@fws.gov
Doug Backlund	South Dakota Department of Game, Fish and Parks S.D. Natural Heritage Program	Wildlife Biologist	(605) 773-4345 Doug.Backlund@state.sd.us
Leslie Peterson	South Dakota Department of Game, Fish and Parks	Aquatic Resource Coordinator	(605) 773-6208 Leslie.Petersen@state.sd.us
John Lott	South Dakota Department of Game, Fish and Parks	Chief Aquatic Resources	(605) 773-4508 John.lott@state.sd.us

Meeting Purpose:

AECOM met with the SD USFWS and SDGFP to discuss survey requirements, surveys protocols, mitigation measures, and best management practices for wildlife and special status species that have been identified for the Project. The goals of this meeting were to obtain agency concurrence on the proposed survey protocols, survey locations, and other mitigation measures.

Meeting Notes

Species Discussion:
Black-footed Ferret:
SD block cleared. No further surveys or mitigation requirements. Prairie dog towns were identified during the 2008 biological field surveys. SDGFP notes good information for associated burrowing owls. They are not a listed species but will fall under the MBTA.

American Burying Beetle:
No further survey work will be accepted. Off-site mitigation banking will be required for impacts to suitable ABB habitat at a 1:2 reclamation ratio. Both USFWS and SDGFP will required off-site mitigation to enhance ABB habitat in southern Tripp County.

Recommendations include purchasing land for SDGFP management (e.g. waterfowl protection areas, areas for hunting), setting up conservation easements with the Nature Conservancy, or USFWS easements (e.g. grassland easement). Suggested properties include Dogear Lake, Rahn Lake, and Turtle Butte. Concerns regarding light pollution also exist for areas of the sandhills that remain undeveloped. ABB are impacted to light by being attracted to it instead of meeting their daily needs for survival. SDGFP provided some BMP's including installing shading on light fixtures that focus the light towards the ground and types of bulbs that are not as bright.

Whooping Crane:
Keystone will not be permitting the transmission lines but will add recommendations to bury and or mark appropriately overhead lines. Regarding centerline construction, the USFWS recommends surveying for cranes if construction will cross wetland/waterbody habitat that provides suitable stopover habitat during the migration period. USFWS would accept clearance from an Environmental Inspector (EI). It would be beneficial to provide a habitat assessment to quantify suitable stopover habitat.

Interior Least Tern.
Data was presented from the 2008 surveys at the Cheyenne River. No further surveys are needed if construction occurs outside the nesting period at the Cheyenne River. HDD methods will eliminate impacts to nesting habitat. The SDGFP will be conducting annual surveys at the Cheyenne and will provide AECOM with the results. If construction occurs during the nesting period, additional nesting surveys would be required.

Western Prairie Fringed Orchid:
Surveys are scheduled for 2009. USFWS recommends additional surveys in 2010 as well because the flowers do not always bloom each year. In addition, these plants are root based so an approach to protect seeds (e.g. topsoil segregation) is not applicable. The surveyor also needs to be capable of locating the plant without the flowers present and at young stages. There has not been a record in South Dakota in 100 years but this part of the state has never been surveyed. Don Hazlette was mentioned as a qualified surveyor.

Swift Fox:
Data was presented regarding potential swift fox dens located during the 2008 biological field surveys. Activity status was not determined at that time. SDGFP recommends verifying the use by canids and conducting more intensive surveys prior to construction. If an EI notices a potential den site prior to construction, it is recommended that the activity be verified prior to disturbing the den. SDGFP is only concerned about impacts directly disturbed by construction and during the denning period. It was also noted that no den sites were identified in the initial area described at the first meeting in 2008.

River Otter:
Surveys are planned prior to construction at the Cheyenne, White, and Bad rivers. SDGFP recommends surveys only if suitable habitat (e.g. beaver lodges) is found at the crossing.

Sensitive Fish:
Concern for these species within crossings of tributaries of the Keya Paha River. AECOM presented data from the 2008 biological surveys. Only two intermittent crossings were identified. SDGFP will look at the crossings with more detail to determine the need for presence/absence surveys. SDGFP would like more data because these streams have never been surveyed. Buffalo Creek was delineated but Lute Creek was not and it was recommended that a delineation be completed. SDGFP will provide more information on spawning periods.

Bald Eagle:
AECOM presented the results of the 2008 aerial raptor surveys. Additionally, winter roost surveys are scheduled for February 2009 and nesting surveys are planned for April 2009. SDGFP does not believe any communal roost sites exist along the route. SDGFP will provide the agreement between USFWS/SDGFP/ACOE on bald eagle guidelines.

Raptors:
Ferruginous hawk nests mostly in trees in SD. Ground crews did not identify and ground nests. AECOM asked if it would be possible to remove nest trees outside the nesting period. SD law prohibits these activities without a permit. SDGFP will provide more information on the permit.

Prairie Grouse:
SDGFP recommends aerial lek surveys along the ROW within line of sight (~0.25 miles). SDGFP will provide locations and surveys frequency.

Follow-up Required / Requested

SDGFP Needs:

- More information on sage grouse habitat and survey protocol – AECOM will follow up with Chad Switzer.

AECOM needs:

- Information of South Dakota law regarding removing nest trees;
- MOU with ACOE, USFWS, and SDGFP regarding bald eagle management;
- ABB off-site mitigation options;
- Aerial grouse lek survey locations;
- Annual survey results for least tern at the Cheyenne River;
- Survey period for sensitive fish species.

Additional Comments

- Sprague's Pipit is up for federal listing. The USFWS will send the 90 day finding. This species may warrant native prairie surveys.
- MBTA discussions are ongoing and KXL will most likely follow suite with the developing Keystone Conservation Agreement. This will involve mitigating for the loss of trees and grassland habitat.
- Verify that the pipeline will not heat wetlands/waterbodies crossed, keeping them open and attracting waterfowl to stay in an area when they should be migrating through.
- AECOM will finalize a document with the results of this meeting to be sent out for final concurrence to TransCanada and USFWS/SDGFP.
- Dave Ottie is a good contact for reclamation seed mix recommendations.

TransCanada – Keystone XL Phase II Pipeline Meeting Summary E-Mail Posting Form

Meeting Location: Cottonwood Inn, Glasgow, MT

Date & Time: February 3, 2009 / 8:30 – 11:30 a.m.

Keystone Team Members: Patti Lorenz, Paul Swartzinski

Agency Contact Information:

Name	Organization	Title	Phone / E-mail address
Harold Wentland	MFWP	R6 Wildlife Manager	406-228-3710 / hwentland@mt.gov
Arnold Dood	MFWP	Endangered Species Biologist	406-994-6433 / adood@mt.gov
Ryan Rauscher	MFWP	Native Spp. Biologist	406-228-3700 / rrauscher@mt.gov
Steve Dalbey	MFWP	Fisheries Manager	406-228-3706 / sdalbey@mt.gov
Woody Baxter	MFWP	Regional Parks Manager	406-228-3707 / gwbaxter@mt.gov
Pat Gunderson	MFWP	Wildlife Biologist	406-228-3704 / pgunderson@mt.gov
Windy Davis	MFWP	Energy Specialist	406-228-0942 / mikeruggles@mt.gov
John Carlson	BLM	BLM Wildlife Biologist	406-228-3762 / john_carlson@blm.gov

Meeting Purpose:

ENSR met with the MFWP and BLM to discuss survey requirements, surveys protocols, mitigation measures, and best management practices for wildlife and special status species that have been identified for the Project. The goals of this meeting were to obtain MFWP concurrence on the proposed survey protocols, survey locations, and other mitigation measures.

Meeting Notes

Project Updates provided by AECOM:

- Construction scheduled for 2011;
- Lead federal agency is the Department of State;
- The MFSA has been submitted with the DEQ;
- The EIS and BA are scheduled for 2009;
- Biological field surveys were conducted along the entire route where landowner access was granted in 2008.

Project Updates provided by MFWP:

- The Cornwell Conservation Easement has been denied by the Governor. This might be a good off-site mitigation

opportunity for TransCanada.

Project Updates provided by BLM:

- The landownership on the Milk River has been changing hands;
- Lands along the Missouri River Crossing are in the early stages of becoming a State Park.

AECOM Discussed BMP's/Mitigation Measures/Survey Protocols on a species by species approach. Below are the notes of those discussions by species:

Federal Species

Black-footed Ferret:
AECOM: Presented locations of the two prairie dog towns identified during 2008 field surveys.
MFWP/BLM: Recommend conducting a full delineation of the towns. Both towns are located on BLM lands. Both BLM and MFWP have data on the town located in Valley County but no one has ever surveyed McCone County for prairie dog towns. If the towns meet the USFWS BFF requirements, additional BFF surveys will be recommended. MFWP would like the lat/long locations for both towns. BLM will get AECOM more information on the town in Valley County.

Whooping Crane:
AECOM: At this time, Keystone will not be permitting the electrical powerlines. Electrical powerline providers would be responsible for obtaining the necessary approvals or authorizations from federal, state, and local governments.
MFWP: The Yellowstone River has been used as a stop-over site during migration in the past.
BLM: The Project is on the extreme Western edge of the migration route.

Piping Plover:
AECOM: Surveys for presence of nesting plovers will be conducted within alkali wetlands in Valley County (MP 50.0 and 57.0) in 2009 and prior to construction in 2011 if construction will occur there during the nesting period.
MFWP: Concerned about the buffer size of a 0.25 mile if a nest is found but will accept it because it is a BLM standard.

Least Tern:
AECOM: Surveys for terns on the Yellowstone River will be conducted in 2009 and prior to construction in 2011 if construction will occur there during the nesting period.
MFWP: Concerned about the buffer size of a 0.25 mile if a nest is found but will accept it because it is a BLM standard. MFWP would like the lat/long location of the Yellowstone River crossing. Surveys for terns at the Yellowstone are conducted on an annual basis by MFWP and they would invite biologists for the Project to attend those surveys with MFWP. The optimal time of survey would be the last part of June or early July but it might vary due to water levels.

Pallid Sturgeon:
AECOM: HDD methods will be used to cross the Milk, Missouri, and Yellowstone Rivers reducing impacts to this species.
MFWP/BLM: Agreed

Grey Wolf:
MFWP: May want to address potential to occur within the Project area but not further surveys or mitigation would be required.
AECOM: The USFWS has not addressed this species as potentially occurring within the Project area.

BLM Sensitive/ Montana Species of Concern

Swift Fox:
AECOM: 32 potential den sites were identified during the 2008 field surveys. The activity status of the den sites was not determined at that time.
MFWP: What does "potential den site" mean?
AECOM: Essentially a hole used by a mammal.
MFWP: Recommended conducting more intensive surveys for swift fox dens in Phillips and Valley Counties only. It would be odd for swift fox records south of the Missouri River.
AECOM: The USFWS recommended the same locations.

Townsend's Big-eared Bat:
AECOM: No further surveys or mitigation measures are proposed because the Project does not cross suitable maternity roost or hibernacula habitat (e.g., caves or mines).
BLM: Townsend's have been observed using badlands areas for maternity roosts near the project south of the Missouri River in

McCone County. Recommend conducting acoustic surveys for the presence of bat species within that habitat.

Spotted Bat:
AECOM: AECOM: No further surveys or mitigation measures are proposed because the Project does not cross suitable maternity roost or hibernacula habitat (e.g., caves or mines).
MFWP: This species has been documented along the Milk River.
BLM: Acoustical surveys are recommended to identify all bat species identified as occurring within the Project area.

Long-legged Myotis:
AECOM: This species uses forested areas for maternity roosts. The 2008 field surveys provided locations of all forested areas along the route and the information was presented to MFWP and BLM.
BLM: Acoustical surveys are recommended to identify all bat species identified as occurring within the Project area.

Black-tailed Prairie Dog:
AECOM: No further surveys or mitigation measures are proposed specifically for this species.
MFWP: Are you treating them as listed species due to their current proposal for federal listing?
AECOM: We would like recommendations from MFWP on how to cross the towns. Right now there is no mitigation proposed but due to the linear nature of the disturbance and the mobility of the species, impacts would likely be low. Additionally, there have been observations of prairie dogs being attracted to the ROW after the pipe has been covered.
MFWP: Requested coordinates of the locations of the town.

Meadow Jumping Mouse and Preble's Shrew:
AECOM: No further surveys or mitigation measures are proposed.
MFWP/BLM: Agreed.

Bald Eagle:
AECOM: Aerial surveys were conducted in April 2008. No nesting eagles were identified along the route in Montana. One roost site was identified at Frenchmen Reservoir, approximately 1 mile southwest of the Project. Additional winter roost surveys are planned for Feb. 2009 and additional nest surveys are planned for April 2009. Additional surveys for winter roosts and nests will be conducted prior to construction.
BLM: There is a communal roost site located upstream from the Project crossing on School Trust Lands near the fishing access. There have also been nesting attempts in this location.
MFWP: Nesting attempts have not been successful.

Peregrine Falcon:
AECOM: The falcon is a non-nesting migrant through the project area but would be included in additional raptor surveys. No peregrine falcon nests were identified during the April surveys.
MFWP/BLM: Agreed.

Greater Sage Grouse:
AECOM: We have gathered data on historic known leks and suitable sagebrush habitat. We would propose to do aerial lek surveys within that habitat.
BLM: Sage grouse have been observed using habitat at great distances from sagebrush. The BLM has a good handle on the locations of lek sites along the Project route
MFWP: MFWP does as well and can block out portions of Valley County. Also, MFWP recommends doing pedestrian surveys but also agrees that helicopter surveys will be acceptable. MFWP has also conducted lek surveys using a fixed-wing aircraft.
BLM/MFWP: They have little survey information on McCone County and would like additional surveys in that area.
MFWP: Would like to recommend compensation to do the surveys themselves. They would be willing to be accompanied by a AECOM representative.
AECOM: According to Adam Messer with MFWP, we do not cross any wintering habitat and the grouse in this part of the country are considered non-migratory.
MFWP: Disagreed. They will provide AECOM with more specific wintering locations. They also recommend looking for these areas during the bald eagle winter roost surveys along the southern portion of the route in Fallon County. Kent Undlin with the BLM has a database of sagebrush that can be provided.

Sharp-tailed Grouse:
AECOM: Surveys for the sharp-tailed grouse will be considered incidental when conducting the greater sage grouse surveys. Asked MFWP/BLM if aerial surveys could identify sharp-tail leks.
MFWP: Yes, known data of lek sites using aerial surveys.

Migratory Bird Species of Concern:
AECOM: A Conservation Agreement for the MBTA between the USFWS Migratory Bird Office and Keystone is currently being developed and the Keystone XL Pipeline will follow suite. The Sprague's pipit, however, is up for federal listing. AECOM is planning native prairie surveys to identify suitable habitat for 2009.
BLM: The peak nesting period for migratory birds is late May and June and construction should be avoided during those times. The BLM is concerned about permanent structures removing nesting habitat.

Mountain Plover:
AECOM: The USFWS recommended surveys for the mountain plover in prairie dog towns and bentonite fields in Valley County.
MFWP: MFWP has concerns for this species in short-grass prairie and Ag fields as well. MFWP will provide survey quadrants to AECOM.

Burrowing Owl:
AECOM: Surveys will be conducted in prairie dog towns crossed by the route.
MFWP: Mountain plover also utilize ground squirrel burrows and small mammal burrows and recommends surveying in these locations as well.

Swainson's Hawk and Ferruginous Hawk:
AECOM: The aerial raptor nest surveys and the biological field surveys did not identify any active swainson hawk or ferruginous hawk nests along the route in Montana. Additional, raptor nest surveys are scheduled for 2009 and prior to construction. Would preclearing measures be accepted by MFWP and BLM?
MFWP: Yes as long as any ferruginous hawk nests could be relocated prior to disturbance.

Sturgeon Chub, Sicklefin Chub, Sauger, Paddlefish, Shortnose Gar, Blue Sucker, Northern Redbelly Dace x Finescale Dace:
AECOM: No impacts to these species because HDD methods will be used to cross the Missouri, Milk, and Yellowstone Rivers. Frenchmen Creek is not planned for HDD activities and may impact the Northern redbelly dace x finescale dace. Also, Boxelder Creek is not planned for HDD activities and may impact the sauger.
MFWP: Does not feel like surveys would be a good way to determine the presence of fish species. Instead, they would like to assume presence and provide construction exclusion periods during the spawning periods. This goes for other stream crossing not using HDD methods such as the Redwater River and other sensitive prairie streams.
MFWP: MFWP would like to also add Burbot to the list of sensitive fish occurring within the project area but no further surveys or mitigation would be required.

Reptiles/Amphibians:
MFWP: There are species of concern missing from analysis.
AECOM: AECOM will add more detail on reptiles and amphibians. Those currently occurring within the project area include the western hog-nosed snake, common sagebrush lizard, great plains toad, greater short-horned lizard, milk snake, northern leopard frog, plains spadefoot, snapping turtle, and spiny softshell.
MFWP: Would like to recommend setting up mitigation measures for protecting snake hibernacula and preventing snakes from entering an open trench and not being able to escape. They would like to propose using a specialist that would be able to handle hibernating snakes that might be overturned during construction activities.

Big Game:
AECOM: Big game sensitive range exclusions will be adhered to on BLM lands only.
MFWP: Why not private land as well?
AECOM: MFWP does not have state statues or laws for requiring these mitigation measures on private lands.

Action Items:

Issue Description/Responsible Parties/Concern Level

MFWP asked if TransCanada would consider forms of off-site mitigation to compensate for impacts to wildlife, including sensitive species.

Answer- Yes, recommendations in the form of off-site mitigation will be given to TransCanada for further consideration.

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

BLM and MFWP would like all survey reports sent to the Montana Natural Heritage Program

Concern Level : High Moderate Low

Issue Description/Responsible Parties/Concern Level

Can MFWP make recommendations for the design of access roads?

Answer: Not sure will follow up.

Concern Level : High Moderate Low

Follow-up Required / Requested

MFWP Needs:

- Lat/Long Coordinates for Yellowstone River Crossing;
- Lat/Long Coordinates for Prairie Dog Towns;
- Links to MFSA;
- Lat/Long Coordinates for stream crossings;
- Information on Access Road structure

AECOM needs:

- Sagebrush locations based on the database Kent Undlin has put together (mentioned by Windy Davis).
- Locations of sage grouse survey locations. Wendy mentioned that she would be able to block out areas of Valley County.
- Survey quadrants for mountain plover

Additional Comments

- AECOM will finalize a document with the results of this meeting to be sent out for final concurrence to TransCanada and MFWP.
- An additional meeting with the BLM is scheduled for February 5, 2009.

TransCanada – Keystone XL Phase II Pipeline Meeting Summary E-Mail Posting Form

Meeting Location: NA – Conference Call

Date & Time: February 5, 2009 / 10:00 a.m. – 12:00 p.m.

Keystone Team Members: Patti Lorenz, Paul Swartzinski

Agency Contact Information:

Name	Organization	Title	Phone / E-mail address
Kent Undlin	BLM – Miles City Field Office	Wildlife Biologist	406-233-2845 kundlin@mt.blm.gov
John Carlson	BLM – Glasgow Field Office	Wildlife Biologist	(406) 228-3762 john_carlson@blm.gov
Fritz Prellwitz	BLM – Malta Field Office	Wildlife Biologist	406-654-5118 fritz_prellwitz@blm.gov

Meeting Purpose:

AECOM arranged a conference call with the BLM to discuss survey requirements, surveys protocols, mitigation measures, and best management practices for wildlife and special status species that have been identified for the Project. The goals of this meeting were to obtain MFWP concurrence on the proposed survey protocols, survey locations, and other mitigation measures.

Meeting Notes

Project Updates provided by AECOM:

- Construction scheduled for 2011;
- Lead federal agency is the Department of State;
- The MFSA has been submitted with the DEQ;
- The EIS and BA are scheduled for 2009;
- Biological field surveys were conducted along the entire route where landowner access was granted in 2008.

AECOM Discussed BMP's/Mitigation Measures/Survey Protocols on a species by species approach. Below are the notes of those discussions by species:

Federal Species

Black-footed Ferret:
AECOM: Presented locations of the two prairie dog towns identified during 2008 field surveys.
BLM: The BLM thinks that there is data on the town located in Valley County. There are concerns for an additional town located near MP 13 in Phillips county approximately 1.5 miles NE of the proposed route. At what distance will impacts to ferrets be assessed (e.g., towns crossed by the route, adjacent to the route, etc.)?
AECOM: As discussed with USFWS, impacts will only be assessed for prairie dog towns crossed by the route. If the pipeline does not cross a prairie dog town, no impacts are anticipated to black-footed ferrets.
BLM: If the towns meet the USFWS black-footed ferret requirements, additional BFF surveys will be recommended. BLM would

like the lat/long locations for both towns. BLM will get AECOM more information on the town in Valley County.

Whooping Crane:
AECOM: At this time, Keystone will not be permitting the electrical powerlines. Electrical powerline providers would be responsible for obtaining the necessary approvals or authorizations from federal, state, and local governments.
BLM: Sightings of migrating whooping cranes have been to the west of the project area but the BLM does not have any concerns for this species regarding impacts from centerline construction. BLM asked if an impact analysis for the whooping crane will be included in the BA.
AECOM: Yes.

Piping Plover:
AECOM: Surveys for presence of nesting plovers will be conducted within alkali wetlands in Valley County (MP 50.0 and 57.0) in 2009 and prior to construction in 2011 if construction will occur there during the nesting period.
BLM: Agreed.

Least Tern:
AECOM: Surveys for terns on the Yellowstone River will be conducted in 2009 and prior to construction in 2011 if construction will occur there during the nesting period.
BLM: Agreed.

Pallid Sturgeon:
AECOM: HDD methods will be used to cross the Milk, Missouri, and Yellowstone Rivers reducing impacts to this species.
BLM: Agreed

<u>BLM Sensitive/ Montana Species of Concern</u>

Swift Fox:
AECOM: 32 potential den sites were identified during the 2008 field surveys. The activity status of the den sites was not determined at that time. Also mentioned the results of discussions with MFWP earlier in the week regarding recommendations to conduct more intensive surveys for swift fox dens in Phillips and Valley Counties only. It would be odd for swift fox records south of the Missouri River.
BLM: Agreed that more extensive den surveys are needed for Phillips County.

Townsend's Big-eared Bat:
AECOM: Initial assessment of potential habitat for the Townsend's big-eared bat indicated no further surveys or mitigation measures because the Project did not cross suitable maternity roost or hibernacula habitat (e.g., caves or mines). However, conversations with the BLM earlier in the week discussed Townsend's observed using badlands areas for maternity roosts near the project south of the Missouri River in McCone County. Recommend conducting acoustic surveys for the presence of bat species within that habitat.
BLM: Agreed.

Spotted Bat:
AECOM: Initial assessment of potential habitat for the spotted bat indicated no further surveys or mitigation measures because the Project does not cross suitable maternity roost or hibernacula habitat (e.g., caves or mines).
BLM: This species has been documented along the Milk River and acoustical surveys are recommended to identify all bat species identified as occurring within the Project area.

Long-legged Myotis:
AECOM: This species uses forested areas for maternity roosts. The 2008 field surveys provided locations of all forested areas along the route and the information was presented to MFWP and BLM.
BLM: Acoustical surveys are recommended to identify all bat species identified as occurring within the Project area.

Black-tailed Prairie Dog:
AECOM: No further surveys or mitigation measures are proposed specifically for this species. Due to the linear nature of the disturbance and the mobility of the species, impacts would likely be low. Additionally, there have been observations of prairie dogs being attracted to the ROW after the pipe has been covered.
BLM: Recommended mitigation measures for avoiding impacts to this species:

- Avoid crossing towns;
- Neck down construction corridor within the town (i.e., similar to wetland crossing procedures);
- Implement timing restrictions for construction activities between March 1 and July 1.

Bald Eagle:
AECOM: Aerial surveys were conducted in April 2008. No nesting eagles were identified along the route in Montana. One roost site was identified at Frenchmen Reservoir, approximately 1 mile southwest of the Project. Additional winter roost surveys are planned for Feb. 2009 and additional nest surveys are planned for April 2009. Additional surveys for winter roosts and nests will be conducted prior to construction.
BLM: There is a communal roost site located approximately 2 miles upstream from the Project crossing on School Trust Lands near the fishing access. There have also been nesting attempts in this location. Historic use areas also include the area downstream from the dam at Frenchmen Reservoir (~1 mile from the Project crossing) and on the Yellowstone River west of the bridge in the town of Fallon.
AECOM: The Project crosses the Yellowstone approximately 5 miles to the east of the town of Fallon.
BLM: Recommends contacting Christy Duboise (MFWP) to access the Montana Bald Eagle database.

Peregrine Falcon:
AECOM: The falcon is a non-nesting migrant through the project area but would be included in additional raptor surveys. No peregrine falcon nests were identified during the April surveys.
MFWP/BLM: Agreed.

Greater Sage Grouse:
AECOM: We have gathered data on historic known leks and suitable sagebrush habitat. We would propose to do aerial lek surveys within that habitat. A summary of what was discussed with MFWP and John Carlson (BLM) includes:

BLM: Sage grouse have been observed using habitat at great distances from sagebrush. The BLM has a good handle on the locations of lek sites along the Project route

MFWP: MFWP does as well and can block out portions of Valley County. Also, MFWP recommends doing pedestrian surveys but also agrees that helicopter surveys will be acceptable. MFWP has also conducted lek surveys using a fixed-wing aircraft.

BLM/MFWP: They have little survey information on McCone County and would like additional surveys in that area.

AECOM: According to Adam Messer with MFWP, we do not cross any wintering habitat and the grouse in this part of the country are considered non-migratory.

MFWP: Disagreed. They will provide AECOM with more specific wintering locations. They also recommend looking for these areas during the bald eagle winter roost surveys along the southern portion of the route in Fallon County. Kent Undlin with the BLM has a database of sagebrush that can be provided.

BLM: Agreed that areas North of the Missouri River have been extensively surveyed for known lek sites near the project area. The BLM recommends avoiding these areas during the lekking period. They also recommend avoiding construction in nesting habitat during the nesting period. BLM asked how we determined areas of sagebrush crossed by the project.
AECOM: Sagebrush locations were determined by using a combination of field verification during the 2008 field surveys and aerial map interpretation. AECOM offered to send K. Undlin the results of the sagebrush delineations.
BLM: Agreed, would like to compare that information to the BLM sagebrush database.
AECOM: The current survey protocol will include:

- Extensive aerial lek surveys within 4 miles of the route within sagebrush habitat in McCone County;
- Aerial lek surveys within line of sight (~0.25 miles) along the rest of the route through Montana;
- Sharp-tail grouse lek surveys will occur simultaneously with the sage grouse surveys (incidental surveys);
- Ground crews will be utilized to verify any active leks observed during the aerial surveys along the route.

BLM: Agreed. Also recommend checking with Lou Hanebury on results of the USFWS sage grouse lek database for lek numbers and activity.
AECOM: The dominant type of sagebrush is silver sage. This species is known to restablish better than other types of sagebrush, agreed?
BLM: Agreed but recommend planting seedlings during reclamation activities.
AECOM: Are there any plant material centers nearby?
BLM: Yes, there is a BLM seed source center. Helping out the seed source center is also a good mitigation measure to reduce impacts to these species.

Sharp-tailed Grouse:
(See sage grouse discussion above)

Migratory Bird Species of Concern:
AECOM: A Conservation Agreement for the MBTA between the USFWS Migratory Bird Office and Keystone is currently being developed and the Keystone XL Pipeline will follow suite. The Sprague's pipit, however, is up for federal listing. AECOM is planning native prairie surveys to identify suitable habitat for 2009.
BLM: Regardless of the MBTA agreements, mitigation measures for impacts to BLM sensitive bird species need to be determined specifically for BLM lands. The peak nesting period for migratory birds is late May and June and construction should be avoided

during the nesting period from April 15 – July 15. The BLM is concerned about permanent structures removing nesting habitat. Surveys are not necessary but the Project should mitigate for take (unavoidable). Nest dragging prior to construction activities, native grassland mapping, and off-site mitigation measures are all recommendations for reducing impacts and mitigating take. The BLM feels that even after reclamation activities occur, it will take at least two breeding seasons for the area to become suitable nesting habitat again. The area north of the Missouri River contains a diverse make-up of sensitive grassland breeding birds and construction of the Project has the potential to have population affects. Finally, the grasshopper sparrow is not a BLM sensitive species and the black-crowned night heron is.

Mountain Plover:
AECOM: The USFWS recommended surveys for the mountain plover in prairie dog towns and bentonite fields in Valley County.
BLM: Recommends conducting surveys within suitable habitat.

Burrowing Owl:
AECOM: Surveys will be conducted in prairie dog towns crossed by the route.
BLM: Burrowing owls also utilize ground squirrel burrows and small mammal burrows and recommends surveying in these locations as well.

Swainson's Hawk and Ferruginous Hawk:
AECOM: The aerial raptor nest surveys and the biological field surveys did not identify any active swainson hawk or ferruginous hawk nests along the route in Montana. Additional, raptor nest surveys are scheduled for 2009 and prior to construction. Also mentioned discussions with MFWP that include relocating existing ferruginous hawk nests off the Project route.
BLM: Would like to see the nest location data from the aerial surveys.
AECOM: Can send them a CD with that information.
BLM: Agreed that transplanting ferruginous hawk nests have been done successfully and can send AECOM historic nest site data.

Sturgeon Chub, Sicklefin Chub, Sauger, Paddlefish, Shortnose Gar, Blue Sucker, Northern Redbelly Dace x Finescale Dace:
AECOM: No impacts to these species because HDD methods will be used to cross the Missouri, Milk, and Yellowstone Rivers. Frenchmen Creek is not planned for HDD activities and may impact the Northern redbelly dace x finescale dace. Also, Boxelder Creek is not planned for HDD activities and may impact the sauger. In addition, no suitable habitat for sensitive fish species is crossed by the route on BLM lands.
BLM: Agreed. No impacts to fish species and no further mitigation measures or survey requirements.

Reptiles/Amphibians:
AECOM: Included discussions from earlier meeting with MFWP and J. Carlson (BLM) regarding the need to have an established protocol for the Environmental Inspector to follow in order to protect snake hibernacula and preventing snakes from entering an open trench and not being able to escape during construction. They would like to propose having a specialist available that would be able to handle hibernating snakes that might be overturned during construction activities.
BLM: Also mentioned that surveys for reptile and amphibian species would not mitigate for impacts during construction. Their presence should be assumed and off-site mitigation should be established for these species. The MFWP will be meeting in Canada to discuss policies used for mitigating loss of reptile and amphibian habitat.

Big Game:
AECOM: Big game sensitive range exclusions will be adhered to on BLM lands only.
BLM: Exclusion dates include December 1 – March 31 in Valley through Fallon Counties and December 1 – May 15 in Phillips County but TransCanada may be able to apply for exceptions.

Follow-up Required / Requested

BLM Needs:

- Lat/Long Coordinates for Prairie Dog Towns;
- Links to MFSA;
- Map of known sage grouse lek sites (send map created for MFSA that includes sage grouse lek locations and sensitive species (natural heritage data request) locations;
- CD of raptor nest locations from aerial surveys.

- More information on access roads.

AECOM needs:

- Contact Christy Duboise (MFWP) for bald eagle data base;
- Contact USFWS on sage grouse lek database;
- Historic raptor nest site data;
- Contact MFWP regarding the results of meetings in Canada regarding reptile/amphibian mitigation;
- Sagebrush locations based on the database Kent Undlin has put together (mentioned by Windy Davis).

TransCanada – Keystone XL Phase II Pipeline Meeting Summary E-Mail Posting Form

Meeting Location: Nebraska Game and Parks Commission, Lincoln, NE

Date & Time: February 19, 2009 / 2:00 p.m. – 3:45 p.m.

Keystone Team Members: Patti Lorenz

Agency Contact Information:

Name	Organization	Title	Phone / E-mail address
John Cochnar	USFWS – Grand Island, NE	Deputy Nebraska Field Supervisor	308-382-6468 x 20 / John_Cochnar@fws.gov
Carey Grell	NGPC	Environmental Analyst Realty and Environmental Services Division	402-471-5423 / carey.grell@nebraska.gov
Rick Schneider	NGPC	Coordinator/Ecologist Nebraska Natural Heritage Program	402-471-5569 / rick.schneider@nebraska.gov
Mike Fritz	NGPC	Zoologist - Nebraska Natural Heritage Program	402-471-5419 / mike.fritz@nebraska.gov

Meeting Notes

Project Updates:

- Department Of State will be the lead federal agency.
- Construction for Phase II scheduled for 2011.
- The EIS is scheduled for September 2009.
- BA is tentatively scheduled for summer/fall 2009. The BA will encompass both Phase I and II of the project, therefore, incorporating multiple regional USFWS office.
- The 2008 biological surveys were completed along the entire route where landowner access was granted. Another round of surveys is scheduled for Spring 2009 to encompass denied assess lands and route adjustments.

Objective:
Objective for this meeting is to finalize sensitive species mitigation/BMPs/survey protocols. Concluding the discussions at today's meeting, AECOM will adjust these documents and re-submit them to TransCanada and the agencies for final concurrence.

Species Specific Information

Black-footed Ferret:
No further mitigation requirements.

Whooping Crane:
Keystone will not be permitting the transmission lines but will add recommendations to bury and or mark appropriately overhead lines. Regarding centerline construction, the USFWS recommends developing a separate MOU, similar to the Keystone Project, for the whooping crane.

Piping Plover/Least Tern:
Data was presented from the 2008 surveys at the Niobrara, Loup and Platte rivers. HDD methods will eliminate impacts to nesting habitat. NGPC would like AECOM to verify with Joel Jorgensen (NGPC), but feels that no further surveys are needed if HDD construction at these rivers occurs more than 100 yards from the banks of the rivers. Additionally, if a nest site is found, a 0.25 mile buffer from the nest will be applied. Therefore, if construction occurs during the nesting period, additional nesting surveys would be required.

Water depletion impacts are a concern for the tern and plover. The Keystone XL Project should abide by the same conservation measures as Keystone to avoid impacts.

American Burying Beetle:
The USFWS and NGPC recommend trap and relocate (and possibly bait away) measures for the American burying beetle in Nebraska. Information was relayed that South Dakota does not recommend surveys, instead, recommends establishing off-site mitigation banking.

Take of any sensitive species is currently prohibited under Nebraska State law. However, that may change prior to 2011 and NGPC will notify AECOM with any changes. Therefore, the Keystone XL Project cannot mitigate for take of the American burying beetle. Permanent structures will also require additional conservation measures such as lighting requirements, to direct the light to a smaller area.

In addition, the USFWS feels that due to the sensitivity of the sandhills habitat, disturbed beetle habitat will never be restored to pre-disturbed conditions and will forever be altered. Additional compensation measures (e.g., restoration ratios of 2:1, necking down, etc.) may be required in addition to survey efforts.

Western Prairie Fringed Orchid:
Surveys are recommended within the known range in Nebraska. NGPC will provide maps of the known range along the project route. NGPC contractors Jerry and Bob Steinauer may be available to provide known locations to survey crews as an example of suitable habitat along the route. NGPC recommends conducting a habitat assessment prior to the flowering period to narrow down locations for occurrence surveys.

Pallid Sturgeon:
The Project will not directly impact the pallid sturgeon because it is outside of its known range in Nebraska. However, water depletion impacts are a concern for the pallid sturgeon. The Keystone XL Project should abide by the same conservation measures as Keystone to avoid impacts.

Eskimo Curlew:
NGPC would like this species added to the potential occurrence list. No further mitigation requirements or surveys will be required and the project is not likely to impact this species.

River Otter:
HDD would prevent impacts to river otters. NGPC would like AECOM to verify with Sam Wilson (NGPC), but feels that no further surveys are needed if HDD construction at the Niobrara, Cedar, Loup, and Platte rivers occurs more than 100 yards from the banks of the rivers.

Additional rivers recommended for river otter surveys include the North Branch Elkhorn, Elkhorn, and South Fork Elkhorn. Because these rivers are not planned for HDD crossings, surveys for denning sites should be conducted prior to construction. The surveys should be concerned only with den sites being directly impacted (e.g. within the construction ROW) by ground disturbing activities.

Bald Eagle:
The bald eagle is no longer state listed in Nebraska. Data was presented from the 2008 and 2009 aerial nest and winter roost surveys. All additional conservation measures will be evaluated by the USFWS under the Bald and Golden Eagle Protection Act (BGEPA).

Raptors:
Data was presented from the 2008 aerial nest surveys. NGPC would like a set of maps with the nest locations. Regarding raptor nest

buffer requirements, NGPC would like to use the Colorado Division of Wildlife (CDOW) standards. The USFWS will review those standards and the REX-West guidelines to confirm.

Blacknose Shiner, Northern Redbelly Dace, and Finescale Dace:
Surveys are recommended and NGPC would also like to include the pearl dace and plains topminnow to the list. These species are not listed but are considered sensitive and occur within similar habitat to those listed above. NGPC recommends noting their occurrence during the other sensitive fish surveys.

There are only 5 known blacknose shiner populations in Nebraska. NGPC would like AECOM to reconsult on additional conservation measures if blacknose shiners are found within any streams surveyed for the Project. NGPC would like to recommend HDD any crossings with positive findings.

The surveyors must have qualifications for these specific species and will need to obtain a permit from NGPC.

Massasauga:
Surveys are recommended and AECOM will send NGPC the survey protocol used during the REX-West project for confirmation. Additionally, suitable habitat should include areas adjacent to the ROW. NGPC has concerns about direct impacts (i.e., crushing by equipment) to individuals as they move from burrows to upland foraging habitat. Similar concerns for the timber rattlesnake were expressed but this species is not state listed. NGPC recommends a daily survey within suitable habitat prior to construction activities to clear the area of snakes.

Small White Lady's Slipper:
NGPC will provide range maps for future survey efforts (See Western Prairie Fringed Orchid for conservation measures).

MBTA:
TBD with the finalization of the Keystone MBTA Conservation Agreement.

Discussion/Action Items

- The project route crosses all private land in Nebraska.
- NGPC will send AECOM shapefiles they have developed with the special status species' ranges and native ecosystems.
- NGPC would like to know more specific location information on the Steele City Tank Farm. Recommend not locating it within the Steele City Canyons due to the locations of sensitive fens.
- The USFWS recommends sending a draft BA prior to submitting the final draft for review.
- USFWS Nebraska will coordinate with USFWS South Dakota on American burying beetle conservation measures.
- NGPC recommends contacting Joel Jorgensen and Sam Wilson for specifics on river otter and least tern/piping plover conservation measures.
- AECOM will send NGPC a CD with the results of the 2008 aerial raptor nest surveys and massasauga protocol.
- USFWS will confirm raptor nest buffer zones from the REX-West Project and CDOW standards.

Meeting between US Fish and Wildlife Service (USFWS), Keystone, U.S. Department of State (DOS) and ENTRIX, Inc. regarding Endangered Species Act (ESA) Consultation for the Keystone XL Pipeline Project

Date: September 3, 2010
Time: 9:00 a.m. to 11:00 a.m. Central Time

Meeting Attendees:
John Cochnar, USFWS Grand Island, NE
Martha Tacha, USFWS Grand Island, NE
Brooke Stansberry, USFWS Grand Island, NE
Michael George, USFWS Grand Island, NE
Sarena Selbo, USFWS Denver, CO
Jon Schmidt, Trow
Matt Comeaux, Trow
Jonathan Minton, Trow
Matthew Kindred, Trow
Dave Beckmeyer, Perennial Environmental Services
John Beaver, Westech in Helena, MT
Wyatt Hoback, University of Nebraska
Michael Stewart, DOS
Lynn Noel, ENTRIX, Inc.
Kevin Freeman, ENTRIX, Inc.
Kimberly Demuth, ENTRIX, Inc.
Joe Rubin, ENTRIX, Inc.

Purpose: Discuss USFWS comments on the Draft Biological Assessment (BA). The initial Draft BA was considered incomplete, and this meeting is to discuss Keystone's responses and what is needed to go forward with formal consultation.

1) USFWS requests formal consultation on the Interior Least Tern, Piping Plover, Whooping Crane, and Western Prairie Fringed Orchid. Need to identify conservation measures for the procedure the power providers to consult on the power lines. Power providers have regulations that require the formal consultation required by the lead federal agency. The project as a whole needs to be analyzed at the consultation stage to evaluate the direct and indirect effects to the project.
    a. Utility conservation measures need to be discussed at the broader, formal level. This will be in the form of a letter from the power provider regarding the species. The power stations are being built in 2-3 years, and the power providers need to consult with USFWS about the impact of design on the environment.
    b. The Draft Environmental Impact Statement (DEIS) provides information regarding distribution lines that is up-to-date as of April of 2010. Include analysis of power lines in the BA.
    c. In Nebraska (NE), USFWS is in the process of dealing with distribution line issues with the Nebraska Public Power District (NPPD); with the

information in the DEIS, they can consult on those lines and then USFWS can comeback and reinitiate on any changes from the DEIS or any additional lines.

d. Letters of commitment from power providers would be valuable to have for the Keystone XL Project. A letter of commitment is sufficient, and an MOU or MOA is not necessary for this process.
    i. The letter should state that utility companies will meet their Section 7 obligations, and that an analysis in the letter should also reference the BA. There needs to be enough detail in the BA to discuss how alternatives will be used to minimize impacts. This can include marking distribution lines, burying lines when possible, and avoiding habitats used by ESA species.
    ii. If local power providers need to change the route, they can coordinate with USFWS but officially consult with DOS.
    iii. Once BA is redrafted, want to keep in an informal process until all parties are satisfied and then finalize. May see 1-2 more draft versions before calling it final.
    iv. NE USFWS field effort is coordinating the entire effort across 5 states and 2 regions, and they need to go to other offices to make sure the BA is in line with the other states.
    v. When considering the timeframe for the BA, no party wants the schedule to slip past the end of January for the Final Environmental Impact Statement (FEIS); over the next couple of months will try to wrap this up. This is a realistic timeline as far as USFWS is concerned.
    vi. If the FEIS differs from the final BA, then may need to reinitiate consultation; generally consult on preferred alternatives, not multiple alternatives. Need a decision to be made about the preferred alternative, want to make sure that any rerouting of the pipeline may affect other species that are not currently affected by the pipeline route. USFWS is making an assumption about the preferred alternative at this point and time. There will be refinements to the route over time – may be some revisions over time, but while the alignment may shift slightly, the route will not change. Can capture most of the situations that may arise during construction through the informal process.
    vii. USFWS needs to make sure the consultation process is correctly followed.

2) Insufficient information on the Interior Least Tern provided for counties in Texas.
    a. A report was submitted, but USFWS had not heard back from the Arlington office with their comments. The report should be sufficient to address this issue. John Cochnar will follow-up internally with the Arlington office on this issue.

3) Inadequate conservation measures for Whooping Crane, Interior Lease Tern, and Piping Plover. The USFWS want to make sure that while Keystone is undertaking construction, it makes sure that ESA species are not present on the work site. Surveys completed 2 weeks before construction and not during actual construction are insufficient. The main discussion revolves around three river crossings as well as the Playa wetlands.
    a. USFWS suggests that Keystone should have a brief survey of any habitat area for the Whooping Cranes in the morning and afternoon before starting the equipment. This should be a brief delay in construction, as the cranes will leave the area to feed by mid-morning. USFWS has the tracking program for the migrational corridor, and will pass on information to Keystone if Whooping Cranes are in the area.
    b. TransCanada wants to have flexible language in the BA to accommodate the realities of construction, so if a Whooping Crane lands during a directional drilling operation, there should be no problem. USFWS does not have a problem with this scenario as long as the drilling does not begin in the presence of the cranes.
    c. An Environmental Inspector (EI) could be qualified to do a sweep of the area to look for Whooping Cranes if trained to identify the cranes. If cranes were sighted, then the EM should contact the local USFWS office. Keystone will make sure the proper monitoring is in place and incorporate this into the BA.
    d. For terns and plovers, make sure there are no nesting pairs within a quarter-mile of the construction sites. The protocol does not delay construction, just monitoring to ensure due diligence.
    e. John Cochnar will send Keystone the protocols for Whooping Crane monitoring.

4) Develop conservation measures for loss of grassland nesting habitat for Sprague's Pipit in northwest South Dakota (SD) and Montana (MT) following BLM recommendations found in the DEIS.
    a. This is a newly identified issue for the Project, and Keystone missed the window to survey this migratory bird and is unsure how to address this issue. Currently the Sprague's Pipit is not a candidate or ESA protected species, but next week the USFWS is sending determination to the Federal Register for adding the Pipit to the list. Currently it is at the discretion of the DOS whether to include this issue in formal consultation. Because this species has not come up before, and it is not yet a candidate species, Keystone should also have a discussion with local SD and MT agencies.
    b. Keystone has defined restoration measures per Natural Resources Conservation Service (NRCS) and other agencies, and so sees this as a temporary impact on the habitat and will need more information about this species.
    c. Construction outside of nesting, restoration, and monitoring of native prairie may be satisfactory for remediating any problems posed to the Sprague's Pipit.

5) Western Prairie Fringed Orchid – Keystone surveyed a 300' corridor. The Western Prairie Fringed Orchid population found does not fall within the construction right-of-way (ROW).
    a. No direct or indirect area of impact currently found in the project corridor; avoided the area where the orchid was found.
    b. If an orchid is found during the construction phase, the BA would need to describe the measures taken to deal with this species.
    c. Orchids do not transplant well, if found in the project area in private lands surveyed after condemnation, the identification of orchids could result in reinitiating consultation.
    d. Any areas that have suitable habitat that have not yet been surveyed need consultation with the USFWS. Keystone can mitigate for impacts based on an assumption that the plants are present in habitat areas currently not surveyed.
    e. If Keystone can complete surveys for orchids in areas currently not accessible, then the BA can have flexible language regarding the mitigation. Reasonable and prudent measures for the orchid included that Keystone could get a conservation easement and protect alternative orchids. Language in the BA could address how this is handled. If the time was right and a survey could be completed when orchids could be present, then a survey would be completed, but if not then a non-protected orchid population could be found and protected through a conservation easement. Keystone may decide to forgo a survey and just implement mitigation measures.
    f. Keystone would be allowed the flexibility to either survey for Western Prairie Fringed Orchid when they are blooming, and if they find a flower then they could take necessary measures. However, due to the nature of the orchid, not finding a flower does not indicate that the flower is not present.
    g. If they could not survey or choose not to survey, undergo an assumption that the flowers are present, and they could undertake mitigation measures such as protecting a known group of orchids with a conservation easement. Can work with Gary Steinhauer, NE botanist, who can provide information about protecting flowers.

6) Texas Prairie Dawn-flower
    a. USFWS will speak internally with the Texas office and see if a similar measure to the orchid would work for the dawn-flower. Keystone would like to discuss survey results with the Clear lake office and the remaining surveys before committing to assuming presence and mitigating for habitat impacts.
    b. Need to speak with the Clear Lake USFWS office to make sure the mitigation measures discussed with the Western Prairie Fringed Orchid would be sufficient for the Texas Prairie Dawn-flower.

7) Texas Trailing Phlox
    a. USFWS needs to discuss this internally with the Clear Lake USFWS office to find out what changed; will clarify and get back to Keystone and DOS.

8) HDD within the North and South Canadian Rivers
    a. The purpose of the 300' buffer is for the critical habitat for the Arkansas River Shiner. The biggest issue is the clearing of trees. The only clearing would be a nominal amount to lay cables down. Keystone is using previously cleared corridors such as farmers' roads at rivers for access to water.

9) American Burying Beetle
    a. Keystone would like to discuss the conservation measures in a detailed plan with the 4 different USFWS field offices at a separate meeting. The meeting will take place on an as-yet-determined Tuesday in September at the Grand Island USFWS facility. John Cochnar will ask the other offices about a time that will work for them, and Dr. Hoback will join the meeting.
    b. When addressing vegetation maintenance impacts, areas where construction won't be able to start immediately will incorporate measures to reduce take. Need to allow for a certain level of take with a formal take statement.

10) Migratory Bird Treaty Act (MBTA) – Region 2 requests inclusion in discussion of MBTA compliance. Construction ROW reviewed to identify areas to clear prior to nesting season. Pre-clearing areas for Tulsa have been reviewed and accepted, but there was no response for Clear Lake USFWS office. Region 2 – Arlington has also agreed to pre-clearing and has reviewed the project mapping.

    Keystone will submit the aerial alignment sheets and their habitat assessment to John Cochnar at the FWS for dissemination. Need to send aerial alignment sheets and a conservation plan on other areas that are not pre-cleared to the Arlington office, and need a conservation plan with that office. Keystone will get maps together with the construction ROW, and John Cochnar will speak with the offices.

Meeting between U.S. Fish and Wildlife Service, Keystone, Nebraska Game Fish and Parks, and Cardno ENTRIX regarding the Keystone XL Pipeline Project Section 7 Endangered Species Act Formal Consultation for the American Burying Beetle

Date: October 12, 2010

John Cochnar, USFWS Grand Island, Nebraska
Martha Tacha, USFWS Grand Island, Nebraska
Mike George, USFWS Grand Island, Nebraska
Bob Harms, USFWS Grand Island, Nebraska
Brook Stansberry, USFWS Grand Island, Nebraska
Serena Selbo, USFWS Denver, Colorado
Sharon Whitmore, USFWS
Hayley Dikeman OK USFWS Tulsa, Oklahoma
Charlene Bessken, USFWS Pierre, South Dakota
Michelle Cook, Nebraska Game and Parks
Carey Grell, Nebraska Game and Parks
Mike Fritz, Nebraska Games and Parks Commission
Michelle Koch, Nebraska Games and Parks Commission
Jon Schmidt, Keystone
Matt Comeaux, Keystone
Dave Beckmeyer, Keystone
Jonathan Minton, Keystone
Steve Craycroft, Keystone
John Buchanon, Keystone
Wyatt Hoback, University of Nebraska, Keystone
Lynn Noel, Cardno ENTRIX, Department of State
Kevin Freeman, Cardno ENTRIX, Department of State
Joe Rubin, Cardno ENTRIX, Department of State

Purpose: discuss comments on the Draft Biological Assessment (BA) concerning the American Burying Beetle and the formal Section 7 consultation.

1) Current status of survey work done by Keystone
    a. Phase III covers the Gulf Coast Segment of the Keystone XL Pipeline in Oklahoma and Texas
        i. Keystone has completed presence/absence ABB trapping surveys around the pipeline Right of Way (ROW) in Texas, and did not find any ABB. Came to the conclusion there are no effects on the ABB in Texas.
        ii. Desktop habitat assessments for ABB in OK were completed through a desktop assessment and historic analysis of occurrences.
    b. Phase IV covers the Steele City Segment of the Keystone XL Pipeline project in Nebraska and South Dakota.
        i. Completed desktop habitat assessment in SD and NE

ii. Completed presence/absence trapping along the ROW in NE
    1. The surveys in NE were positive; approx 100 miles from the SD border south was found to have ABB. The remaining 200 mi of suitable habitat do not have ABB
iii. NE Survey: Roughly 100 pipeline miles with ABB; starting around milepost (MP) 91 in Wheeler County and go to MP 597; several points where no beetles were found and several points where high densities of beetles were found.

c. Dr. Wyatt Hoback developed a 5 point scale to rank suitability of habitat through visual survey before trapping.
    i. For the pipeline route, rated the habitat on a mile-by-mile basis
    ii. From South to North, did not see any ABB until Wheeler County, where the habitats were highly ranked.
    iii. Had numbers around 0.2 per trap night close to the SD border, 0.5 in Wheeler county; but in Polk county had as many as 26 per trap night, which was higher than any other previously trapped areas.
    iv. ABB is active in two seasons- early June to early July and Early August to September.

2) Keystone's current plans regarding ABB habitat
    a. In Texas, there is no plan because the project will have no effect.
    b. Based on desktop habitat data, Keystone would contribute cost value of trapping surveys to a conservation fund for suitable habitat in OK.
    c. In NE, would trap and relocate ABB along the ROW prior to construction, then restore the habitat after construction.
    d. Based on existing survey data, Keystone would contribute cost value of trapping surveys to a conservation fund for suitable habitat in SD.
    e. Upon completion of the pipeline construction, Keystone would restore the ROW to the original grades and reseed native grasses as outlined in the CMRP. No ongoing vegetation maintenance activities are planned in agricultural or active pasture were ABB habitat is found.
    f. Annual monitoring is planned, as described in the CMR plan.

3) Description of the pipeline construction process
    a. Construction ROW is 110' wide, potentially wider based on geography, and will be narrower over water bodies and wetlands. Comes out to 13.3 acres per mile of potentially disturbed land. The permanent ROW is 50' which is not necessarily centered within the 110' construction ROW.
    b. The process can be described as a moving assembly line or train of construction- basically, there is clearing, where the vegetation is removed from the ROW; grading, where topsoil is stripped from the working area to create a level working surface; trench excavation, using backhoes or wheeled excavators; the pipe will then be transported out to the ROW and be bent to fit the trench; welding, where the pipeline is formed into long lengths; placement, where the pipe is placed in the trench; fill-in of the trench; topsoil replacement; and finally remediation/revegetation.

c. This works as a moving assembly line, with one spread being constructed over a 4-5 month period of time with the clearing and grading going first at about a mile per day, then the trenching will follow, etc.
d. The original contours will be restored after construction; basically they create a road and then restore this area to pre-construction conditions. Pipeline burial in some areas with a restored contour could be deeper than the general pipeline burial depth of four feet.
e. There are also different types of temporary staging areas for pipe storage, equipment marshalling, etc. These storage yards are located every 30-60 miles, and are generally located in pre-disturbed areas such as farmland. Keystone has worked with state agencies to locate temporary areas for camps for the workers, which are restored and reclaimed, and reverts back to the landowners. Any workspace away from the ROW would be restored in the same manner as the ROW.
f. These off-ROW yards are located approximately every 30-60 miles, generally in agricultural land; pipeyards are generally 30 acres and contractor yards are generally 50 acres. In NE there is 1 pump station and 1 pipeyard where the ABB may be present. These are moderate habitat quality areas based on numbers per trap night. The habitat ratings of these areas are moderate to low; and the pump station is in a hay field.

Project effects on ABB: soil compaction, heat dissipation, soil moisture, pump stations and construction camps

1) Effects of soil compaction on the ABB
    a. Because of the heavy equipment used on the project and because the ABB burrows, there is a question about the compaction effects on the ABB.
        i. The CMR plan describes the measures to remediate compaction; The entire acreage will be decompacted; tools such as the deepshank subsoiler, the vibrashank, and others will be used to decompact a minimum of 18 inches of the subsoil. The topsoil will go over the decompacted subsoil.
        ii. Decompacted soil contours will match the surrounding areas. The BA states the testing measures and parameters for decompaction as well as specifying the methods for testing.
        iii. Keystone no longer incorporates any blasting in its plan; the revised plan will use ripping instead of blasting.

2) Discussion of effects of pipeline heat dissipation on the ABB
        i. There is a question about the long-term effects of the pipe on the habitat because of the heat the pipe may give off.
        ii. Jon Schmidt- modeling done shows that temperature was isolated most of the year to about 20 inches around the diameter of the pipeline, depending on soil type.
            1. Question about the effect of the pipeline on the frost line, which may not allow the beetle to go dormant during the

winter. Need process and procedures for 2-3 years down the road

2. In the CMR plan, there will be monitoring of restoration sucess.
3. The Keystone CMR plan provides annual vegetation monitoring, and USFWS can be added to the distribution list.
4. The heat modeling study which is part of the DEIS models heat dissipation from the pipeline based on the burial depth, geographic area, and season; other studies have been done by other industries. A copy of the study is in the appendix of the DEIS.
    a. Kevin- this is a specific thermal model for a specific set of conditions, and a literature search will not be an effective tool to evaluate the study. Peer review is a more appropriate method.
    b. The model was run on a 900,000 bpd case, which is no longer applicable.
        i. **USFWS will review the document and make a decision as to whether to have the document peer reviewed**

3) Discussion on impact of Moisture to ABB
    a. ABB are sensitive to moisture; Keystone is required to reseed and remulch to restore vegetation to the same as before the pipeline was built. This is included in the CMR plan.
        i. USACE has specific conditions for wetlands, which Keystone is meeting per NWP conditions and the CMRP.
        ii. Keystone waived jurisdiction of wetlands, and all wetlands will get the same treatment during construction and restoration.

4) Discussion on Construction Camp's impact to ABB.
    a. Camps are required in 2 locations in South Dakota;
        i. Camps are planned in Mead county and Tripp county South Dakota near Colome;
        ii. Because beetles have been found near Colome, the USFWS prefers Keystone look for areas of unsuitable habitat to place the worker camp, such as farmland.
        iii. Charlene- anything south of HWY 18 is of major concern for the ABB, and is concerned about the habitat in this area; Area is mostly grassland, but restoration will take 2-3 years; even with trap and relocate, it is possible several beetles will be killed;
    b. No camps are planned in NE at this time.
    c. Camps are temporary for the period of construction, and will be restored back to the original condition like the ROW.

d. Camp locations are determined based upon construction spread locations and minimizing impacts to roads and local residents.

Remediation plan for soil and discussion of state and federal laws.

1) Remediation plan for soil in ABB Habitat
    a. ABB buries carcasses in the ground; they look for grasses they can bury through; burial times are long, so loose sandy loam is great for the beetles, while clay is not. Dry sand is also avoided by the beetles.
    b. The vegetation component and land use discussion needs to be separated out in the BA; the intent is to revegetate with the original vegetation, but the land owner does have some say to the restoration plan.
        i. Keystone is contracting with a major seed supplier to acquire and blend the seed for the project; gotten from a number of sources. The seed mixes are NRCS approved.
    c. Wyatt has provided suggestions as to the vegetative varieties that work best for ABB habitats.
    d. Keystone would like the USFWS offices from different states to come to a consensus on what is desired for restoration.

2) Discussion of differences between state and federal law regarding the ABB, as well as the different determinations on a state-by-state basis.
    a. (Michelle Koch from the Game and Parks Commission) State law for NE does not allow a trap and relocate of any state-listed endangered species;
    b. There is a question about if the NE USFWS prefers the trap and relocate method and the NE Game and Parks does not.
        i. State and Federal Authorities need to work together to agree on whether the federal take permit and mitigation will suffice for NE officials.
    c. Uniqueness of NE is because the state law mimics the federal law and is very stringent Additional measures may be needed to comply with the state law.
        i. Need consistency on trap and relocation before construction
    d. Keystone is dealing with 4 FWS field offices that take 4 different approaches to deal with the species. Looking for a way to go forward on this issue. USFWS needs to streamline and standardize the responses. Can all agree on doing formal consultation.
    e. What is needed for closure?
        i. Assuming the 110’ ROW is the project area; will take into account what Wyatt has due to qualify habitat along the route and his survey results in TX and NE.
        ii. Need an accepted, consistent mitigation ratio across USFWS; will speak internally and make a decision.
            1. Mitigation approach should be consistent among states; 5 habitat levels of quality, and need all parties to review Dr. Hoback’s report.

Additional information that should be included in the BA

1) The USFWS would like to have more information for their decision regarding the mitigation ratio:
    a. Dr. Hoback's most recent report was sent to all meeting attendees.
    b. The next revision of the BA will include details on:
        i. Geographic area impacted
            1. Boundaries, surveys, capture rate, survey areas and habitat mapping (1-5 ranked habitat suitability) GIS shapefiles and maps sent out for NE, SD, OK, TX
        ii. Habitat
        iii. Construction disturbance to suitable habitat areas
            1. Impacts to ABB
        iv. Thorough description of the CMR plan including:
            1. Reseeding
            2. Reclamation
            3. Decompaction
        v. Discussion of difference between pre- and post-construction regarding:
            1. Compaction
            2. Heat
            3. Moisture
    c. The BA and accompanying documentation needs to connect the dots- how does construction impact the ABB, and how is Keystone going to alleviate/mitigate the effect.
    d. Keystone will need a specific list of people who need the AB and reports;
        i. John Cochnar will give to Jon Schmidt and Lynn Noel a list of people for distribution.
        ii. Jon Schmidt can set-up an ftp site to let meeting attendees access the documents if required.
    e. Need a letter from DOS; will send draft BA's until the service deems that BA provides the necessary information to provide a biological opinion.
    f. USFWS will have the internal discussion to make a decision on the mitigation ratio.
    g. In 2-3 weeks the USFWS will make a determination
        i. USFWS want a formal consultation for the ABB based entirely on the BA; all of the issues must be in the BA or referenced in the BA.

Action Items

a. Martha Tacha will find correspondence for the original request for mitigation.
b. USFWS personnel will look at the provided literature for pipeline modeling (Appendix L of the DEIS) and determine if they would like to request the model be submitted for peer review.

c. Keystone will also look for additional literature on pipeline temperature effects.
d. John Cochnar will provide Jon Schmidt, Keystone and Lynn Noel, Cardno ENTIRX & DOS, a distribution list of USFWS personnel.
e. Keystone will provide GIS shapefiles and Maps with the habitat suitability (1-5 scale) as provided by Dr. Wyatt Hoback, as well as Dr. Hoback's latest report on the ABB.
f. USFWS will try to come to an internal consensus on mitigation ratios and other remediation recommendations for Keystone.
    i. The internal USFWS meeting was set for November 2nd at 11:00am Central.
g. A new draft BA will be provided to the USFWS as a Word document.

Gulf Coast Communications

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	ENSR
Date/Time of Contact	9-2-08; 11:40 a.m.
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Dorinda Scott
Title	Database Administrator
Organization	Texas Natural Diversity Database, Wildlife Diversity Program, Texas Parks and Wildlife Department
Address	4200 Smith School Road
County	
Phone	512-389-8723
E-mail address	dorinda.scott@tpwd.state.tx.us

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Species occurrence data in Project vicinity

Concern Level: High___Moderate__Low__X_.

Description:

Hi Debora,

It appears you may be a new user, so I wanted to call your attention to and ask that you review all the statements here and documents in the attachment for data disclaimers, proper use and interpretation of the data, not presence/absence nor stand in lieu of field surveys, incomplete nature of the occurrence data for species and habitats at any location, and code key with field definitions (last observation date is simply the most recent date we have from public information sources that we can tie to the specific location and does not imply when a species last occurred). With the incomplete nature of the occurrence data, the county list (link below) will provide a more complete list of species and habitats to address in project planning, field surveys, and impact assessment. Also note that lack of data does not imply lack of occurrence, but simply lack of knowledge, or possibly access. I hope this and the additional information I'm providing below proves useful.

I noted coastal prairie remnants from your area and surrounding. While the prairie remnants have no legal protection, they are very rare native grasslands and grassland habitat. They have been identified from native hay meadows to highway, railroad, and other rights-of-way.

In addition, please note that existing rights-of-way (roadway, railroad, utility) can support remnant

habitats or rare resources, as the entire right-of-way may not have been fully disturbed, it may have been many years since disturbance, or appropriate maintenance supports native habitats of the area. Rights-of-way may also be separated or somewhat protected from adjacent land uses. Throughout the state we have many records of rare resources occurring in rights-of-way for these reasons.

Note the Phlox contact below, as he has a predictive model to determine where surveys for the plant would be relevant.

The Texas Natural Diversity Database (TXNDD) includes federal, and state listed and tracked Threatened, Endangered, and Rare species. The attached .zip file contains documents that will guide you in appropriate use, restrictions, and shapefile interpretation of Texas NDD data as well as a request for adding data to the TXNDD. Also included is a shapefile of the T&E and Rare species element occurrences, information the TXNDD has available presently, within and touching the requested quads along with a companion EO **report**; areas where EO data are absent **do not mean** absence of occurrence for Threatened, Endangered, and Rare species. An EO **list** is included, buffered to approximately 10 miles from the requested quad boundaries to notify you of other potential federal, and state listed and tracked Threatened, Endangered, and Rare species within the area. To round out your review, please use the pertinent TPWD Annotated County lists of Rare Species; webpage address found below. For questions on these county lists please contact Celeste Brancel at celeste.brancel@tpwd.state.tx.us or (512)389-8021.

For more up-to-date information on ***Texas trailing phlox*** you will need to contact Jason Singhurst at jason.singhurst@tpwd.state.tx.us or (512) 912-7026.

Your information request includes one or more records for **Bald Eagle** or **colonial waterbirds**. For more up-to-date information on the ***Bald Eagle*** or ***colonial waterbirds*** you will need to contact Brent Ortego at brent.ortego@tpwd.state.tx.us or (361) 576-0022.

Absence of information in an area does not mean absence of occurrence. *Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Data from the TXNDD do not provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features within your project area. These data cannot substitute for an on-site evaluation by qualified biologists.*

TPWD Annotated County Lists: http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/
USFWS species lists: http://ecos.fws.gov/tess_public/servlet/gov.doi.tess_pulic.servlets.EntryPage
USFWS CRITICAL HABITAT: http://criticalhabitat.fws.gov/

There is a one week turn-around due to the number of requests that we receive. Thank you for your patience.

We have been informed that due to the sheer volume of in-bound email with high percentage of spam messages being sent to agency email servers, some messages are being delayed or are not being delivered at all to TPWD email addresses. **If the forward and reverse DNS lookup do not yield the same results (server name = IP / IP = server name), then the message is assumed to be illegitimate and is rejected.** If you have not received a reply receipt notice **within one business day, please call right away** before the spam cache is emptied and to ensure receipt. We are sorry for the inconvenience.

Dorinda Scott, Texas Natural Diversity Database
Wildlife Diversity Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744
dorinda.scott@tpwd.state.tx.us
512/389-8723 (direct)
512/389-8758 (fax)

www.tpwd.state.tx.us
Texas Natural Diversity Database requests use:
txndd@tpwd.state.tx.us

-----Original Message-----
From: Endriss, Debora [mailto:dendriss@ensr.aecom.com]
Sent: Tuesday, August 26, 2008 2:20 PM
To: Texas Natural Diversity Database
Subject: TXNDD request

Dorinda,

This is a request for species occurrence data for a proposed pipeline project.

Type of Data: I believe an ArcGIS shapefile. Could you tell me what info is contained in the EOR list and EOR report, so we can tell if that
would be better?

USGS Quadrangle names: Lake West, Monkstown, Direct, Tigertown, Toco, Roxton, Biardstown, Cooper North, Charleston, Tira, Sulphur Bluff, Dike, Saltillo, Purley, New Hope, Winnsboro, Newsome, Rhonesboro, Shady Grove, Hawkins, Big Sandy, Winona, Starrvile, Hope Pond, Troup East, Griffin, Gum Springs, new Salem, Reklaw, Cushing TX, Douglas, Lake Nacogdoches North, Durst Lakes, Wells, Well SW, Keltys, Diboll, Wakefield, Corrigan, Leggett, Soda, Schwab City, Romayor, Votaw, Arizona Creek, Hardin, Thorson Gully, Devers, Sour Lake, Nome, China, Beaumont West, Fannett East, Beumont East, Port Acres, Terry, Port Arthur North, Daisetta, Liberty, Shiloh, Moss Bluff, Sheeks, Mount Belview, Highlands, Jacinto City.

County names: Angelina, Chambers, Cherokee, Delta, Fannin, Franklin, Galveston, Hardin, Harris, Hopkins, Jefferson, Lamar, Liberty, Nacogdoches, Polk, Rusk, Smith, Trinity, Upshur, and Wood counties.

Thanks,
Debora Endriss
Environmental Scientist

ENSR
4888 Loop Central Drive, Suite 600
Houston, Texas 77081
T 713-807-6595 (direct)
T 713-520-9900 (main)
F 713-520-6802

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	1-21-09 and 1-22-09
Keystone Team Member(s)	Bill Stephens

Contact Information:

Name	Hayley Dikeman
Title	Biologist
Organization	USFWS, Tulsa Ecological Services Office
Address	9014 East 21st Street, Tulsa, OK 74129
County	
Phone	918.382.4519
E-mail address	Hayley_Dikeman@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Arkansas River shiner

Concern Level: High___Moderate__X_Low___.

Description:

Stephens, William" <William.Stephens@aecom.com>
01/22/2009 06:35 PM

To <Hayley_Dikeman@fws.gov>
cc "Hill, Jeffrey" <jhill@ensr.aecom.com>, "Porter, Nancy" <nporter@ensr.aecom.com>
Subject RE: Arkansas river shiner

Thanks Hayley. We are HDDing the North Canadian River at Mile Post 39.4 and the Canadian River at Mile Post 74.84.

What about Muddy Boggy Creek at Mile Post 87.54 and Clear Boggy at Mile Post 126.14? I still have not found anything on the USFWS website that address concerns about the ARS or their critical habitat in those specific waterbodies. We could "dry cut" the Muddy and the Clear if you recommend.

Bill

William W. Stephens, Ph.D.

Project/Section Manager
Water & Natural Resources, Southwest Region
ENSR
D: 713-807-6543
william.stephens@aecom.com

AECOM
4888 Loop Central Dr., Suite 600
Houston, TX 77081
T 713-520-9900 F 713-520-6802
www.aecom.com

Please note: my email address has changed to william.stephens@aecom.com Please update your address books accordingly.

Important ENSR News

ENSR's parent company AECOM is evolving to better serve global clients. AECOM is forming **AECOM Environment-** a new global business line that merges the environmental resources of ENSR, Earth Tech, STS and Metcalf and Eddy. With 4200 staff in 20 countries, AECOM Environment will be one of five new global business lines of AECOM (AECOM Water, AECOM Transportation, AECOM Design, AECOM Energy and Power). Though our name is changing, our commitment to the success of your projects and your organization remains strong. We will keep you apprised of future details.

Please consider the environment before printing this page.

From: Hayley_Dikeman@fws.gov [mailto:Hayley_Dikeman@fws.gov]
Sent: Thursday, January 22, 2009 10:13 AM
To: Stephens, William
Subject: RE: Arkansas river shiner

Bill,

Yes, the Arkansas River shiner (ARS) **does** need to be addressed. For whatever reason I did not think the Canadian was going to be crossed. The reach of the South Canadian that the pipeline will cross is critical habitat, as defined under the Endangered Species Act, for the ARS . Critical habitat for the ARS includes the river and 300 feet on each side of the river from bank full width. So, no disturbance or access is permitted within the river or the 300 foot buffer area on either side of the river. This is even more restrictive then the guidelines for the interior least tern. So the Service's recommendation is to HDD the South Canadian River. If critical habitat is proposed to be disturbed then formal consultation must be undertaken to address take of the critical habitat and this is a larger ordeal than dealing with formal consultation with the ABB. Further, I am not the lead for the ARS. I will consult with the lead biologist for the ARS and ensure he has no additional recommendations. If he does I will send them to you ASAP.

I apologize for overlooking this previously.

And I had forgotten that you had previously sent me shapefiles of the pipeline route, so unless there have been significant changes there is no reason to send me new files.

Also, in regards to formal consultation involving the ABB. Formal consultation needs to be initiated by the State Department, this is just the way the Endangered Species Act is written, formal consultation must be between two federal entities. The Service recognizes that your company will be doing the writing of all the documents basically and that is fine and typical but they must be routed through the State Department because the Service must ensure that the State Department concurs with your documents and their findings since they are the entities we are in formal consultation with. This is just FYI because I did not make this clear during our meeting.

Thanks. Let me know if you have more questions.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office

9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

"Stephens, William" <William.Stephens@aecom.com>

01/21/2009 10:12 AM

To <Hayley_Dikeman@fws.gov>
cc "Castillo, Jerome" <JCastillo@ensr.aecom.com>, "Hill, Jeffrey" <jhill@ensr.aecom.com>
Subject RE: Arkansas river shiner

Hey Hayley,
I called this morning and wanted to ask a question. Since the South Canadian River is a concern for critical habitat (according to the USFWS maps) for the Arkansas River Shiner that the pipeline crosses, are the Muddy Boggy and the Clear Boggy Rivers also a component of this concern...or is it just one of them or both? HDD (horizontal direction drills) are expensive. We will play by the rules but need a very clear understanding and statement from (USFWS/you) that these areas do need to be avoided and that HDDs are the mechanism you prefer for avoidance at these locations. I need clarification since neither Muddy Boggy or Clear Boggy are listed as waterbodies of concern for the shiner (not that I have found). Give me a call and maybe I can clarify if you have any questions.

Thanks,
Bill

William W. Stephens, Ph.D.
Project/Section Manager
Water & Natural Resources, Southwest Region
ENSR
D: 713-807-6543
william.stephens@aecom.com

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www.aecom.com

Please note: my email address has changed to william.stephens@aecom.com Please update your address books accordingly.

Important ENSR News

ENSR's parent company AECOM is evolving to better serve global clients. AECOM is forming **AECOM Environment-** a new global business line that merges the environmental resources of ENSR, Earth Tech, STS and Metcalf and Eddy. With 4200 staff in 20 countries, AECOM Environment will be one of five new global business lines of AECOM (AECOM Water,

AECOM Transportation, AECOM Design, AECOM Energy and Power). Though our name is changing, our commitment to the success of your projects and your organization remains strong. We will keep you apprised of future details.

Please consider the environment before printing this page.

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TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	3-4-09, 3-2-09, 2-19-09
Keystone Team Member(s)	Bill Stephens

Contact Information:

Name	Hayley Dikeman
Title	Biologist
Organization	USFWS, Tulsa Ecological Services Office
Address	9014 East 21st Street, Tulsa, OK 74129
County	
Phone	918.382.4519
E-mail address	Hayley_Dikeman@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Crossing of Muddy Boggy

Concern Level: High___Moderate__X_Low___.

Description:

From: Hayley_Dikeman@fws.gov [mailto:Hayley_Dikeman@fws.gov]
Sent: Wednesday, March 04, 2009 8:30 AM
To: Stephens, William
Subject: Re: FW: Muddy Boggy crossing

Bill,

I have spoken with my malacologist. He concurs with your evaluation of the site, given the fact the pipeline crossing occurs high up-stream on the muddy boggy. The Muddy Boggy is very small at this location and does not support any species we have concern with. We are not opposed to *open cut trench* at this location along the Muddy Boggy.

Sorry for the confusion on top of confusion.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office

9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

"Stephens, William" <William.Stephens@aecom.com>
03/02/2009 04:10 PM

To <Hayley_Dikeman@fws.gov>
cc
Subject FW: Muddy Boggy crossing

Hey Hayley,
Thanks for the evaluation. In these instances I really just let the facts dictate the needs. In your last sentence you said: "We are not opposed to directional drilling at this location along the Muddy Boggy". I hope you meant "open cut" since you and your malacologist agree with the site evaluation we conducted and "... does not support any species we have concern with". Just let me know if I captured this correctly.

Thanks,
Bill

William W. Stephens, Ph.D.
Project/Section Manager
Water & Natural Resources, Southwest Region
ENSR
D: 713-807-6543
william.stephens@aecom.com

AECOM
4888 Loop Central Dr., Suite 600
Houston, TX 77081
T 713-520-9900 F 713-520-6802
www.aecom.com

Please note: my email address has changed to william.stephens@aecom.com Please update your address books accordingly.

Important ENSR News

ENSR's parent company AECOM is evolving to better serve global clients. AECOM is forming **AECOM Environment-** a new global business line that merges the environmental resources of ENSR, Earth Tech, STS and Metcalf and Eddy. With 4200 staff in 20 countries, AECOM Environment will be one of five new global business lines of AECOM (AECOM Water, AECOM Transportation, AECOM Design, AECOM Energy and Power). Though our name is changing, our commitment to the success of your projects and your organization remains strong. We will keep you apprised of future details.

Please consider the environment before printing this page.

From: Hayley_Dikeman@fws.gov [mailto:Hayley_Dikeman@fws.gov]
Sent: Monday, March 02, 2009 3:26 PM
To: Stephens, William
Subject: Re: Muddy Boggy crossing

Bill,

I have spoken with my malacologist. He concurs with your evaluation of the site, given the fact the pipeline crossing occurs high up-stream on the muddy boggy. The Muddy Boggy is very small at this location and does not support any species we have concern with. We are not opposed to directional drilling at this location along the Muddy Boggy.

Sorry for the confusion.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

"Stephens, William" <William.Stephens@aecom.com>

02/19/2009 09:19 AM

To <Hayley_Dikeman@fws.gov>
cc "Castillo, Jerome" <JCastillo@ensr.aecom.com>, "Schlicht, Kurtis" <KSchlicht@ensr.aecom.com>, "Pittman, Jason" <jpittman@ensr.aecom.com>
Subject Muddy Boggy crossing

Hayley,
Have you talked to your fisheries biologists about the Muddy Boggy crossing associated the TransCanada KXL project in Coal Co. Oklahoma? Our client is in agreement with the recommended proposed drill underneath the Clear Boggy. However, after having visited the Muddy Boggy crossing site myself, I see no need to pursue that method at that location. I suggest an open-cut method with block-netting upstream of the intake for a pump-around and likewise downstream of the crossing with the discharge outside of the downstream block-netting. With the pump around, the intake would also be screened by a box arrangement within the block-net on the intake side and likewise on the discharge side. If you see the need we can even install double block-nets. I also recommend that we cross the location during the summer low-flow period. The crossing is estimated to take 6-7 hours in and out. The banks would be stabilized with rip-rap after replacing the parent material and bed material replaced as extracted. From my visit, I determined that the unconsolidated material in the stream bed to be 90% sand and less than 10% silt with clay as the consolidated material underneath. Because of

these ambient conditions associated with the stream bed, it would not be anticipated that any external material would be necessary to stabilize the stream bed during low-flow conditions associated with a summer crossing. Give me your thoughts on my proposal. If you need, I can come back to Tulsa for a follow-up and discussion with you and your fisheries biologists.

Thanks,
Bill

William W. Stephens, Ph.D.
Project/Section Manager
Water & Natural Resources, Southwest Region
ENSR
D: 713-807-6543
william.stephens@aecom.com

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Please note: my email address has changed to william.stephens@aecom.com Please update your address books accordingly.

Important ENSR News

ENSR's parent company AECOM is evolving to better serve global clients. AECOM is forming **AECOM Environment-** a new global business line that merges the environmental resources of ENSR, Earth Tech, STS and Metcalf and Eddy. With 4200 staff in 20 countries, AECOM Environment will be one of five new global business lines of AECOM (AECOM Water, AECOM Transportation, AECOM Design, AECOM Energy and Power). Though our name is changing, our commitment to the success of your projects and your organization remains strong. We will keep you apprised of future details.

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	3-24-09; 10:32 a.m.
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Omar Bocanegra
Title	Biologist
Organization	USFWS, Arlington Ecological Services Office
Address	711 Stadium Drive, Suite 252, Arlington, TX 76011
County	
Phone	817.277.1100
E-mail address	Omar_Bocanegra@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Recommended surveys for American burying beetle

Concern Level: High___Moderate__X_Low___.

Description:

Hello Ms. Endriss:

Our general recommendations for evaluating potential impacts to federally listed species are to 1) use our web-based county-by-county list to determine which species may be present in the action area 2) determine if suitable habitat to support any of those species occurs in the action area, and 3) conduct appropriate presence/absence surveys for those species with suitable habitat occurring within the action area.

I do not recall suggesting that surveys in Lamar County would be dependent on results of surveys in the adjacent Oklahoma County. We know a population of beetles occurs in Lamar County, and therefore, our standard recommendation for projects in that county is to survey for the beetle in areas that would support it.

These recommendations still apply to the TransCanada project, since it is the only way for our office to address potential impacts to the species.

Please let me know if I can provide any further assistance.

-Omar

_____

Omar R. Bocanegra

U.S. Fish and Wildlife Service
711 Stadium Drive, Suite 252
Arlington, Texas 76011
(817) 277-1100 ext. 26
(817) 277-1129 fax
Website: http://www.fws.gov/southwest/es/arlingtontexas/

"Endriss, Debora" <Debora.Endriss@aecom.com>
03/23/2009 04:10 PM

To <omar_bocanegra@fws.gov>
cc "Stephens, William" <wstephens@ensr.aecom.com>
Subject Meeting for TransCananda KXL Pipeline

Omar,

Bill and I wanted to see if we could set up a meeting or conference with you to discuss and finalize your office's recommendations for species specific surveys and what species, if any, you wanted to see included in the Project's Biological Assessment.

We specifically want to discuss the American burying beetle- The consultation letter we received from your office dated September 12, 2008 stated that it was recommended to conduct species specific surveys for the American burying beetle in Lamar County. In the previous meetings AECOM attended at your office (Jan. 14, 2009 and April 10, 2008) it was discussed that if the burying beetle was found during surveys in Oklahoma in the county adjacent to Lamar County, then we should conduct surveys in Lamar County.

Our concern is that the Tulsa, Oklahoma USFWS office is not requiring surveys for the burying beetle for this project. They recommended mitigation in the form of a donation to the ABB Conservation Fund through the Oklahoma Chapter of the Nature Conservancy in the amount of the cost of a 1-mile survey in lieu of conducting a species specific survey. The final details of this have not been worked out, but we would like to discuss how the possibility of this arrangement affects the previous conversations AECOM had with you.

We are available for a conference call on March 30th or a meeting at your office on April 1st. We could also attend a conference call or meeting at your office on April 6th, 8th, or 10th. Please let me know if any of these days work for you.

Sincerely,

Debora Endriss
Project Specialist
Impact Assessment and Permitting
AECOM Environment
D 713.807.6595
Debora.Endriss@aecom.com

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FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM Environment Houston Office
Date/Time of Contact	4-3-09; 10:30 a.m.
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Edith Erfling
Title	Fish and Wildlife Biologist
Organization	USFWS – Region 2, Clear Lake, Texas Ecological Services Field Office
Address	**Clear Lake ES Field Office** **17629 El Camino Real #211** **Houston TX 77058-3051**
County	
Phone	281-286-8282
E-mail address	Edith_erfling@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): Phone and E-mail

Issue: Present proposed survey locations and methods for species-specific surveys of the Texas prairie dawn-flower

Description:
Edith Erfling was contacted to present the USFWS with the proposed survey locations, how the survey locations were determined, and methods for species-specific surveys of the Texas prairie dawn-flower in Harris County. It was discussed that survey areas were determined using aerial photography and information from soil surveys. Edith confirmed that this was the recommended method for determining survey locations and stated that she did not wish to meet in person to review and comment on the survey locations. She agreed that AECOM could submit the report detailing the proposed survey locations and methods to her via e-mail and she would comment on the report, if necessary. The report was subsequently sent to Edith via e-mail.

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	4-7-09 and 4-3-09
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Edith Erfling
Title	Biologist
Organization	USFWS, Clear Lake Ecological Services Office
Address	17629 El Camino Real, Suite 211, Houston, TX 77058
County	
Phone	281.286.8282
E-mail address	Edith_Erfling@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Survey protocols for Texas prairie dawn-flower

Concern Level: High___Moderate__Low_X__.

Description:

Proposed Survey Locations and Methoc

Good morning Debora,

For the most part, your Texas prairie dawn survey protocol looks good. I would recommend completing the survey as early as possible in April. The peak blooming time is late March to early April, after which time the plants begin to wither and die and become harder to detect.

Edith Erfling
U.S. Fish & Wildlife Service
17629 El Camino Real, Suite 211
Houston, Texas 77058-3051
281-286-8282
fax 281-488-5882

"Endriss, Debora" <Debora.Endriss@aecom.com>
04/03/2009 11:10 AM

To: <edith_erfling@fws.gov>
cc: "Schlicht, Kurtis" <KSchlicht@ensr.aecom.com>
Subject: TransCanada KXL species-specific survey for Texas Prairie Dawn-Flower

Edith,

Per our phone conversation regarding the TransCanada Keystone XL Project, attached is a report detailing proposed survey locations, how the survey locations were determined, and methods for species-specific surveys of the Texas prairie dawn-flower. I did not include the aerial maps depicting the survey locations, as I did not want to burden you with too much information. Please let me know if you would like to review the maps and I will send them to you.

Sincerely,
Debora

Debora Endriss
Project Specialist
Impact Assessment and Permitting
AECOM Environment
D 713.807.6595
Debora.Endriss@aecom.com

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Houston, TX 77081
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(See attached file: Proposed Survey Locations and Methods for Texas Prairie Dawn-Flower.pdf)

TransCanada Keystone Pipeline, LP – Keystone XL Project

Proposed Survey Locations and Methods for Species-Specific Surveys of the Texas Prairie Dawn-Flower

The Keystone XL Project (Project) crosses the potential distribution of the Texas prairie dawn-flower (*Hymenoxys texana*) in Harris County. The environmental survey area in Harris County was reviewed for suitable habitat for this species based on soil types and land use. Soil data (SSURGO) was downloaded from the USDA NRCS Soil Data Mart and land use information was interpreted from aerial imagery. Areas within the Project's 300-ft survey corridor where both suitable soil and land use types are present for the Texas prairie dawn-flower will be surveyed.

Soil map units described as fine-sandy soils, such as fine sandy loams, very fine sandy loams, loams, loamy fine sand, sand, or loamy prairie soils were included as areas of suitable habitat for the Texas prairie dawn-flower. Soil maps units that were not included as suitable habitat for this species included clays and clay loams. Land use types that were considered areas of suitable habitat for this species include open areas, such as open land, pastures, grasslands, existing right-of-ways, and vacant or mowed lots.

The soil map units crossed by the Project in Harris County are indicated in the table below. This table illustrates whether the soil map unit was considered a suitable habitat for the Texas prairie dawn-flower and if the soil map unit coincides with a land use type suitable for this species. The final column of the table indicates the MPs of proposed areas for surveys for the Texas prairie dawn-flower and these areas are depicted on the attached maps.

Surveys will be conducted in April 2009. The identified survey areas will be transversed on foot to document the presence/absences of the Texas prairie dawn-flower within the 300-ft survey corridor. Although the entire area will be searched, surveyors will focus on areas of prime habitat, including sparsely vegetated areas and flat areas surrounding mima mounds, if present.

Soil Map Unit Names Crossed by Survey Area in Harris County	Map Symbol	Suitable Soil for Texas Prairie Dawn-Flower?	Does Soil Map Unit Intersect Open Areas Suitable for Texas Prairie Dawn-Flower?	Location (MPs)
Addicks loam	Ad	Yes	Yes	MP 37.9 – 38.2, MP 38.3 – 40.2, MP 47.3 – 47.9
Aldine very fine sandy loam	Am	Yes	Yes	MP 41.95 – 42.4
Atasco fine sandy loam, 1 to 4% slopes	AtB	Yes	Yes	MP 42.4 – 42.6
Bernard clay loam	Bd	No	-	-
Bernard-Edna complex	Be	Yes	Yes	MP 40.2 – 40.5, MP 40.65 – 41.1, MP 48.6 – 48.65
Edna fine sandy loam	Ed	Yes	Yes	MP 41.65 – 41.7
Gessner loam	Ge	Yes	No	-
Hatliff loam	Hf	Yes	Yes	MP 42.6 – 42.7
Kaman clay	Ka	No	-	-
Lake Charles clay, 0 to 1% slopes	LcA	No	-	-
Verland silty clay loam	Md	Yes	Yes	MP 40.5 –40.65, MP 41.1 – 41.65, MP 47.0 – 47.2
Nahatche loam	Na	Yes	Yes	MP 42.7 – 42.8
Ozan loam	Oa	Yes	Yes	MP 44.85 – 45.05
Vamont clay, 1 to 4% slopes	VaB	No	-	-
Voss sand	Vo	Yes	No	-
Water	W	No	-	-

AECOM

AECOM Environment
Loop Central One, 4888 Loop Central Drive, Suite 600, Houston, TX 77081-2214
T 713.520.9900 F 713.520.6802 www.aecom.com

Facsimile

Deliver to:

Name: Information Requests
Firm: ONHI - OK Bio Survey
Fax number: 405-325-7702
Phone number: —
Project number: 10623006

From:

Name: Debora Endriss
Direct line: 713-807-6595
Date transmitted: 4-20-09
Pages to follow: 2
Debora.Endriss@aecom.com

Subject: Information Request for Species Occurrence Data

AECOM Environment
4888 Loop Central Drive, Suite 600, Houston, TX 77081
T 713.520.9900 F 713.5206802 www.aecom.com

April 20, 2009

Information Requests
Oklahoma Natural Heritage Inventory
Oklahoma Biological Survey
111 East Chesapeake Street
Norman, OK 73019-0575

Subject: TransCanada Keystone Pipeline, L.P., Keystone XL Pipeline Project
Payne, Lincoln, Creek, Okfuskee, Seminole, Hughes, Coal, Atoka, and Bryan Counties, OK
Information Request for Species Occurrences

To Whom It May Concern:

Project Description

TransCanada is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project, known as the Keystone XL Pipeline Project (Project), initially will have the nominal capacity to deliver 700,000 barrels per day (bpd) of crude oil from an oil supply hub near Hardisty to existing terminals in Nederland near Port Arthur, Texas, and the Houston Ship Channel in Houston, Texas. The Steele City segment extends from Hardisty, Alberta south to Steel City, Nebraska. The Gulf Coast segment extends from Cushing, Oklahoma south to Nederland, Texas. The Houston Ship Channel Lateral extends from Liberty County, Texas southwest to Moore Junction, Harris County, Texas. The pipeline will have the capacity for expansion to 900,000 bpd. In total, the Project will consist of approximately 1,704 miles of new, 36-inch-diameter pipeline, consisting of about 329 miles in Canada and 1,375 miles within the U.S. It will interconnect with the northern and southern termini of the previously approved 298-mile-long, 36-inch-diameter Cushing extension pipeline (Cushing Extension) in the U.S. segment of the Keystone Pipeline Project.

Requested Information

AECOM, on behalf of TransCanada Keystone Pipeline, L.P. (TransCanada), is requesting information pertaining to species occurrence data for the referenced project. A map depicting the Project location in Oklahoma is attached to this letter. Additionally, the names of the USGS Quadrangles crossed by and within 2 miles of the Project area are listed below.

Data Format: ArcGIS Shapefile and Correspondence, send to Debora.Endriss@aecom.com or above address.

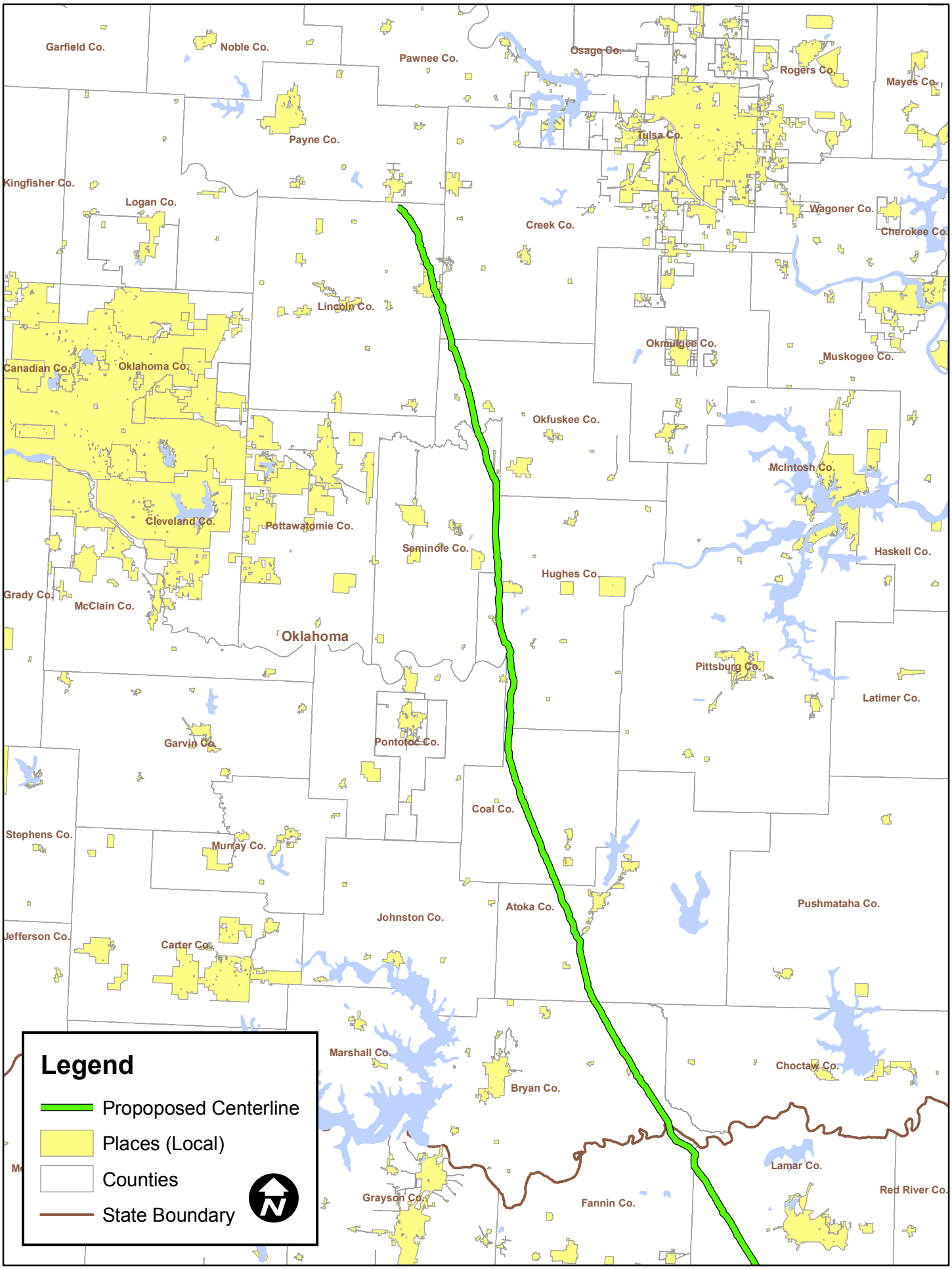
USGS Quadrangle names: Cushing, North Village, Stroud North, Stroud South, Ritts Junction, Paden, Prague NE, Boley, Prague SE, Cromwell, Wewoka East, Hodenville, Allen, Calvin West, Steedman, Gerty, Lula, Tupelo NE, Centrahoma, Olney, Boggy Depot, Lehigh, Tushka, Caney, Bokchito, Bentley, Bennington North, Boswell SW, Bennington South, Lake West, and Monkstown.

Sincerely,

D. Endriss

Debora Endriss
Project Specialist

Enc: Project Location Map


Garfield Co.
Noble Co.
Pawnee Co.
Osage Co.
Rogers Co.
Mayes Co.
Payne Co.
Tulsa Co.
Kingfisher Co.
Logan Co.
Creek Co.
Wagoner Co.
Cherokee Co.
Lincoln Co.
Okmulgee Co.
Muskogee Co.
Canadian Co.
Oklahoma Co.
Okfuskee Co.
McIntosh Co.
Cleveland Co.
Pottawatomie Co.
Seminole Co.
Haskell Co.
Hughes Co.
Grady Co.
McClain Co.
Oklahoma
Pittsburg Co.
Latimer Co.
Garvin Co.
Pontotoc Co.
Coal Co.
Stephens Co.
Murray Co.
Pushmataha Co.
Atoka Co.
Johnston Co.
Jefferson Co.
Carter Co.
Marshall Co.
Choctaw Co.
Bryan Co.
Lamar Co.
Red River Co.
Grayson Co.
Fannin Co.
Legend
Propoposed Centerline
Places (Local)
Counties
State Boundary
N

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	4-28-09; 12:12 p.m.
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Joseph Collins
Title	Biological Data Coordinator
Organization	Oklahoma Biological Survey, Oklahoma Natural Heritage Inventory
Address	111 E. Chesapeake Street, University of Oklahoma, Norman, OK 73019
County	
Phone	405.325.1985
E-mail address	Joseph.E.Collins-1@ou.edu

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Acquisition of species occurrence data for Oklahoma

Concern Level: High___Moderate___Low__x_.

Description:

Ms. Endriss,

2009-251-BUS-END.pdf

Requested Shape File.zip

Please find the correspondence and shapefile you requested concerning habitats and species in the area of the TransCanada Keystone Pipeline.

Thanks,

Joe Collins

Oklahoma Biological Survey
111 E. Chesapeake Street
University of Oklahoma
Norman, Oklahoma 73019

Telephone (405) 325-1985
FAX (405) 325-7702

Caryn C. Vaughn, Director

Debora Endriss
AECOM Environment
4888 Loop Central Drive, Suite 600
Houston, Texas 77081

OBS Ref: 2009-251-BUS-END April 28, 2009
Re: TransCanada Keystone Pipeline

Dear Ms. Endriss,

Regarding your request for information on the presence of endangered species or other elements of biological significance at the referenced site, we have reviewed the information currently in the Oklahoma Natural Heritage Inventory database and have found many records of elements of concern near the locations you describe.

Please see the attached shapefile for more information on the search area you requested.

Because the ONHI database is only as complete as the information that has been collected, we cannot say with certainty whether or not a given site harbors rare species or ecological communities. For this reason, if you are concerned about species of federal interest, we urge you to consult with the Tulsa office of the U.S. Fish and Wildlife Service (918.581.7458), as they may have additional information of which we are unaware.

The information we provide to you is a product of a cooperative agreement between the Oklahoma Biological Survey (OBS) and the Oklahoma Department of Wildlife Conservation (ODWC). For more information about the likely environmental impacts of your project on state endangered species, please contact William Ray at ODWC (405-424-6062). You may also find our web site helpful for expediting your information request. See http://www.biosurvey.ou.edu/fastforward.html.

Sincerely,

Joseph E. Collins
(for)Ian Butler
Biological Data Coordinator

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	ENSR Houston Office
Date/Time of Contact	4-28-09; 3:45 p.m.
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Omar Bocanegra
Title	USFWS Biologist
Organization	USFWS – Region 2, Arlington, Texas Ecological Services Field Office
Address	**711 Stadium Drive, Suite 252** **Arlington, Texas 76011**
County	
Phone	817-277-1100 ext. 26
E-mail address	Omar_Bocanegra@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): Phone

Issue: Discuss presence of interior least tern in Project area

Concern Level: High___Moderate___Low_X_.

Description:
Omar Bocanegra was contacted to inquire why the interior least tern was listed in the counties of Delta, Hopkins, and Wood in Texas. Omar stated that the interior least tern was known to nest at Cooper Lake/Reservoir in Delta and Hopkins counties. There was also a sighting of a foraging least tern at Lake Fork in Wood County. It was discussed that neither of these lakes are crossed by the Project area and Omar confirmed that there is no evidence that the least tern nests on any of the rivers crossed by the Project in these counties.

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	5-19-09
Keystone Team Member(s)	Elizabeth Carner

Contact Information:

Name	Hayley Dikeman
Title	Biologist
Organization	USFWS, Tulsa Ecological Services Office
Address	9014 East 21st Street, Tulsa, OK 74129
County	
Phone	918.382.4519
E-mail address	Hayley_Dikeman@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Draft Survey Protocol for Interior Least Tern

Concern Level: High___Moderate__Low_X_.

Description:

Ms. Dikeman:

Please find attached the survey locations and methods for the interior least tern proposed by TransCanada for the Keystone XL Pipeline Project. The proposed pipeline crosses the N. Canadian, S. Canadian, and Red Rivers in Oklahoma, all of which have potential interior least tern nesting sites. Although all three rivers will be crossed with HDD technology, water may be drawn to facilitate the hydrostatic tests of sections of the pipeline. Surveys are planned for early June.

Please let me know if you have any recommendations.

Thank you,

Elizabeth Carner
Senior Staff Specialist, Impact Assessment & Permitting
AECOM Environment
D 713.807.6516
C 607.206.4104

elizabeth.carner@aecom.com

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www.aecom.com

ENSR's parent company, AECOM Technology Corporation, is evolving to better serve its global clients. AECOM is forming a global business line – AECOM Environment – by utilizing the skills and capabilities from across its global environmental operations, including resources from ENSR, Earth Tech, STS and Metcalf & Eddy. AECOM Environment is devoted to providing quality environmental services to its global clients. With access to approximately 4,200 staff in 20 countries, AECOM Environment will be one of five new AECOM business lines, which also include AECOM Water, AECOM Transportation, AECOM Design, and AECOM Energy.

AECOM Environment provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. Though our appearance is changing, our commitment to the success of your projects and your organization remains strong. We will keep you apprised of future details.

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	6-16-09
Keystone Team Member(s)	Bill Stephens and Debora Endriss

Contact Information:

Name	Hayley Dikeman
Title	Biologist
Organization	USFWS, Tulsa Ecological Services Office
Address	9014 East 21st Street, Tulsa, OK 74129
County	
Phone	918.382.4519
E-mail address	Hayley_Dikeman@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ___Phone_____

Issue: Consultation for American burying beetle

Concern Level: High___Moderate__X_Low___.

Description:

Ms. Dikeman was contacted to discuss the next steps in consultation regarding the American burying beetle in Oklahoma and how the amount of the potential contribution to the American burying beetle fund would be determined.

Ms. Dikeman stated that she would like to see the following information provided in the Biological Assessment:

- Project Location Maps
- Length of pipeline in miles
- Width of permanent and temporary right-of-way
- Depth of trench
- Location of spoil storage
- Description of staging areas and access roads
- Analysis of soil compaction due to construction activities
- Describe upfront efforts to avoid and minimize impacts to the American burying beetle
- Description of restoration methods after completion of construction
- Breakdown of land use/habitat types
- Breakdown of land use/habitat type areas that will be converted to a different land use/habitat type

- Estimation of the number of acres/miles of suitable habitat for the American burying beetle in the counties that have known occurrences of the beetle (Creek, Okfuskee, Seminole, Hughes, Coal, Atoka, and Bryan counties)
- State determination of "May affect and is likely to adversely affect" for American burying beetle in OK
- When the Department of State (DOS) submits the Biological Assessment to the USFWS, they should include in the cover letter that the determination for the American burying beetle is "may affect and is likely to adversely affect" and the DOS should also request the initiation of formal consultation.

Ms. Dikeman also stated that the incidental take statement in the USFWS issued Biological Opinion would state the number of acres that were allowed to be disturbed that will likely result in the take of the beetle. This number will be determined based on the USFWS review of the information provided in the Biological Assessment, including the assessment of the number of acres of suitable habitat.

It was also discussed that if TransCanada decides to contribute to the American burying beetle fund in lieu of conducting presence/absence surveys in Oklahoma, the amount of the contribution to the American burying beetle fund will be determined by multiplying the number of miles of suitable habitat by the cost of one survey transect. This is based on the USFWS survey protocol recommendation of one survey transect per mile of suitable habitat. Ms. Dikeman reiterated that this contribution to the American burying beetle fund was the preferred option of the USFWS; however, TransCanada could choose to conduct presence/absence surveys instead. If TransCanada choose to conduct presence/absence surveys rather than make a contribution to the ABB fund, "bait away" or "trap and relocate" methods would be required in areas where the beetle was found to be present.

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	AECOM
Date/Time of Contact	6-18-09
Keystone Team Member(s)	Debora Endriss

Contact Information:

Name	Hayley Dikeman
Title	Biologist
Organization	USFWS, Tulsa Ecological Services Office
Address	9014 East 21st Street, Tulsa, OK 74129
County	
Phone	918.382.4519
E-mail address	Hayley_Dikeman@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____E-mail_____

Issue: Final Survey Protocol for Interior Least Tern

Concern Level: High___Moderate__Low__X_.

Description:

Debora,

I have reviewed the attached tern survey protocol. I find this acceptable and the protocol can be implemented.

Thank you.
Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov

Office Website: http://www.fws.gov/southwest/es/oklahoma/

Endriss, Debora" <Debora.Endriss@aecom.com> wrote: -----

To: <Hayley_Dikeman@fws.gov>
From: "Endriss, Debora" <Debora.Endriss@aecom.com>
Date: 06/18/2009 05:17PM
cc: "Stephens, William" <William.Stephens@aecom.com>, "Carner, Elizabeth" <Elizabeth.Carner@aecom.com>
Subject: RE: KXL pipeline questions

Hayley,

I have updated the interior least tern survey protocol with your comments and attached a revised version to this e-mail. Please let me know if the revised protocol looks good or if you have any more suggestions regarding the survey methods.

Regarding you questions and comments about construction activities- Yes, the N. Canadian, S. Canadian, and Red Rivers are planned to be crossed using HDD and the HDD enter and exit points will be greater than 300 feet from the bank on each side of the rivers. However, water may be drawn from some or all of these waterbodies for use during hydrostatic testing and access to the rivers would be required at that time. Currently, construction activities in the vicinity of the N. Canadian, S. Canadian, and Red Rivers are scheduled to occur outside of the interior least tern nesting season. We are interested in conducting surveys this summer for the interior least tern, so that we have baseline information and documentation on whether or not the interior least tern nests in the project area. This information will be useful for project planning purposes in the event that it looks like the construction schedule will be delayed or altered.

Thanks,
Debora

Debora Endriss
Project Specialist
Impact Assessment and Permitting
AECOM Environment
D 713.807.6595
Debora.Endriss@aecom.com

AECOM
4888 Loop Central Drive, Suite 600
Houston, TX 77081
T 713.520.9900 F 713.520.6802
www.aecom.com

From: Hayley_Dikeman@fws.gov [mailto:Hayley_Dikeman@fws.gov]
Sent: Thursday, June 18, 2009 7:34 AM
To: Endriss, Debora
Cc: Hayley_Dikeman@fws.gov; Stephens, William; Carner, Elizabeth
Subject: RE: KXL pipeline questions

FOR INTERNAL KEYSTONE PROJECT USE ONLY

Here are my final comments on the tern survey protocol. Please let me know if you have any questions. I would recommend submitting an updated protocol reflecting the incorporation of the Service's comments.

Thank you.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

TransCanada Keystone Pipeline, LP – Keystone XL Project

Proposed Survey Locations and Methods for Species-Specific Surveys of the Interior Least Tern

The Keystone XL Project (Project) crosses potential nesting sites of the interior least tern (*Sterna antillarum athalassos*) in Okfuskee, Seminole, Hughes, and Bryan Counties, Oklahoma, and Fannin County, Texas. The Project area was reviewed for suitable habitat for this species based on review of the current availability of unvegetated sandbars within the South Canadian, North Canadian, and Red River channels. The morphology of the river channels was interpreted from aerial imagery. The rivers will be surveyed and photo-documented within a quarter mile of the Project centerline at the projected crossing of each river. All three rivers will be crossed using HDD techniques during pipeline construction; however water may be drawn from some or all of the waterbodies for use during hydrostatic testing.

Interior least terns nest on open shorelines, riverine sandbars, and mudflats. Suitable nesting habitat is sparsely vegetated with sand or gravel substrate and located near an adequate food supply. The dynamic nature of natural river hydrology may change suitable nesting habitat size and vegetative cover annually. Interior least terns in Oklahoma and Texas also must contend with river flow regulation for human use, which keeps the water levels higher than normal year-round and decreases suitable nesting habitat.

Survey Frequency: Surveys will be conducted summer of 2009 and 2010, during the breeding season (15-April to 15-September) to identify occupied nest sites. The 2009 surveys are planned for the week of June 22nd and the 2010 surveys are anticipated to also occur during June.

Procedures:

1. Surveys will be conducted between April 15 and September 15 at the South Canadian River, the North Canadian River, and the Red River in Oklahoma. Surveys will extend 0.25-mile on either side of the construction ROW.
2. Presence/absence surveys will occur from the bank of each side of the rivers using binoculars. Surveyors will look for the presence of terns and will document any activities, such as foraging terns or terns that are potentially sitting on a nest.
3. Surveys will be conducted by Debora Endriss and Elizabeth Carner, whom are both biologists who have researched the species and are familiar with bird counting/surveying protocols.
4. Surveys will be conducted from sunrise to approximately 10:00 a.m., or approximately 5:00 p.m. to sunset.
5. Observations of terns will be recorded using GPS. Points can be collected from the observation location on the stream bank using a rangefinder and compass. Date, time, observations, and habitat type will be recorded for each sighting.
6. If terns or a nesting colony is observed, surveyors will not enter the area. If any agitated terns are observed, such as a tern that flushes from the ground, a tern that circles observers, and/or a tern that is giving distress calls, surveyors will back away from the river bank.
7. If possible, all terns located within the survey area will be observed long enough to determine if the area is occupied by these species and if a nest is present. These observations will cease if an agitated tern is present.
8. Surveys will not be conducted in poor weather (i.e., high wind, precipitation, etc).
9. Results of the survey will be submitted to the Tulsa USFWS field office.

10. If construction activities in 2011 are anticipated to occur within 300 feet of the river banks during the nesting season for the interior least tern, these surveys will be repeated prior to any disturbances within 300 feet of the river banks during the nesting season. The survey results will be submitted to the Tulsa USFWS field office. If nesting birds are present, activities will be delayed until nesting is complete and fledglings have left the Project area. Project personnel will remain in communication with the USFWS during this time. If there are no nesting interior least terns present, activities within 300 feet of the rivers will occur within a limited timeframe and the area will be monitored to detect if any interior least terns enter the Project area. All efforts will be made to ensure that any activities within 300 feet from the river banks will be completed outside of the nesting period for the interior least tern.

FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone XL Phase I
Contact Summary Form

Communication Location	ENSR Houston Office
Date/Time of Contact	6-25-09; ~10:00 A.M.
Keystone Team Member(s)	Jerry Castillo

Contact Information:

Name	Edith Erfling
Title	Regulatory Coordinator, Fish and Wildlife Biologist
Organization	USFWS – Clear Lake, Texas, Ecological Services Field Office
Address	17629 El Camino Real #211, Houston, TX 77058
County	
Phone	281-286-8282
E-mail address	Edith_Erfling@fws.gov

Contact Information:

Type of Contact (phone, in-person, etc.): ____Phone_____

Issue: Discuss T&E Determination Assessment for KXL Project - Gulf Coast Segment

Concern Level: High___Moderate___Low__X_.

Description:

Called the USFWS office and talked with Edith Erfling regarding consultations for species that are listed but do not occur within a project area. We discussed the typical process that we use is to complete an initial data base review and assessment, which results in a determination that some listed species may not occur in the project area because their existence does not occur and their habitat does not occur within the project area. Typically we would state the process used and not list those species that do not occur in the project area.

Ms. Erfling confirmed that if it was our determination a species or its habitat does not exist and submitted that information via written consultations to their office, they would have responded if they disagreed and they would have stated what specifically they disagreed with and what they want done.

I informed Ms. Erfling that the Draft Biological Assessment for KXL was being prepared and that we were going to complete a listing of all the species and for those that a determination was made are not a concern for our project, we would state that we believe there will be "no effect" and she indicated to make sure we capture what we did to reach that determination and that if we did do field surveys and during those surveys no observations were made in the areas of potential T&E habitat to state that, also.

Lynn Noel

From: David Bernhart [David.Bernhart@noaa.gov]
Sent: Monday, November 02, 2009 12:22 PM
To: Lynn Noel
Cc: Kevin Freeman; Suzanne Ban; Jon Schmidt; Alison Uno
Subject: Re: ESA Information and Sea Turtles and the Keystone XL Pipeline Project

Good afternoon Ms. Noel,

Your species list, below, is correct for endangered or threatened species under the jurisdiction of the National Marine Fisheries Service, for the coastal counties of Texas. If this project's construction will be entirely onshore and there are no effects in estuarine or marine habitats, it seems that our species would not be affected. In such cases, i.e., where there will be 'no effect' to listed species, written consultation (as laid out in 50 CFR 402) with our office is not required, but DOS should document in its administrative record their finding and its basis.

Please let me know if you have any more questions on this matter.

Sincerely,

David Bernhart
Assistant Regional Administrator
Protected Resources Division
Southeast Regional Office
NOAA Fisheries Service

Lynn Noel wrote:

> Mr. David Bernhart
> Assistant Regional Administrator
> NOAA Fisheries Service, Southeast Regional Office
> 263 13th Avenue South
> St. Petersburg, FL 33701
>
> Dear Mr. Bernhart,
>
> I appreciate your time and and our conversation today concerning Endangered Species Act consultation and concerns for the TransCanada Keystone XL Project (Project). Attached is the Project description excerpted from the Presidential Permit Application Environmental Report (ER) for the proposed action near the pipeline terminus in Texas. I am requesting your feedback and concurrence on the lack of co-occurrence and potential to impact sea turtles as identified in the ER submitted to the U.S. Department of State (DOS). As we discussed, upon your review and findings that all Project components are onshore and would have no potential to impact sea turtles, an email confirmation from you would fulfill DOS's responsibility for Section 7 consultation on these protected species.
>
> As we discussed, the project has no nearshore components. Species under NOAA Fisheries jurisdiction that were noted by the Project applicant as potentially occurring within the Project area include:
>
> Atlantic Hawksbill Sea Turtle

Eretmochelys imbricata
Green Sea Turtle
Chelonia mydas
Kemp's Ridley Sea Turtle
Lepidochelys kempii
Leatherback Sea Turtle
Dermochelys coriacea
Loggerhead Sea Turtle
Caretta caretta

Thank you for your attention to this request.

Sincerely,
Lynn Noel

Lynn Noel
ENTRIX
Senior Project Scientist

1600 A. Street, Suite 304, Anchorage, AK 99501 USA
DIRECT: 907.261.7702 • MAIN: 907.563.0438 • CELL: 907.351.9172 • FAX: 907.563.0439
EMAIL: lnoel@entrix.com • WEBSITE: www.entrix.com

To: <elizabeth.carner@aecom.com>
Sent: Wednesday, September 23, 2009 2:28 PM
Subject: Fw: ABB survey valid

----- Original Message -----
From: Angela_Brown@fws.gov
To: kendrabauer@mail.utexas.edu
Sent: Wednesday, July 29, 2009 2:36 PM
Subject: ABB survey valid

The U.S. Fish and Wildlife Service (Service) has reviewed the following American burying beetle (ABB) survey report:

Lamar County, Texas regarding KXL/AECOM pipeline.
Near Camp Maxey in Lamar County, Texas on 7-11-2009

This American burying beetle (ABB) survey report indicates that no ABBs were captured at the proposed project site. This survey is valid for one year from the concluding date of the survey. Since the survey results are negative, and we have reviewed and approved the survey report, no further section 7 consultation with the Service concerning the ABB is required. This response does not pertain to any other federally-listed species that may be impacted by the proposed project.

This notice needs to be forwarded to the appropriate project proponent, and appropriate federal, state, or tribal agency for their records. As the permittee and hired consultant this is your responsibility. Further, I do not have the contact information for the project proponents, or the appropriate state, federal, or tribal agency.

Our comments are submitted in accordance with section 7 of the Endangered Species Act (ESA). This correspondence is valid for one year from the above date. If you have any questions, please let me know.

Thank you.

Angela G. Brown
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Ecological Services
9014 E. 21st Street
Tulsa, OK 74129

918/581-7458
angela_brown@fws.gov

<br

Matt Comeaux

From: Hayley_Dikeman@fws.gov
Sent: Friday, January 22, 2010 2:32 PM
To: Matt Comeaux
Subject: Re: KXL - Gulf Coast Segment - Avian Survey Windows

Matt,

The timing you are proposing is sufficient for survey for the bald eagles to determine if a bald eagle nest is active. You will not be able to determine of other raptor nest are active or not. you would have to assume they are active. Further, this timing does not allow for determining any new nests for most raptors, as they do not typically nest until may or June.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

Matt Comeaux <Matt.Comeaux@trow.com>

01/21/2010 09:22 AM

To <hayley_dikeman@fws.gov>
cc
Subject KXL - Gulf Coast Segment - Avian Survey Windows

Good morning Hayley.

We're in the planning stages for 2010 avian surveys for the Keystone XL – Gulf Coast Segment. I wanted to get your thoughts on the best windows to conduct these surveys. Last year the first round was conducted at the end of January. Subsequent surveys were conducted in early March and April.

Looks like we may have a little trouble lining up a helicopter until the second week in February (2/8) – do you think this will be a problem?

Thanks for your time,
-Matt Comeaux

Matthew Comeaux
Environmental Project Manager

Trow Engineering Consultants, Inc.
2700 Post Oak Blvd., Suite 400
Houston, TX 77056
Ph: (713) 693-6421
Fax: (713) 693-6497

david beckmeyer

From: david beckmeyer [dbeckmeyer@perennialenv.com]
Sent: Tuesday, May 04, 2010 10:14 AM
To: 'Hayley_Dikeman@fws.gov'
Subject: RE: Keystone Phase III - Interior Least Tern Survey Information

That is what we will do.

Thanks,

Dave

David R. Beckmeyer
Managing Partner

Perennial Environmental Services, LLC
5700 NW Central Drive
Suite 210
Houston, TX 77092
Office – 713.462.7121
Fax – 713.462.6209
Cell – 713.306.9708
e-mail - dbeckmeyer@perennialenv.com

From: Hayley_Dikeman@fws.gov [mailto:Hayley_Dikeman@fws.gov]
Sent: Tuesday, May 04, 2010 10:01 AM
To: david beckmeyer
Subject: RE: Keystone Phase III - Interior Least Tern Survey Information

David,

Yes,, I recall discussing that before, but you are correct the details were not reflected in the tern protocol.

I would recommend updating the tern protocol, as well as the Arkansas River shiner protocol because the same requirements need to be implemented there, or better yet this should be in your final BA, or both.

I would update the protocols and the BA and resubmit them to us.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

Matt Comeaux

From: david beckmeyer [dbeckmeyer@perennialenv.com]
Sent: Tuesday, May 04, 2010 10:57 AM
To: Matt Comeaux
Subject: FW: Keystone Phase III - Interior Least Tern Survey Information
Attachments: Survey Protocol for Interior Least Tern 2010 off-fws edits.doc

David R. Beckmeyer
Managing Partner

Perennial Environmental Services, LLC
5700 NW Central Drive
Suite 210
Houston, TX 77092
Office – 713.462.7121
Fax – 713.462.6209
Cell – 713.306.9708
e-mail - dbeckmeyer@perennialenv.com

From: Hayley_Dikeman@fws.gov [mailto:Hayley_Dikeman@fws.gov]
Sent: Monday, May 03, 2010 6:40 PM
To: david beckmeyer
Subject: Re: Keystone Phase III - Interior Least Tern Survey Information

David,

Here are my edits to the tern documents. Let me know if you have questions.

Thanks

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

"david beckmeyer" <dbeckmeyer@perennialenv.com>

04/12/2010 04:30 PM

To <Hayley_Dikeman@fws.gov>

cc

Subject Keystone Phase III - Interior Least Tern Survey Information

Hayley,

I have attached the interior least tern survey protocol that was used last year for the project. I have also added the resumes of the personnel who will be conducting this work. Would you please confirm that the protocol and proposed personnel are suitable for this year's survey effort?

Thanks,

Dave

David R. Beckmeyer
Managing Partner

Perennial Environmental Services, LLC
5700 NW Central Drive
Suite 210
Houston, TX 77092
Office – 713.462.7121
Fax – 713.462.6209
Cell – 713.306.9708
e-mail - dbeckmeyer@perennialenv.com

[attachment "Survey Protocol for Interior Least Tern 2010.doc" deleted by Hayley Dikeman/R2/FWS/DOI] [attachment "E Carner.doc" deleted by Hayley Dikeman/R2/FWS/DOI] [attachment "J Wilson.docx" deleted by Hayley Dikeman/R2/FWS/DOI]

KXL Phase III
Phone Conversation Record
May 5, 2010

Participants:

David Beckmeyer – TransCanada
Jeff Reid – U.S. Fish and Wildlife Service, Lufkin Office

Call Summary

During a previous meeting with the Corps of Engineers, it was brought to our attention that a landowner along the proposed KXL alignment had claimed that Red- Cockaded Woodpeckers were present on her property. This landowner is Ms. Loretta Mokry and her property is located in Polk County (ML-TX-PO 00005.001 and 00005.002).

We contacted Jeff Reid in the Lufkin U.S. Fish and Wildlife Service office regarding their knowledge of this species in the vicinity of Ms. Mokry's tract. Mr. Reid stated that they were going to visit Ms. Mokry's tract and evaluate it for the presence of Red Cockaded Woodpeckers and suitable habitat for this species. We agreed to speak again after the site had been visited.

Dave Beckmeyer

From: Dave Beckmeyer [dbeckmeyer@perennialenv.com]
Sent: Tuesday, May 18, 2010 3:40 PM
To: 'jeffrey_reid@fws.gov'
Subject: Keystone KXL Project - Mokry Tract

Jeff,

I spoke with Moni and AJ in the Clear Lake office a week ago and they said that you were going to visit the Mokry tract in Polk County in response to Ms. Mokry's calls to the Corps regarding the presence of Red-Cockaded Woodpeckers and Black Bears at this location. Have you visited this location yet? If so, can you let me know what you saw in the field?

Thanks,

Dave

David R. Beckmeyer
Managing Partner

Perennial Environmental Services, LLC
5700 NW Central Drive
Suite 210
Houston, TX 77092
Office - 713-462-7121
Fax - 713-462-6209
Cell - 713-306-9708
e-mail - dbeckmeyer@perennialenv.com

KXL Phase III
Phone Conversation Record
May 19, 2010

Participants:

David Beckmeyer – TransCanada
Jeff Reid – U.S. Fish and Wildlife Service, Lufkin Office

Call Summary

On May 19, 2010, David Beckmeyer send an email to Jeff Reid inquiring about the results of the U.S. Fish and Wildlife Service's visit to Ms. Loretta Mokry's property in Polk County, Texas (ML-TX-PO 00005.001 and 00005.002).

Mr. Reid called in response to the email and stated that there was no suitable habitat for the Red-Cockaded woodpecker present within her property.

Matt Comeaux

From: Omar_Bocanegra@fws.gov
Sent: Tuesday, June 22, 2010 9:45 AM
To: Matt Comeaux
Subject: RE: Keystone Pipeline Project, Gulf Coast Segment - 2010 ABB Surveys

I just spoke with Dr. Hoback on the phone. He is going to contact his permitting office to see if he can add Texas through his current permit, which is likely the fastest way. I have also contacted our permit issuing office to for suggestions. I can't estimate when the permit could be amended, since it will likely be done through another region. Beetles surveys can start as late as mid-September here in Texas, depending on temperature.

_____
Omar R. Bocanegra
U.S. Fish & Wildlife Service
711 Stadium Drive, Suite 252
Arlington, Texas 76011
(817) 277-1100 ext. 26
(817) 277-1129 fax
Website: http://www.fws.gov/southwest/es/arlingtontexas/

Matt Comeaux <Matt.Comeaux@trow.com>

06/22/2010 08:11 AM

To "Omar_Bocanegra@fws.gov" <Omar_Bocanegra@fws.gov>
cc
Subject RE: Keystone Pipeline Project, Gulf Coast Segment - 2010 ABB Surveys

Thanks for the information, Omar.

Dr. Hoback currently has a permit for South Dakota and Nebraska – who would he need to contact to get his current permit amended to include Texas? Also, what is the timeframe that would be involved for this approval? It is my understanding that our survey window closes at the end of August and Dr. Hoback is only available to conduct the surveys starting around the 6th of July.

Thanks,
-Matt C.

Matthew Comeaux
Environmental Project Manager
Energy Services Division

Trow Engineering Consultants, Inc.
2700 Post Oak Blvd., Suite 400
Houston, TX 77056
Ph: (713) 693-6421
Fax: (713) 693-6497

From: Omar_Bocanegra@fws.gov [mailto:Omar_Bocanegra@fws.gov]
Sent: Tuesday, June 22, 2010 7:54 AM
To: Matt Comeaux
Subject: Re: Keystone Pipeline Project, Gulf Coast Segment - 2010 ABB Surveys

Hello Mr. Comeaux:

Thank you for the update on the project. We don't have a preference on who is contracted to do the surveys, but only require that they obtain an Endangered Species Permit (and any other applicable permits) to do the work. Therefore, if Dr. Hoback is permitted to perform presence/absence surveys for the ABB in Texas, than there is no problem. Otherwise, he may need to obtain a permit or amend his permit.

-Omar

Omar R. Bocanegra
U.S. Fish & Wildlife Service
711 Stadium Drive, Suite 252
Arlington, Texas 76011
(817) 277-1100 ext. 26
(817) 277-1129 fax
Website: http://www.fws.gov/southwest/es/arlingtontexas/

Matt Comeaux <Matt.Comeaux@trow.com>

06/22/2010 07:26 AM

To "omar_bocanegra@fws.gov" <omar_bocanegra@fws.gov>
cc
Subject Keystone Pipeline Project, Gulf Coast Segment - 2010 ABB Surveys

Good morning Mr. Bocanegra,

We are currently gearing up for ABB surveys associated with the proposed Keystone Pipeline (Project) route in Lamar Co., Texas. This survey effort is basically a continuation of surveys conducted in the Summer of 2009 along the proposed route in Lamar Co. To date, no ABBs have been observed.

Ms. Kendra Bauer, a Doctoral Student at the University of Texas, conducted the surveys for the Project last year, but it appears as though she will be unable to conduct the surveys this year. With this in mind, we are seeking your concurrence to utilize Dr. Wyatt Hoback for the 2010 ABB survey, which is tentatively scheduled for early July. Dr. Hoback has extensive experience pertaining to the ABB, and is currently conducting surveys in Nebraska for the Steele City Segment of the Project.

Please let me know at your earliest convenience if you have any reservations in utilizing Dr. Hoback's services for

the Lamar Co. surveys. I have attached Dr. Hoback's professional resume and a brief Bio for your review and consideration. As we only have a couple of weeks left to work out all the logistics, we would appreciate a quick response from your Office.

If you have any questions, or if you need any additional information, please let me know.

Thanks for your help,

Matthew Comeaux
Environmental Project Manager
Energy Services Division

Trow Engineering Consultants, Inc.
2700 Post Oak Blvd., Suite 400
Houston, TX 77056
Ph: (713) 693-6421
Fax: (713) 693-6497

Dave Beckmeyer

From: Sean_Edwards@fws.gov
Sent: Thursday, July 01, 2010 11:37 AM
To: Dave Beckmeyer
Subject: RE: Keystone Phase III MBTA (Gulf Coast Segment)

Mr. Beckmeyer,

After speaking with several relevant sources, I have concluded that this office must coordinate with the other offices that lie within the footprint of this project as well as our Regional Office to develop a coordinated response. However, it may not be necessary for our Regional Office to issue that response and it is permissible for each office to offer guidance on the avoidance of take of migratory birds.

In the past, certain USFWS offices have participated in the development of Migratory Bird Plans (pursuant to EO 13186) in which funding to protect migratory bird habitat outside of project areas or funding to provide migratory bird research was considered to be an acceptable way to compensate for the loss of migratory bird habitat. However, because their is no process in which to mitigate the loss of migratory bird individual or active nests, funding for habitat protection or research cannot be considered to be a legal means in which to clear occupied migratory bird habitat during the breeding season between April 15 and August 1.

Because there is no process to mitigate for the take of migratory birds, we cannot consider funding to be a substitute for avoidance. Because of the increased likelihood of the illegal take of birds and eggs during the nesting season, the Migratory Bird Programs (Programs) in Regions 2 and 6 recommend that activities that disrupt or destroy nesting habitat occur outside of the primary nesting season for migratory bird species in the project area. Even though conducting activities outside the nesting season will not completely eliminate the possibility of taking a migratory bird, the likelihood of take is extremely small in most cases.

If these activities cannot occur outside of the primary nesting season, the Programs strongly recommend that areas in which construction activities are scheduled to occur be cleared of vegetation and other suitable nesting substrates prior to the nesting season. Such activities would make the areas relatively unattractive to nesting birds, thereby reducing the likelihood of nesting activities. Although reduced, the likelihood of taking birds and eggs would still be higher than if construction activities occurred completely outside of the nesting season. However, if the project proponent and construction company work collaboratively with the Programs and follow reasonable and prudent guidance to avoid the take of birds, eggs, and young, and take still occurs, the Programs should advise Office of Law Enforcement special agents that the company has been cooperating with the Service and incorporating the Service's recommendations into their construction timelines and activities. The Office of Law Enforcement will focus on those cases where reasonable, prudent and effective measures to avoid take have not been implemented by a company.

The Service, and in particular the Migratory Bird Program, is charged with promoting activities that conserve and protect migratory birds, and discouraging activities that could negatively impact them. Given our mission and legal mandates, we cannot support activities that we know or highly suspect will result in the illegal take of migratory birds. Thus, we cannot support proposals to conduct construction activities during the nesting season without having first made the nesting habitats less attractive for nesting birds, or having conducted surveys the prior nesting season to detect nesting birds. As explained herein, it is our conclusion that sufficient time exists to either conduct construction outside of the nesting season, or to alter habitats as we have recommended prior to the nesting season.

Although companies at times are willing to provide funds to help offset the habitat impacts associated with their activities; the MBTA does not authorize mitigation. Therefore any conservation measures or other efforts taken by companies to offset habitat loss are voluntary and do not absolve them of any potential liability for illegally taking migratory birds or eggs.

Some of this language was developed by our Regional Office and represents the position that each of our offices recognize. Please contact me if I may be of any further assistance.

Kind Regards,

Sean Patrick Edwards
Wildlife Biologist
U.S. Fish & Wildlife Service
Ecological Services Field Office
711 Stadium Drive, Suite 252
Arlington, TX 76011
817-277-1100
sean_edwards@fws.gov

"Dave Beckmeyer" <dbeckmeyer@perennialenv.com>

06/30/2010 02:48 PM

To <Sean_Edwards@fws.gov>
cc
Subject RE: Keystone Phase III MBTA (Gulf Coast Segment)

Sean,

Thanks for the message. An informed answer is exactly what we need.

Dave

From: Sean_Edwards@fws.gov [mailto:Sean_Edwards@fws.gov]
Sent: Wednesday, June 30, 2010 2:46 PM
To: Dave Beckmeyer
Subject: RE: Keystone Phase III MBTA (Gulf Coast Segment)

Dave,

I am still gathering information and guidance on this subject and will be in touch as soon as I feel I have definitive answers for you. I will hopefully respond no later than tomorrow. I appreciate your patience and I would rather give you a well researched, informed answer.

Kind Regards,

Sean Patrick Edwards
Wildlife Biologist
U.S. Fish & Wildlife Service
Ecological Services Field Office
711 Stadium Drive, Suite 252
Arlington, TX 76011
817-277-1100
sean_edwards@fws.gov

"Dave Beckmeyer" <dbeckmeyer@perennialenv.com>

06/28/2010 04:44 PM

To <Sean_Edwards@fws.gov>
cc
Subject RE: Keystone Phase III MBTA (Gulf Coast Segment)

Sounds great. I will talk with you then.

Dave

From: Sean_Edwards@fws.gov [mailto:Sean_Edwards@fws.gov]
Sent: Monday, June 28, 2010 4:30 PM
To: dbeckmeyer@perennialenv.com
Subject: Fw: Keystone Phase III MBTA (Gulf Coast Segment)

Dave,

I received Hayley's e-mail and your voice mail. I will be out of the office tomorrow but I will return your call when I return on Wednesday. I'll make sure that we handle this quickly.

Kind Regards,

Sean Patrick Edwards
Wildlife Biologist
U.S. Fish & Wildlife Service
Ecological Services Field Office
711 Stadium Drive, Suite 252
Arlington, TX 76011
817-277-1100
sean_edwards@fws.gov
----- Forwarded by Sean Edwards/R2/FWS/DOI on 06/28/2010 04:28 PM -----

Hayley Dikeman/R2/FWS/DOI

06/25/2010 10:42 AM

To "Dave Beckmeyer" <dbeckmeyer@perennialenv.com>
cc Sean Edwards/R2/FWS/DOI@FWS, Omar Bocanegra/R2/FWS/DOI@FWS
Subject Re: Keystone Phase III MBTA (Gulf Coast Segment)Link

Mr. Bechmeyer,

Sorry for the delay in my response. I have spoken with my counterpart at the Arlington, Texas Service Field Office. They would prefer that you work directly with them in this effort. The contact at the Arlington office is Sean Edwards. I have included him in this

email correspondence.

Thank you.

Hayley Dikeman
Fish and Wildlife Biologist
US Fish & Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, OK 74129

Phone (918)382-4519
Fax (918)581-7467
email: hayley_dikeman@fws.gov
Office Website: http://www.fws.gov/southwest/es/oklahoma/

"Dave Beckmeyer" <dbeckmeyer@perennialenv.com>

06/22/2010 08:56 AM

To <Hayley_Dikeman@fws.gov>
cc
Subject Keystone Phase III MBTA (Gulf Coast Segment)

Hayley,

Did you make any progress last week regarding the MBTA proposal for Keystone Phase III (Gulf Coast Segment)?

Dave

David R. Beckmeyer
Managing Partner

Perennial Environmental Services, LLC
5700 NW Central Drive
Suite 210

Houston, TX 77092
Office - 713-462-7121
Fax - 713-462-6209
Cell - 713-306-9708
e-mail - dbeckmeyer@perennialenv.com

Dave Beckmeyer

From: Arturo_Vale@fws.gov
Sent: Thursday, September 16, 2010 11:34 AM
To: Edith_Erfling@fws.gov
Cc: Dave Beckmeyer; Moni_Belton@fws.gov
Subject: Re: FW:
Attachments: Schwelling et al. 2000.pdf

Copy of the Texas Trailing Phlox article is attached.

A. J. Vale
U. S. Fish & Wildlife Service
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
281-286-8282 ext. 223
fax. 281-481-5882

KXL Phase III
Phone Conversation Record
September 16, 2010

Participants:

David Beckmeyer – TransCanada
Matt Comeaux - Trow
Edith Erfling – U.S. Fish and Wildlife Service, Clear Lake Office

Call Summary

TransCanada contacted the U.S. Fish and Wildlife Service to discuss their comments to the draft Environmental Impact Statement regarding Texas Trailing Phlox. TransCanada had concluded that the project would have "No Effect" on the Texas Trailing Phlox, but the U.S. Fish and Wildlife Service wanted some additional information.

Ms. Erfling recommended reviewing a document titled "Habitat Prediction for Texas Trailing Phlox Using Landsat Thematic Mapper and Ancillary Biophysical Data" and suggested using it as an additional tool to address potential impacts to this species. Ms. Erfling stated that she would email the habitat prediction document. TransCanada agreed to utilize this document to support its assessment of potential impacts to Texas Trailing Phlox.

Gulf Coast Consultation Documents

ENSR
4888 Loop Central Drive Suite 600, Houston, Texas 77081
T 713.590.9900 F 713.520.6802 www.ensr.aecom.com

September 4, 2008

Mr. Jerry Brabander
U.S. Fish and Wildlife Service
Tulsa ES Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129

Attention: Ms. Hayley Dikeman

Subject: TransCanada Keystone Pipeline, L.P.
Keystone XL Pipeline Project
Payne, Lincoln, Creek, Okfuskee, Seminole, Hughes, Coal, Atoka, and Bryan Counties, Oklahoma
Agency Consultation for Environmental Resources

Dear Ms. Hayley Dikeman:

ENSR, on behalf of TransCanada Keystone Pipeline, L.P. (TransCanada), is requesting information pertaining to federally-listed threatened and endangered species for the referenced project. This information is being requested to supplement data acquired during the initial project meeting on April 16, 2008.

Project Description

TransCanada is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project, known as the Keystone XL Pipeline Project (Project), initially will have the nominal capacity to deliver 700,000 barrels per day (bpd) of crude oil from an oil supply hub near Hardisty to existing terminals in Nederland near Port Arthur, Texas, and the Houston Ship Channel in Houston, Texas. The Steele City segment extends from Hardisty, Alberta south to Steel City, Nebraska. The Gulf Coast segment extends from Cushing, Oklahoma south to Nederland, Texas. The Houston Ship Channel Lateral extends from Liberty County, Texas southwest to Moore Junction, Harris County, Texas. The pipeline will have the capacity for expansion to 900,000 bpd. In total, the Project will consist of approximately 1,704 miles of new, 36-inch-diameter pipeline, consisting of about 329 miles in Canada and 1,375 miles within the U.S. It will interconnect with the northern and southern termini of the previously approved 298-mile-long, 36-inch-diameter Cushing extension pipeline (Cushing Extension) in the U.S. segment of the Keystone Pipeline Project.

Threatened and Endangered Species Biological Survey Program

TransCanada has retained ENSR to provide environmental and regulatory related services for the Project. ENSR will conduct the threatened and endangered species consultations, biological field surveys, regulatory review, and permitting activities.

General habitat assessments and wetland delineation surveys were initiated in May 2008. These surveys have covered a comprehensive list of ecological areas (e.g. wetlands/waterbodies, bald eagle nesting habitat, and native landscapes), with a focus on areas that have been identified through review of recently flown high-resolution aerial photography, public information contained in GIS databases, and other sources.

Species-specific biological surveys will be conducted prior to the start of construction for several species potentially located along the Project route. Additionally, the presence of species that have the potential for migration stopovers will be monitored by personnel, such as the Environmental Inspector, during construction. Below, for your review and concurrence, is a list of special status species and other species of concern that will be surveyed for the Project in Oklahoma. A species-specific list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) within each state.

The species included in the list below, sensitive species habitats, and proposed survey locations were determined based on reviews of federal and state threatened and endangered species county lists, document reviews, high-resolution aerial photography interpretation, GIS and other sources, or have been identified by agency personnel as species of concern. The list of federal and state threatened and endangered species for the affected counties was narrowed down to this list based on information collected at agency meetings and reviews of known distributions of these species in relation to the construction corridor.

Surveys will occur for the following species and groups of species:

- Nests of the bald eagle within or in close proximity to construction ROW during construction, with a focus on areas around rivers, reservoirs, and lake shores with large, tall trees. Potential nests will be located via aerial surveys;
- Nests of the interior least tern within or in close proximity to construction ROW during construction. Surveys will occur at the Red River, South Canadian River, and any other rivers or reservoirs identified as having suitable habitat by the USFWS or by habitat assessments during field surveys;
- Rookeries of species, such as herons and egrets, within or in close proximity of construction ROW during construction. Potential rookeries will be located via aerial surveys;
- Nests of raptors within or in close proximity to construction ROW during construction. Potential nests will be located vial aerial surveys;
- Migratory birds, especially nests within construction ROW during construction;
- Migration stopovers of the piping plover within construction ROW during construction; and
- Migration stopovers of the whopping crane within construction ROW during construction.

The USFWS recommended a contribution to the American burying beetle conservation fund in lieu of conducting surveys for this species. Surveys for presence of the Arkansas River Shiner are not anticipated at this time as the North and South Canadian Rivers are planned to be crossed via Horizontal Directional Drill.

To facilitate your review of the Project's biological survey program, ENSR is providing you with the following materials:

- Shapefile of the proposed Project centerline on enclosed compact disc.
- USGS Topographic Quadrangle Project Location Maps on enclosed compact disc.

Requested Information

This letter is being provided to your office to assist with the development of the National Environmental Policy Act (NEPA) documentation for this Project. ENSR respectfully requests that the USFWS review the enclosed maps and provide any additional issues or concerns that the agency may have in association with the Project. Also, please provide any available information on the following:

- Designated or proposed National Wild Scenic Rivers;
- Sensitive water resources crossed;
- Fisheries of special concern (i.e. commercial and sport fisheries);
- Terrestrial/wetland species and habitats of special concern; and
- Fish and Wildlife land easements in the affected counties.

Because our habitat assessment surveys and wetland delineations began in May 2008 and are continuing, we sincerely appreciate your expedited response. ENSR appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Dr. Bill Stephens (713) 807-6543 or Ginger Melms at (713) 807-6549 or via e-mail at wstephens@ensr.aecom.com or gmelms@ensr.aecom.com.

Sincerely,

Dr. Bill Stephens
Assistant Project Manager

Ginger Melms
Assistant Project Manager

Enc: USGS Topographic Quadrangle Project Location Maps for Gulf Coast Lateral and Houston Ship Channel Lateral in Oklahoma and Texas (on enclosed CD)

Shapefiles of the proposed centerline, survey corridor, and milepost markers for the Gulf Coast Lateral and Houston Ship Channel Lateral (on enclosed CD)

ENSR
4888 Loop Central Drive Suite 600, Houston, Texas 77081
T 713.590.9900 F 713.520.6802 www.ensr.aecom.com

September 4, 2008

Mr. Steve Parris
U.S. Fish and Wildlife Service
Clear Lake ES Field Office
17629 El Camino Real #211
Houston, TX 77058-3051

Subject: TransCanada Keystone Pipeline, L.P.
Keystone XL Pipeline Project
Fannin, Lamar, Delta, Hopkins, Franklin, Wood, Upshur, Smith, Cherokee, Rusk, Nacogdoches, Angelina, Polk, Liberty, Hardin, Jefferson, Chambers, and Harris Counties, Texas
Agency Consultation for Environmental Resources

Dear Mr. Steve Parris:

ENSR, on behalf of TransCanada Keystone Pipeline, L.P. (TransCanada), is requesting information pertaining to federally-listed threatened and endangered species for the referenced project. This information is being requested to supplement data acquired during the initial project meeting on April 29, 2008.

Project Description

TransCanada is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project, known as the Keystone XL Pipeline Project (Project), initially will have the nominal capacity to deliver 700,000 barrels per day (bpd) of crude oil from an oil supply hub near Hardisty to existing terminals in Nederland near Port Arthur, Texas, and the Houston Ship Channel in Houston, Texas. The Steele City segment extends from Hardisty, Alberta south to Steel City, Nebraska. The Gulf Coast segment extends from Cushing, Oklahoma south to Nederland, Texas. The Houston Ship Channel Lateral extends from Liberty County, Texas southwest to Moore Junction, Harris County, Texas. The pipeline will have the capacity for expansion to 900,000 bpd. In total, the Project will consist of approximately 1,704 miles of new, 36-inch-diameter pipeline, consisting of about 329 miles in Canada and 1,375 miles within the U.S. It will interconnect with the northern and southern termini of the previously approved 298-mile-long, 36-inch-diameter Cushing extension pipeline (Cushing Extension) in the U.S. segment of the Keystone Pipeline Project.

Threatened and Endangered Species Biological Survey Program

TransCanada has retained ENSR to provide environmental and regulatory related services for the Project. ENSR will conduct the threatened and endangered species consultations, biological field surveys, regulatory review, and permitting activities.

General habitat assessments and wetland delineation surveys were initiated in May 2008. These surveys have covered a comprehensive list of ecological areas (e.g. wetlands/waterbodies, red-cockaded woodpecker habitat, and native landscapes), with a focus on areas that have been identified through review of recently flown high-resolution aerial photography, public information contained in GIS databases, and other sources.

Species-specific biological surveys will be conducted prior to the start of construction for several species potentially located along the Project route. Additionally, the presence of species that have the potential for migration stopovers will be monitored by personnel, such as the Environmental Inspector, during construction. Below, for your review and concurrence, is a list of special status species and other species of concern that will be surveyed for the Project in Texas. A species-specific list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) within each state.

The species included in the list below, sensitive species habitats, and proposed survey locations were determined based on reviews of federal and state threatened and endangered species county lists, document reviews, high-resolution aerial photography interpretation, GIS and other sources, or have been identified by agency personnel as species of concern. The list of federal and state threatened and endangered species for the affected counties was narrowed down to this list based on information collected at agency meetings and reviews of known distributions of these species in relation to the construction corridor.

Surveys will occur for the following species and groups of species:

- Nests of the bald eagle within or in close proximity to construction ROW during construction, with a focus on areas around rivers, reservoirs, and lake shores with large, tall trees. Potential nests will be located via aerial surveys;
- Nests of the interior least tern within or in close proximity to construction ROW during construction. Surveys will occur at the Red River and any other rivers or reservoirs identified as having suitable habitat by the USFWS or by habitat assessments during field surveys;
- Occurrence of Texas Prairie dawn-flower within construction ROW. Surveys will occur within mima (pimple) mound wetlands that are identified during field surveys;
- Rookeries of species, such as herons and egrets, within or in close proximity of construction ROW during construction. Potential rookeries will be located via aerial surveys;
- Nests of raptors within or in close proximity to construction ROW during construction. Potential nests will be located vial aerial surveys;
- Migratory birds, especially nests within construction ROW during construction;
- Migration stopovers of the piping plover within construction ROW during construction; and
- Migration stopovers of the whopping crane within construction ROW during construction.

The red-cockaded woodpecker (RCW) was an original concern within the Project area in Texas. During the initial aerial raptor survey ENSR personnel did not identify any suitable habitat for the RCW within the survey corridor. During agency meetings, USFWS personnel confirmed that the Project did not cross any known suitable habitat for the RCW.

To facilitate your review of the Project's biological survey program, ENSR is providing you with the following materials:

- Shapefile of the proposed Project centerline on enclosed compact disc.
- USGS Topographic Quadrangle Project Location Maps on enclosed compact disc.

Requested Information

This letter is being provided to your office to assist with the development of the National Environmental Policy Act (NEPA) documentation for this Project. ENSR respectfully requests that the USFWS review the enclosed maps and provide any additional issues or concerns that the agency may have in association with the Project. Also, please provide any available information on the following:

- Designated or proposed National Wild Scenic Rivers;
- Sensitive water resources crossed;
- Fisheries of special concern (i.e. commercial and sport fisheries);
- Terrestrial/wetland species and habitats of special concern; and
- Fish and Wildlife land easements in the affected counties.

Copies of these materials also are being distributed to the Arlington Ecological Services Field Office. Because our habitat assessment surveys and wetland delineations began in May 2008 and are continuing, we sincerely appreciate your expedited response. ENSR appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Dr. Bill Stephens (713) 807-6543 or Ginger Melms at (713) 807-6549 or via e-mail at wstephens@ensr.aecom.com or gmelms@ensr.aecom.com.

Sincerely,

Dr. Bill Stephens
Assistant Project Manager

Ginger Melms
Assistant Project Manager

Enc: USGS Topographic Quadrangle Project Location Maps for Gulf Coast Lateral and Houston Ship Channel Lateral in Oklahoma and Texas (on enclosed CD)

Shapefiles of the proposed centerline, survey corridor, and milepost markers for the Gulf Coast Lateral and Houston Ship Channel Lateral (on enclosed CD)

ENSR
4888 Loop Central Drive Suite 600, Houston, Texas 77081
T 713.590.9900 F 713.520.6802 www.ensr.aecom.com

September 4, 2008

Mr. Tom Cloud
U.S. Fish and Wildlife Service
Arlington ES Field Office
711 Stadium Drive, Suite 252
Arlington, TX 76011

Cc: Mr. Jeffrey Reid
U.S. Fish and Wildlife Service
Lufkin Ecological Services Sub-Office
415 South First Street, Suite 110
Lufkin, TX 75901-3801

Subject: TransCanada Keystone Pipeline, L.P.
Keystone XL Pipeline Project
Fannin, Lamar, Delta, Hopkins, Franklin, Wood, Upshur, Smith, Cherokee, Rusk, Nacogdoches, Angelina, Polk, Liberty, Hardin, Jefferson, Chambers, and Harris Counties, Texas
Agency Consultation for Environmental Resources

Dear Mr. Tom Cloud:

ENSR, on behalf of TransCanada Keystone Pipeline, L.P. (TransCanada), is requesting information pertaining to federally-listed threatened and endangered species for the referenced project. This information is being requested to supplement data acquired during the initial project meeting in Arlington on April 10, 2008 and in Lufkin on June 3, 2008.

Project Description

TransCanada is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project, known as the Keystone XL Pipeline Project (Project), initially will have the nominal capacity to deliver 700,000 barrels per day (bpd) of crude oil from an oil supply hub near Hardisty to existing terminals in Nederland near Port Arthur, Texas, and the Houston Ship Channel in Houston, Texas. The Steele City segment extends from Hardisty, Alberta south to Steel City, Nebraska. The Gulf Coast segment extends from Cushing, Oklahoma south to Nederland, Texas. The Houston Ship Channel Lateral extends from Liberty County, Texas southwest to Moore Junction, Harris County, Texas. The pipeline will have the capacity for expansion to 900,000 bpd. In total, the Project will consist of approximately 1,704 miles of new, 36-inch-diameter pipeline, consisting of about 329 miles in Canada and 1,375 miles within the U.S. It will interconnect with the northern and southern termini of the previously approved 298-mile-long, 36-inch-diameter Cushing extension pipeline (Cushing Extension) in the U.S. segment of the Keystone Pipeline Project.

Threatened and Endangered Species Biological Survey Program

TransCanada has retained ENSR to provide environmental and regulatory related services for the Project. ENSR will conduct the threatened and endangered species consultations, biological field surveys, regulatory review, and permitting activities.

General habitat assessments and wetland delineation surveys were initiated in May 2008. These surveys have covered a comprehensive list of ecological areas (e.g. wetlands/waterbodies, red-cockaded woodpecker habitat, and native landscapes), with a focus on areas that have been identified through review of recently flown high-resolution aerial photography, public information contained in GIS databases, and other sources.

Species-specific biological surveys will be conducted prior to the start of construction for several species potentially located along the Project route. Additionally, the presence of species that have the potential for migration stopovers will be monitored by personnel, such as the Environmental Inspector, during construction. Below, for your review and concurrence, is a list of special status species and other species of concern that will be surveyed for the Project in Texas. A species-specific list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) within each state.

The species included in the list below, sensitive species habitats, and proposed survey locations were determined based on reviews of federal and state threatened and endangered species county lists, document reviews, high-resolution aerial photography interpretation, GIS and other sources, or have been identified by agency personnel as species of concern. The list of federal and state threatened and endangered species for the affected counties was narrowed down to this list based on information collected at agency meetings and reviews of known distributions of these species in relation to the construction corridor.

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- Occurrence of Texas Prairie dawn-flower within construction ROW. Surveys will occur within mima (pimple) mound wetlands that are identified during field surveys;
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- Migration stopovers of the piping plover within construction ROW during construction; and
- Migration stopovers of the whopping crane within construction ROW during construction.

The red-cockaded woodpecker (RCW) was an original concern within the Project area in Texas. During the initial aerial raptor survey ENSR personnel did not identify any suitable habitat for the RCW within the survey corridor. During agency meetings, USFWS personnel confirmed that the Project did not cross any known suitable habitat for the RCW.

To facilitate your review of the Project's biological survey program, ENSR is providing you with the following materials:

- Shapefile of the proposed Project centerline on enclosed compact disc.
- USGS Topographic Quadrangle Project Location Maps on enclosed compact disc.

Requested Information

This letter is being provided to your office to assist with the development of the National Environmental Policy Act (NEPA) documentation for this Project. ENSR respectfully requests that the USFWS review the enclosed maps and provide any additional issues or concerns that the agency may have in association with the Project. Also, please provide any available information on the following:

- Designated or proposed National Wild Scenic Rivers;
- Sensitive water resources crossed;
- Fisheries of special concern (i.e. commercial and sport fisheries);
- Terrestrial/wetland species and habitats of special concern; and
- Fish and Wildlife land easements in the affected counties.

Copies of these materials also are being distributed to the Clear Lake Ecological Services Field Office. Because our habitat assessment surveys and wetland delineations began in May 2008 and are continuing, we sincerely appreciate your expedited response. ENSR appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Dr. Bill Stephens (713) 807-6543 or Ginger Melms at (713) 807-6549 or via e-mail at wstephens@ensr.aecom.com or gmelms@ensr.aecom.com.

Sincerely,

Dr. Bill Stephens
Assistant Project Manager

Ginger Melms
Assistant Project Manager

Enc: USGS Topographic Quadrangle Project Location Maps for Gulf Coast Lateral and Houston Ship Channel Lateral in Oklahoma and Texas (on enclosed CD)

Shapefiles of the proposed centerline, survey corridor, and milepost markers for the Gulf Coast Lateral and Houston Ship Channel Lateral (on enclosed CD)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
WinSystems Center Building
711 Stadium Drive, Suite 252
Arlington, Texas 76011

September 12, 2008

21420-2008-SL-0352

Dr. Bill Stephens
Ms. Ginger Melms
ENSR
4888 Loop Central Drive, Suite 600
Houston, Texas 77081

Dear Dr. Stephens and Ms. Melms:

This responds to your September 4, 2008, letter requesting information on federally listed threatened and endangered species with regard TransCanada Keystone Pipeline L.P.'s proposed crude oil pipeline and related facilities from Hardisty, Alberta, Canada to the Port Arthur and east Houston areas of Texas. The proposed 36-inch pipeline would extend approximately 1,704 miles across Canada and the United States. In Texas, the proposed project route would cross Angelina, Chambers, Cherokee, Delta, Fannin, Franklin, Hardin, Harris, Hopkins, Jefferson, Lamar, Liberty, Nacogdoches, Polk, Rusk, Smith, Upshur, and Wood Counties. It is our understanding that the project is also being coordinated with the Service's Clear Lake Field Office, as well as the appropriate Field Offices in the other states crossed by the proposed route. Therefore, the information provided by this office only addresses those fish and wildlife resources located within the Texas portion of the proposed route occurring in Cherokee, Delta, Fannin, Franklin, Hopkins, Lamar, Nacogdoches, Rusk, Smith, Upshur, and Wood Counties.

Threatened and Endangered Species

Included with your letter is list of threatened and endangered species and other wildlife resources for the purpose of conducting surveys along the proposed route. The list was complied based on preliminary habitat assessments and discussions with Service personnel. We recommend the endangered American burying beetle (*Nicrophorus americanus*)(ABB) be added to the list for Lamar County. The ABB is currently known to occur at Camp Maxey and may be present in other parts of the county. The ABB is nocturnal, lives for approximately one year, and typically reproduces only once. During the winter months when temperatures are below 60°F, ABBs bury themselves in the soil to overwinter. When temperatures are above 60°F they emerge from the soil and begin the mating and reproduction process. ABBs are scavengers, dependent on carrion

for food and reproduction. They have been found in various types of habitat including oak-pine woodlands, open fields, oak-hickory forest, open grasslands, and edge habitats.

Wetlands and Wildlife Habitat

Due to the large size of the project area, we are unable to provide specific details or descriptions of wetlands and other sensitive areas that may be impacted by the proposed project. However, it is worth noting that numerous creeks, streams, and wetlands exist within the proposed project area, including the Angelina, Sabine and South Sulphur Rivers and Big Sandy, Clear, Bowles, and Johnson Creeks which are crossed by the proposed pipeline route. While the proposed route appears to follow existing right-of-way for much of its extent in Texas, impacts could be substantial where it crosses riparian, bottomland hardwood or wetland habitat. Many of the rivers and large creeks in east Texas, including those mentioned above, maintain moderate to high quality bottomland hardwood and/or riparian corridors. These habitats are a high priority for conservation and continue to be lost and fragmented by linear utility and other development projects.

For these reasons, we recommend the National Environmental Policy Act document for the proposed project include a qualification and quantification of all impacts to fish and wildlife resources (especially to wetland, riparian, and upland forested areas). A mitigation plan should be developed early in the project planning process, and subsequently reviewed by the resource agencies, which demonstrates how impacts to fish and wildlife resources would be avoided, how impacts would be minimized, and plans developed to rectify/compensate for project related impacts.

Thank you for the opportunity to provide comments on the proposed project. If you have any questions, please contact Omar Bocanegra of my staff at (817) 277-1100.

Sincerely,

Tom Cloud

Thomas J. Cloud, Jr.
Field Supervisor

United States Department of the Interior
FISH AND WILDLIFE SERVICE

Division of Ecological Services
17629 El Camino Real #211
Houston, Texas 77058-3051
281-286-8282 FAX: 281-488-5882

November 12, 2008

Dr. Bill Stephens
ENSR
4888 Loop Central Drive Suite 600
Houston, Texas 77081

Dear Dr. Stephens:

Thank you for your letter dated September 4, 2008 concerning the proposed TransCanada Keystone Pipeline project. TransCanada is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada to the Port Arthur and east Houston areas of Texas in the United States.

The revised Department of the Interior Manual Instructions (503 DM 1), dated August 3, 1973, assign responsibility for Department of the Interior coordination and review of Department of the Army permit applications to the U.S. Fish and Wildlife Service (Service). Our comments are provided in accordance with these instructions and with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661, et seq.), with the provisions of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 703 et seq.) and the Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.).

In order for the Service to adequately review the project for impacts to fish and wildlife resources we are requesting an Environmental Assessment (EA) be developed for the project. The following issues should be evaluated and included throughout the development of the EA.

Habitat Descriptions and Field Evaluations

The Service requests that a habitat survey be included so that an accurate evaluation of fish and wildlife impacts can be established. This includes identifying all wetlands existing within the project footprint and pipeline corridor, as well as for all alternatives proposed. In addition, upland habitats within the project footprint should be surveyed and identified. The EA should thoroughly evaluate the functions and values of fish and wildlife habitat at the project site and all alternatives proposed.

Threatened and Endangered Species

Please note that according to Section 7(a)(2) of the Endangered Species Act, it is the responsibility of each federal agency to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any listed species. Based upon an inventory of listed species and other current information, the federal action agency determines if any endangered or threatened species may be affected by the proposed action. The Service's Consultation Handbook is available on-line for further information on definitions and process at
http://endangered.fws.gov/consultations/s7hndbk/s7hndbk.htm.

Texas prairie dawn is traditionally described as being found in poorly drained depressions or saline swales around the periphery of low natural pimple (mima) mounds in open grasslands; however, these mounds are often not present even though the non-vegetated, poorly drained patches of fine-sandy slightly saline soils that characterize the habitat of the plant is still present. Brush and other woody vegetation have often invaded the area surrounding these small, mostly barren areas and the soil is often covered with a blue-green alga. Texas prairie dawn has also been found in the mowed areas of public parks and various rights of way (ROW). The Service recommends that surveys be conducted in all areas that appear to contain suitable prairie dawn habitat and not just within mima mound wetlands.

Effective August 8, 2007, the bald eagle was removed from the list of threatened or endangered species under the authority of the Endangered Species Act of 1973, as amended. However, the bald eagle continues to be protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. I've attached the suggested bald eagle management guidelines for bald eagles. These guidelines were developed to assist landowners and land managers in determining whether or not their actions may disturb bald eagles. Please feel free to share these guidelines as needed. Additional information on eagles and the provisions of the BGEPA is available on the Service's bald eagle website, which can be accessed at http://www.fws.gov/migratorybirds/baldeagle.htm.

Since the number of bald eagles nesting in Texas is increasing and often the locations of their nests are not known, there may be bald eagle nests located in your project area. Therefore, we recommend ensuring that all work crew members be informed that bald eagles may be in the area and that they all know what bald eagles and bald eagle nests look like. There should also be one point of contact in each crew that will be notified should anyone working on that crew observe an eagle. If a bald eagle is seen or bald eagle nest is located in the project area, especially during the eagle nesting season (October 1 - May 30), you should determine whether or not your project may affect or disturb the bald eagles.

Pipeline Corridors, Compressor Stations, and Metering Facilities

Additional information is needed on locations of above ground structures associated with the final pipeline route. Previous pipeline projects have used bright lighting on associated above ground pipeline structures such as meter stations, compressor stations, pump stations, connection stations, main line valve stations, and other small facilities associated with the pipeline projects. We recommend all bright lighting associated with above ground structures be down-shielded to significantly reduce disturbance to resident and migratory birds and other resident wildlife. In addition, security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the each site.

Pipeline monitoring criteria

The Service recommends the pipeline monitoring conditions developed by the resource agencies be included as special conditions of any necessary permits, particularly through sensitive habitats and where new ROW will be constructed. Additional meetings may be needed to identify these areas of concern. In order to reduce the distribution of invasive species we recommend areas identified as sensitive habitats and the new ROW areas have equipment washing and treatment stations. The resource agency conditions are provided below.

Utility Corridors

All utility lines associated with this project must be included in the project description. Alternatives should be considered for power lines, such as underground installation, to decrease the threat to migratory and resident birds. Habitat impacts associated with utility corridor installation should be surveyed and included in the EA. Migratory birds (e.g., waterfowl, shorebirds, passerines, hawks, owls, vultures, falcons) are afforded protection under the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 703-712).

Areas of Concern

Additional information is needed detailing any areas of forested habitats, particularly any areas where new ROW will be cleared. The Service highly recommends locating the proposed line within existing pipeline corridors. The maps provided depict the proposed pipeline leaving an existing pipeline corridor at milepost (MP) 351 to MP 367, where it reconnects to another existing corridor. Additional information is needed detailing existing habitat within this entire area. The majority of this section of the line is proposed to cross the Pineywoods Mitigation Bank (Bank). We recommend the proposed pipeline shift to the east and use the existing pipeline corridor through this sensitive area to minimize habitat impacts and reduce forest fragmentation through the Bank. Addition information regarding the Bank can be acquired from the U.S. Army Corps of Engineers Galveston District bank representative Sam Watson at (409)766-3946.

The proposed project may have adverse impacts on fish and wildlife habitats and/or listed species. It is important that all issues listed above be addressed in the EA. We recommend meeting as the project develops to discuss the route through our area and any additional information that may be needed in order for the Service to make recommendations for the protection of fish and wildlife.

Thank you for the opportunity to comment on this project. If you have any questions or need additional information, please contact either Charrish Stevens or Moni Belton at 281/286-8282.

Sincerely,

for Stephen D. Parris
Field Supervisor, Clear Lake ES Field Office

USACE Pipeline Conditions developed by USACE, USFWS, NOAA, & TPWD

These special conditions can be used to address impacts to non-forested wetlands along pipeline routes.

1. The permittee must notify the U.S. Army Corps of Engineers (USACE) Galveston District, Regulatory Branch, Compliance Section Chief (Compliance) in writing within 7 days of the completion of the pipeline construction. The permittee must restore all impacted jurisdictional waters of the U.S. including wetlands within the permit area, to pre-project contours and elevations within 30 calendar days of completion of the pipeline construction.

2. The permittee will conduct four separate reports that will be used to compare pre- and post-construction site conditions, including one pre-construction report and three restoration reports. All reports will use geographical information system (GIS)/Remote Sensing analysis based on aerial imagery and ground surveys of the project site according to the "Protocols for Data Submission" (Protocol), which is described in the attachment. The restoration reports must compare pre- and post-construction conditions in the permit area, present conclusions on the success or failure of the restoration activities, and include a proposal to bring the project into compliance, if restoration is not successful. Reports will include the following:

a. The **first** report will be conducted before pipeline construction begins. The permittee will conduct aerial and ground surveys as part of the GIS analyses of the permit area (including any proposed temporary work areas) according to the attached Protocol.

b. The **second** report will be an initial restoration report and submitted to Compliance within 60 calendar days of the completion of pipeline construction. This second report will be based on post-construction aerial and ground surveys conducted after the completion of the pipeline construction. Should some wetland areas not be restored satisfactorily, remedial action, such as planting, addition of fill material, or additional mitigation, may be required, at the discretion of Compliance.

c. The **third** report will be a supplemental restoration report submitted to Compliance one year after the completion of pipeline construction. This third report will be based on post-construction aerial and ground surveys conducted one year after the completion of the pipeline construction (or the end of first growing season, whichever comes first). The third report must be submitted 60 days after the surveys are conducted. The re-vegetation of disturbed areas should be at least 30% of the pre-construction aerial coverage of non invasive, native vegetation, to be considered on target for eventual restoration. Should some wetland areas not be restored satisfactorily, remedial action, such as replanting, addition of fill material, or additional mitigation, may be required, at the discretion of Compliance.

d. The **fourth** report will be a supplemental restoration report submitted to Compliance within two years after the completion of pipeline construction. The fourth report must be submitted 60 days after the two year time limit. This fourth report will be based on a post-construction aerial and ground surveys conducted two years after the completion of the pipeline construction (or the end of second growing season, whichever comes first). The re-vegetation of disturbed areas should be 100% of the pre-construction aerial coverage with non-invasive, native vegetation, to be considered on target for complete restoration. Should some wetland areas not be restored satisfactorily, remedial action, such as replanting, addition of fill material, or additional mitigation, may be required, at the discretion of Compliance.

Protocols for Data Submission (Protocol)

a. Aerial Imagery Protocol: The first report must utilize recent aerial imagery (within the last five years) of the permit area and an area 300-foot-wide on each side of the permit area. The second report must utilize aerial images taken within two months of project completion. The third image must be taken approximately one year after pipeline construction is complete. The fourth image must be taken approximately two years after pipeline construction is complete. The aerial imagery must be color infrared, ortho-corrected, with a maximum of 6-inch pixel size, and +/- 1 meters spatial accuracy, presented at a scale of 1 inch = 200 feet.

b. Ground Survey Protocol: Each restoration reports will include GIS analysis of the permit area, accompanied by a ground survey that includes sample points with geographic coordinates, a wetland data sheet percent of relative vegetation cover, and elevations for each change in plant community (described in the USACE 1987 Wetland Delineation Manual) throughout the entire permit area. The survey coordinates must have sub-meter accuracy; data must be recorded and submitted in NAD 1983 UTM zones and coordinates.

c. GIS/Remote Sensing Analysis Protocol: Each report must include aerial imagery of the permit area, and an area 300-foot-wide on each side of the permit area with a GIS analysis of the aerial imagery. Survey reports will assess all existing plant communities, open water, and special aquatic sites (in acres) within the entire permit area. The GIS analysis must be submitted in the reports as an 8 ½ by 11-inch hard copy. Upon request by Compliance, the permittee shall submit the GIS analysis in Arcview Shapefile format with Federal Geographic Data Committee (FGDC) compliant metadata, and all raster imagery in GEoTiff format with FGDC compliant metadata, on a CD-ROM.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Division of Ecological Services
9014 East 21st Street
Tulsa, Oklahoma 74129
918/581-7458 / (FAX) 918/581-7467

In Reply Refer To:
FWS/R2/OKES/
2009-FA-0018

December 3, 2008

Bill Stephens
ENSR, AECOM
4888 Loop Central Drive, Suite 600
Houston, Texas 77081

Dear Dr. Stephens:

The U.S. Fish and Wildlife Service (Service) has reviewed your September 4, 2008 letter requesting information pertaining to federally-listed species in regards to the National Environmental Policy Act (NEPA) addressing TransCanada Keystone Pipeline's Keystone XL Pipeline Project in central Oklahoma. The project involves the construction of 1,704 miles of crude oil pipeline from Canada to Texas. Our comments are submitted in accordance with the Endangered Species Act (ESA), the Fish and Wildlife Coordination Act (FWCA), the Migratory Bird Treaty Act (MBTA) and NEPA.

Specifically your letter requested the following:

- Review and approval of special status species to be surveyed for in Oklahoma
- Designated or proposed National Wild Scenic Rivers;
- Sensitive water resources crossed;
- Fisheries of special concern (i.e., commercial and sport fisheries);
- Terrestrial/wetland species and habitat of special concern; and
- Fish and wildlife land easements in affected counties.

Bald and Golden Eagle Protection Act

Our records indicate multiple occurrences of bald eagles nesting or occurring within 5 miles of the proposed pipeline route. The Service recommends conducting surveys to determine the presence of nests or roosts within 1 mile of any large water bodies along the pipeline right-of-way (ROW).

Endangered Species Act

Your letter identified the interior least tern as nesting within, or in close proximity to, the pipeline ROW and that surveys would be conducted in areas of suitable habitat. However, the interior least tern is already known to utilize the reaches of the North Canadian, South Canadian, and Red Rivers where the pipeline will cross. Consequently, the Service's preferred recommendation to avoid adversely affecting the interior least tern is to cross these three rivers via horizontal directional drilling (HDD). Your letter stipulated that the North and South Canadian Rivers will be crossed via HDD to protect the Arkansas

River shiner. However, this alone will not avoid adverse effects to the interior least tern or the Arkansas River shiner because disturbance along the riparian area can result in adverse effects, the reach of the South Canadian River where the pipeline crosses is designated critical habitat for the Arkansas River shiner, and the interior least tern also occurs in the Red River. To avoid adverse affects to these two species the Service recommends that a buffer of 300 feet from bank full width be maintained on each side of all three rivers, and that the Red River also be crossed via HDD. All disturbances (including the clearing of vegetation, and vehicle and human access) should be prohibited within the 300-foot buffer to avoid harassing the interior least tern and reducing the potential for erosion and other water quality effects resulting in harm to the Arkansas River shiner.

Your letter also identified the piping plover and the whopping crane as migratory species that may utilize the pipeline ROW as stopover habitat. The Service concurs that these species could potentially utilize suitable habitat within and near the pipeline ROW. The Service recommends surveying for suitable habitat and conducting presence/absence surveys for these species if construction will occur during their migration through Oklahoma.

During our previous meeting and in subsequent emails the Service provided information and guidance regarding the American burying beetle (ABB). The Service informed you that the ABB would likely be adversely impacted from the proposed pipeline due to the size and location of the project, the current distribution of the ABB, and the habitat present along the pipeline ROW. The Service explained that our standard avoidance recommendations involved conducting surveys to more precisely determine presence or absence of the ABB along the entire pipeline ROW and then implement ABB removal protocols.

The Service also explained long-term and cumulative impacts affecting the ABB, and conservation needs of the ABB. The decline of the ABB is primarily attributed to habitat loss, fragmentation, and degradation (USFWS 1991). In response, the Service has identified several priority conservation areas for the ABB within the species range in Oklahoma, and recovery research priorities. The Service has established an agreement with the Oklahoma Chapter of The Nature Conservancy (TNC) for an ABB Conservation Fund to be used for the acquisition of lands or easements within the priority conservation areas and for ABB recovery research. The Service encourages contributions to the ABB fund; however, this is a voluntary conservation action.

Given the size of the project the Service believes take, including harm and harassment, is still likely to occur. Consequently, we previously recommended and still recommend that the federal action agency initiate formal consultation to address take.

Migratory Bird Treaty Act

The MBTA provides protection to migratory birds (any bird listed in 50 CFR 10.13) throughout the U.S., Canada, and Mexico. Under the MBTA, taking, killing, and possession of migratory birds is prohibited unless authorized by permit from the Secretary of the Interior. Permits authorizing incidental take are not issued. Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds" was signed in January, 2001. This Executive Order was initiated as a national framework to address how federal agencies should address migratory bird conservation. The Executive Order requires all federal agencies whose activities may adversely affect migratory birds to develop a Memorandum of Understanding with the Service that shall promote the conservation of migratory bird populations. In accordance with the Executive Order, Section 3 (f), federal agencies are encouraged to

begin implementing conservation measures set forth in the Executive Order while Memoranda of Understanding are being developed. The Service's recommended conservation measures are attached.

Designated or Proposed National Wild Scenic Rivers

The National Park Service (NPS) exercises primary jurisdiction over the National Wild and Scenic Rivers system. However, the Service as well as the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) also are charged with protecting and managing the Nation's Wild and Scenic Rivers. A list, by State, of waters having this designation can be obtained at <http://www.nps.gov/rivers/wildriverslist.html>. Although there are currently no federally-designated wild or scenic rivers in Oklahoma, several such state designated rivers occur in Oklahoma. Your principal point of contact is the Oklahoma Scenic Rivers Commission. Relevant information can be obtained at <http://biosystems2.okstate.edu/scenic/>.

Sensitive water resources crossed, and terrestrial/wetland species and habitat of special concern

The Service manages a wide variety of "special designation areas" such as Wilderness Areas, Research Natural Areas, Refuges, Hatcheries, and Wetlands of International Significance. Currently, the Service manages some 76 wilderness areas encompassing roughly 20.7 million acres in 26 States. This total represents only about 20 percent of the National Wilderness Preservation System. Other agencies such as the USFS, BLM, NPS, and others may also manage officially designated wilderness areas or wildlife preserves. We suggest you also contact these agencies for relevant information. The general locations of the Service's National Wildlife Refuges and Fish Hatcheries are often indicated on many map products including topographical maps, county maps, and State Highway maps. Similarly, locations of State Parks and Wildlife Management Areas are often available on these types of maps. If more precise boundaries are needed, they may be obtained directly from the appropriate contact. A list of Oklahoma refuges and their contact information is provided on our regional website at <http://southwest.fws.gov /refuges/okrefuges.html>. Information on State Parks or Wildlife Management Areas should be obtained directly from the appropriate State agency.

The pipeline crosses the Oklahoma Department of Wildlife Conservation's Deep Fork Wildlife Management Area (WMA). The WMA Manager should be contacted at (918) 759-1816 to ensure any and all comments or issues pertaining to the WMA are addressed.

Floodplain Management

Floodplain information may be obtained from the U.S. Army Corps of Engineers (Corps) or is available for purchase from the Federal Emergency Management Agency (FEMA). Many commercial sources also offer FEMA floodplain maps. Information on floodplain areas will assist you in complying with Executive Order 11988 as part of your NEPA review. The Service cannot support projects that would have a significant adverse impact on floodplains.

Wetlands

The Service recommends impacts to wetland areas be avoided or minimized to the greatest extent practicable. We suggest contacting the Corps (918/669-7400) concerning any permit requirements associated with this project. Before submitting a permit application to the Corps, we recommend that

all practicable alternatives be assessed and included in the permit application. We strongly recommend any proposed project utilize the least environmentally damaging alternative. The Service likely will seek mitigation for unavoidable impacts to important fish and wildlife habitats.

Information on the occurrence of wetlands within your project area may be obtained from the relevant National Wetlands Inventory (NWI) map. The Service has the primary federal responsibility for mapping and maintaining an inventory of wetlands in the United States. These NWI maps provide information on wetland type, location, and size and can assist you in analyzing the effect of your project. However, these maps may not necessarily provide information on wetlands regulated by the Corps under the Rivers and Harbors Act of 1899 and the Clean Water Act of 1977.

National Wetland Inventory maps can be acquired from the appropriate State distribution center, one of six USGS Earth Science Information Center regional offices, or by calling the USGS national toll-free number: 1-800-USA-MAPS. Maps can also be viewed at the Library of Congress and the Federal Depository Library System and, where available, downloaded cost-free through the NWI Home Page on the Internet at <http://www.nwi.fws.gov>. These maps also are available for viewing in this office, by appointment.

The six regional USGS Earth Science Information Centers provide online computer links to the NWI map database, which contains current information about the availability and production history of NWI maps and digital data. The appropriate Cooperator-Run State Distribution Center offers paper composites of the NWI maps and establishes their own pricing structure, product types and ordering procedures. The Oklahoma Water Resources Board, 3800 N. Classen, Oklahoma City, 73118 (405 530-8800) is the current NWI distribution center for Oklahoma.

The pipeline crosses the below riverine habitats. The Service recommends the attached best management practices be employed to minimize or avoid impacts to these streams.

- Euchee Creek
- Salt Creek
- Deep Fork
- North Canadian River
- Wewoka Creek
- Little River
- Canadian River
- Muddy Boggy Creek
- Clear Boggy Creek
- Red River

Fisheries of special concern (*i.e.*, commercial and sport fisheries)

This is regulated or overseen by the Oklahoma Department of Wildlife Conservation (ODWC). The Fisheries Division can be contacted at P.O. Box 53465, Oklahoma City, Oklahoma 73152, and/or (405) 521-3721.

Fish and wildlife land easements in affected counties

The pipeline crosses land potentially held in the Conservation Reserve Program (CRP) of the Natural Resource Conservation Service (NRCS).

Other Comments from the Service

TransCanada's proposed pipeline route is nearly identical to Enogex, Inc.'s (Ex. Mustang Fuel Corporation) Texoma Line (Netherland to Cushing). However, there are multiple route deviations between the two lines. The reasons for these deviations are not clear to the Service, but it appears unnecessary to have separate routes for pipelines in such close proximity. The Service recommends that the Keystone pipeline be constructed immediately adjacent to the existing Texoma line to reduce habitat fragmentation.

We appreciate the opportunity to provide comments. The content of this correspondence is valid for one year from the above date. If you have any questions or need further assistance, please contact Hayley Dikeman of this office at 918-382-4519.

Sincerely,

Kenneth D. Frazier

Kenneth D. Frazier
Assistant Field Supervisor

Enclosures

cc: Manager, Deep Fork Wildlife Management Area,
BLM, Billings, MT

References

U.S. Fish and Wildlife Service. 1991. American Burying Beetle (*Nicrophorus americanus*) Recovery Plan. Newton Corner, Massachusetts. 80 pp.

Migratory Bird Treaty Act

The Service recommends the following steps be implemented to avoid or minimize take of migratory birds. To demonstrate how and what actions will be implemented the Service further recommends developing a migratory bird conservation plan. This plan should be submitted to the Service for review and approval.

1. Avoidance

Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Oklahoma occurs during the period of April 1 through July 31. To prevent impacts to active nests, land-clearing activities, including the removal of structures as well as vegetation, should be scheduled to occur prior to or after the migratory bird nesting season (i.e., April 1 through July 31). All active nests should be left in place until the eggs have hatched and the young have fledged.

2. Migratory Bird Protection

If a proposed project or activity is planned to occur during the primary nesting season or at any other time which may result in the take of nesting migratory birds, the Service recommends implementing measures to avoid destruction or adverse effects to migratory birds. Specific avoidance measures should be developed in conjunction with the Service.

3. Habitat Mitigation

The prevailing threat and cause of decline in migratory birds is the loss, degradation, and fragmentation of suitable native habitat. Consequently, the Service recommends providing replacement habitat for altered or lost habitat due to this proposed project in addition to avoidance and protection measures. Specific habitat compensation measures should be developed in conjunction with the Service.

4. Reporting Procedures

A written description of all the avoidance measures that have either been attempted or are planned to be implemented at the proposed project site to avoid the take of migratory birds (e.g., survey efforts, inactive nest removal attempts outside of the primary nesting season, clearing/grubbing of vegetation, establishment of buffer zones around active nest sites, other work-around efforts, etc.).

BEST MANAGEMENT PRACTICES FOR PROJECTS AFFECTING RIVERS, STREAMS AND TRIBUTARIES

The project crosses or potentially affects river, stream or tributary aquatic habitat. Therefore the Service recommends implementing the following applicable Best Management Practices:

1. Construct stream crossings during a period of low streamflow (e.g., July - September);
2. Cross streams, stream banks and riparian zones at right angles and at gentle slopes;
3. When feasible, directionally bore under stream channels;
4. Disturb riparian and floodplain vegetation only when necessary;
5. Construction equipment should cross the stream at one confined location over an existing bridge, equipment pads, clean temporary native rock fill, or over a temporary portable bridge;
6. Limit in-stream equipment use to that needed to construct crossings;
7. Place trench spoil at least 25 feet away landward from streambanks;
8. Use sediment filter devices to prevent movement of spoil off right-of-way when standing or flowing water is present;
9. Trench de-watering, as necessary, should be conducted to prevent discharge of silt laden water into the stream channel;
10. Maintain the current contours of the bank and channel bottom;
11. Do not store hazardous materials, chemicals, fuels, lubricating oils, and other such substances within 100 feet of streambanks;
12. Refuel construction equipment at least 100 feet from streambanks;
13. Revegetate all disturbed areas as soon as possible after construction to prevent unnecessary soil erosion. Use only native riparian plants to help prevent the spread of exotics;
14. Maintain sediment filters at the base of all slopes located adjacent to the streams until right-of-way vegetation becomes established;
15. Maintain a vegetative filtration strip adjacent to streams and wetlands. The width of a filter strip is based on the slope of the banks and the width of the stream. Guidance to determine the appropriate filter strip (stream management zone, SMZ) width is provided below; and
16. Direct water runoff into vegetated areas.

BEST MANAGEMENT PRACTICES FOR PROJECTS AFFECTINGRIVERS, STREAMS AND TRIBUTARIES. Document prepared by the U.S. Fish and Wildlife Service, Oklahoma Ecological Services Field Office, 9014 East 21st Street, Tulsa, Oklahoma 74129-1428. For the most recent information visit our website, http://www.fws.gov/southwest/es/oklahoma/default.htm, write, or call (918) 581-7458. 1/24/2007

AECOM Environment
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June 30, 2009

Mr. William Ray
Oklahoma Department of Wildlife Conservation
1801 N. Lincoln
Oklahoma City, OK 73105

Subject: TransCanada Keystone Pipeline L.P.
Keystone XL Pipeline Project
Lincoln, Creek, Okfuskee, Seminole, Hughes, Coal, Atoka, and Bryan Counties, Oklahoma
Agency Consultation for Environmental Resources

Dear Mr. William Ray:

As a follow up to our recent discussions, TransCanada Keystone Pipeline, L.P. (Keystone) is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project is referred to as the Keystone XL Pipeline Project (Project). The Project is located in the abovementioned counties in Oklahoma.

AECOM, on behalf of Keystone, met with your office on July 1, 2008 and with the USFWS on April 16, 2008. At these meetings, AECOM presented a list of species, and groups of species, which had been identified by AECOM as species that the USFWS and ODWC were likely to recommend for surveys in Oklahoma. This list was based on reviews of federal and state threatened and endangered species county lists, document reviews of known distributions, high-resolution aerial photography interpretation of suitable habitat, and AECOM's experience in the Project area. The ODWC and USFWS were asked to approve the lists by either adding missing information or by removing species from further analysis. These species were the Arkansas river shiner, interior least tern, American burying beetle, whooping crane, piping plover, bald eagle, Texas horned lizard, raptor nests, and rookeries.

Based on the outcomes of these initial meetings, AECOM submitted a consultation letter to the USFWS, in September 2008, that detailed the final list of species that had been identified as requiring a detailed analysis of impacts for the Project and whether the analysis process would require species-specific surveys or the assumption of presence and development of mitigation measures to minimize, avoid, or compensate potential impacts to the species. The USFWS responded with a consultation letter that confirmed the species list and gave further details on the type or locations for surveys. Based on the agency meetings and consultations, one species, the Texas horned lizard, was removed from the list of species-specific surveys. Finally, AECOM met with the USFWS in January of 2009 to discuss the species list, status of environmental data gathering, and other concerns or issues.

Based on the abovementioned meetings, and subsequent informal conversations via phone or e-mail, AECOM initiated the recommended species-specific surveys. Below, for your review, is a summary for each species that includes the locations for species-specific surveys and results of surveys that have been completed to date. At this time, AECOM would like to confirm that any species that are not included in the below list are not likely to be adversely affected by the project. The following list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) and state agencies within each state.

Arkansas River Shiner

Species-specific surveys are not planned to be conducted for the Arkansas river shiner. Instead, presence of the shiner will be assumed at the South and North Canadian Rivers. Both of these rivers will be crossed via the horizontal directional drill (HDD) method and the workspace for the HDD entry and exit points will be greater than 300 feet from the bank on each side of the rivers. Keystone will continue to work with your office to resolve issues associated with this Project.

Interior Least Tern

Species-specific surveys for the interior least tern occurred in June 2009 at the North Canadian, South Canadian, and Red Rivers. Suitable nesting habitat was observed at all three rivers; however, no nesting least terns were observed. Interior least terns were observed foraging at the Red River and these individuals were continuously leaving from and returning to an area approximately 0.34 mile west of the centerline. The interior least tern survey report will be submitted to your office and the USFWS for review. As described above for the North and South Canadian Rivers, the Red River will also be crossed via HDD and the entry and exit points will be greater than 300 feet from the bank on each side of the rivers. Keystone will continue to work with your office to resolve issues associated with this Project.

American Burying Beetle

Presence/absence surveys are not planned for the American burying beetle in Oklahoma. The USFWS has recommended setting up a compensatory mitigation plan for potential impacts to the American burying beetle in Oklahoma in lieu of surveys. An analysis for suitable habitat for the burying beetle will be completed by the fall of 2009. This report will be submitted to your office and the USFWS for review. Keystone will continue to work with your office to resolve issues associated with this Project.

Whooping Crane

A review of the Project area for suitable habitat for migration stopovers by the whooping crane has been completed. The areas with the highest potential for migration stopovers by the whooping crane are the North Canadian, South Canadian, and Red Rivers. If this species is found in close proximity to the right-of-way (ROW), its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Piping Plover

A review of the Project area for suitable habitat for migration stopovers by the piping plover has been completed. The areas with the highest potential for migration stopovers by the piping plover are the North Canadian, South Canadian, and Red Rivers. If this species is found in close proximity to the ROW, its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Bald Eagle

Aerial surveys for presence/absence of bald eagles, bald eagle nests, and winter roosts occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No bald eagle nests were observed within the construction ROW or within 660 feet of the edge of the construction ROW. In Oklahoma, bald eagles were found to be present in the vicinity of where the Project crosses the Deep Fork River and the North Canadian River. Keystone will continue to work with your office to resolve issues associated with this Project.

Raptor Nests

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. In Oklahoma, forty-one active and inactive raptor nests have been located. Keystone will continue to work with your office to resolve issues associated with this Project.

Rookeries

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No active or inactive rookeries have been located near the Project area in Oklahoma. Keystone will continue to work with your office to resolve issues associated with this Project.

AECOM appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Jerry Castillo at (713) 807-6541 or via e-mail at Jerome.Castillo@aecom.com.

Sincerely,

Jerry Castillo
Project Director

Enc: Project Location Map

AECOM Environment
4888 Loop Central Drive, Suite 600, Houston, TX 77081
T 713.520.9900 F 713.5206802 www.aecom.com

June 30, 2009

Ms. Amy Hanna
Texas Parks and Wildlife Department
2805 N. Navarro, Suite 600-A
Victoria, TX 77901

Subject: TransCanada Keystone Pipeline, L.P.
Keystone XL Pipeline Project
Fannin, Lamar, Delta, Hopkins, Franklin, Wood, Upshur, Smith, Cherokee, Rusk, Nacogdoches, Angelina, Polk, Liberty, Hardin, Jefferson, Chambers, and Harris Counties, Texas
Agency Consultation for Environmental Resources

Dear Ms. Amy Hanna:

As a follow up to our recent discussions, TransCanada Keystone Pipeline, L.P. (Keystone) is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project is referred to as the Keystone XL Pipeline Project (Project). The Project is located in the abovementioned counties in Texas.

AECOM, on behalf of Keystone, met with your office on May 23, 2008, the Arlington ES Field Office on April 10, 2008, Clear Lake ES Field Office on April 29, 2008, and Lufkin ES sub-office on June 3, 2008. At these meetings, AECOM presented a list of species, and groups of species, which had been identified by AECOM as species that the USFWS and TPWD were likely to recommend for surveys in Texas. This list was based on reviews of federal and state threatened and endangered species county lists, document reviews of known distributions, high-resolution aerial photography interpretation of suitable habitat, and AECOM's experience in the Project area. The USFWS and TPWD were asked to approve the lists by either adding missing information or by removing species from further analysis. These species were the red-cockaded woodpecker, interior least tern, American burying beetle, whooping crane, piping plover, bald eagle, Rafinesque's big-eared bat, Texas horned lizard, raptor nests, and rookeries.

Based on the outcomes of these initial meetings, AECOM submitted a consultation letter to the USFWS, in September 2008, that detailed the final list of species that had been identified as requiring a detailed analysis of impacts for the Project and whether the analysis process would require species-specific surveys. The USFWS responded with consultation letters that confirmed the species list and gave further details on the type or locations for surveys. Based on the agency meetings and consultations, one species, the Texas prairie dawn-flower was added to the list of species-specific surveys. Three species, the red-cockaded woodpecker, Texas horned lizard, and Rafinesque's big-eared bat, were removed from the list of species-specific surveys. USFWS personnel at the Lufkin ES sub-office reviewed the Project area and confirmed that the Project did not cross any known suitable habitat for the red-cockaded woodpecker. Additionally, no suitable habitat for the red-cockaded woodpecker was located within the Project area during aerial surveys. Finally, AECOM met with the USFWS in January of 2009 to discuss the species list, status of environmental data gathering, and other concerns or issues.

Based on the abovementioned meetings, and subsequent informal conversations via phone or e-mail, AECOM initiated the recommended species-specific surveys. Below, for your review, is a summary for each species that includes the locations for species-specific surveys and results of surveys that have been completed to date. At this time, AECOM would like to confirm that any species that are not included in the below list are not likely to be adversely affected by the project. The following list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) and state agencies within each state.

Texas Prairie Dawn-Flower

Species-specific surveys for the Texas prairie dawn-flower occurred in Harris County on April 15, 2009. The Texas prairie dawn-flower was not observed within the survey corridor; however, due to the lack of landowner access permission, only 40% of the areas containing suitable soils and habitat for this species were surveyed. At this time, Keystone plans to complete surveys for the remaining areas in April 2010. Keystone will continue to work with your office to resolve issues associated with this Project.

Interior Least Tern

Species-specific surveys for the interior least tern occurred in June 2009 at the Red River in Texas. Suitable nesting habitat was observed; however, no nesting least terns were observed. Interior least terns were observed foraging at the Red River and these individuals were continuously leaving from and returning to an area approximately 0.34 mile west of the centerline. The interior least tern survey report will be submitted to your office and the USFWS for review. The Red River will be crossed via HDD and the entry and exit points will be greater than 300 feet from the bank on each side of the river. Keystone will continue to work with your office to resolve issues associated with this Project.

American Burying Beetle

Presence/absence surveys for the American burying beetle will occur in Lamar County from July through August 2009. The American burying beetle survey report will be submitted to your office and the USFWS for review. Keystone will continue to work with your office to resolve issues associated with this Project.

Whooping Crane

A review of the Project area for suitable habitat for migration stopovers by the whooping crane has been completed. The area with the highest potential for migration stopovers by the whooping crane in Texas is the Red River. If this species is found in close proximity to the right-of-way (ROW), its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Piping Plover

A review of the Project area for suitable habitat for migration stopovers by the piping plover has been completed. The areas with the highest potential for migration stopovers by the piping plover in Texas are the Red River, Bois D'Arc Creek, North Sulphur River, Neches River, Trinity River, and San Jacinto River. If this species is found in close proximity to the ROW, its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Bald Eagle

Aerial surveys for presence/absence of bald eagles, bald eagle nests, and winter roosts occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No bald eagle nests were observed within the construction ROW or within 660 feet of the edge of the construction ROW. In Texas, bald eagles were found to be present in the vicinity of where the Project crosses a large wetland complex from MP 360 to 363 and at a large reservoir near the Houston Ship Channel. Keystone will continue to work with your office to resolve issues associated with this Project.

Raptor Nests

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. In Texas, twenty-eight active and inactive raptor nests have been located. Keystone will continue to work with your office to resolve issues associated with this Project.

Rookeries

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. Seven active or inactive rookeries have been located and one of these is located within the Project's workspace. Keystone will continue to work with your office to resolve issues associated with this Project.

AECOM appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Jerry Castillo at (713) 807-6541 or via e-mail at Jerome.Castillo@aecom.com.

Sincerely,

Jerry Castillo
Project Director

Enc: Project Location Map

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June 30, 2009

Mr. Tom Cloud
U.S. Fish and Wildlife Service
Arlington ES Field Office
711 Stadium Drive, Suite 252
Arlington, TX 76011

Cc: Mr. Jeffrey Reid
U.S. Fish and Wildlife Service
Lufkin Ecological Services Sub-Office
415 South First Street, Suite 110
Lufkin, TX 75901-3801

Subject: TransCanada Keystone Pipeline, L.P.
Keystone XL Pipeline Project
Fannin, Lamar, Delta, Hopkins, Franklin, Wood, Upshur, Smith, Cherokee, Rusk, Nacogdoches, Angelina, Polk, Liberty, Hardin, Jefferson, Chambers, and Harris Counties, Texas
Agency Consultation for Environmental Resources

Dear Mr. Tom Cloud:

As a follow up to our recent discussions, TransCanada Keystone Pipeline, L.P. (Keystone) is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project is referred to as the Keystone XL Pipeline Project (Project). The Project is located in the abovementioned counties in Texas.

AECOM, on behalf of Keystone, met with your office on April 10, 2008, the Clear Lake ES Field Office on April 29, 2008, the Lufkin ES sub-office on June 3, 2008, and Texas Parks and Wildlife Department (TPWD) on May 23, 2008. At these meetings, AECOM presented a list of species, and groups of species, which had been identified by AECOM as species that the USFWS and TPWD were likely to recommend for surveys in Texas. This list was based on reviews of federal and state threatened and endangered species county lists, document reviews of known distributions, high-resolution aerial photography interpretation of suitable habitat, and AECOM's experience in the Project area. The USFWS and TPWD were asked to approve the lists by either adding missing information or by removing species from further analysis. These species were the red-cockaded woodpecker, interior least tern, American burying beetle, whooping crane, piping plover, bald eagle, Rafinesque's big-eared bat, Texas horned lizard, raptor nests, and rookeries.

Based on the outcomes of these initial meetings, AECOM submitted a consultation letter to your office, in September 2008, that detailed the final list of species that had been identified as requiring a detailed analysis of impacts for the Project and whether the analysis process would require species-specific surveys. Your office responded with a consultation letter that confirmed the species list and gave further details on the type or locations for surveys. Based on the agency meetings and consultations, one species, the Texas prairie dawn-flower was added to the list of species-specific surveys. Three species, the red-cockaded woodpecker, Texas horned lizard, and Rafinesque's big-eared bat, were removed from the list of species-specific surveys. USFWS personnel at the Lufkin ES sub-office reviewed the Project area and confirmed that the Project did not cross any known suitable habitat for

the red-cockaded woodpecker. Additionally, no suitable habitat for the red-cockaded woodpecker was located within the Project area during aerial surveys. Finally, AECOM met with your office on January 14, 2009 to discuss the species list, status of environmental data gathering, and other concerns or issues.

Based on the abovementioned meetings, and subsequent informal conversations via phone or e-mail, AECOM initiated the recommended species-specific surveys. Below, for your review, is a summary for each species that includes the locations for species-specific surveys and results of surveys that have been completed to date. At this time, AECOM would like to confirm that any species that are not included in the below list are not likely to be adversely affected by the project. The following list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) and state agencies within each state.

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Interior Least Tern

Species-specific surveys for the interior least tern occurred in June 2009 at the Red River in Texas. Suitable nesting habitat was observed; however, no nesting least terns were observed. Interior least terns were observed foraging at the Red River and these individuals were continuously leaving from and returning to an area approximately 0.34 mile west of the centerline. The interior least tern survey report will be submitted to the USFWS for review. The Red River will be crossed via HDD and the entry and exit points will be greater than 300 feet from the bank on each side of the river. Keystone will continue to work with your office to resolve issues associated with this Project.

American Burying Beetle

Presence/absence surveys for the American burying beetle will occur in Lamar County from July through August 2009. The American burying beetle survey report will be submitted to the USFWS for review. Keystone will continue to work with your office to resolve issues associated with this Project.

Whooping Crane

A review of the Project area for suitable habitat for migration stopovers by the whooping crane has been completed. The area with the highest potential for migration stopovers by the whooping crane in Texas is the Red River. If this species is found in close proximity to the right-of-way (ROW), its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Piping Plover

A review of the Project area for suitable habitat for migration stopovers by the piping plover has been completed. The areas with the highest potential for migration stopovers by the piping plover in Texas are the Red River, Bois D'Arc Creek, North Sulphur River, Neches River, Trinity River, and San Jacinto River. If this species is found in close proximity to the ROW, its presence will be documented and the

USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Bald Eagle

Aerial surveys for presence/absence of bald eagles, bald eagle nests, and winter roosts occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No bald eagle nests were observed within the construction ROW or within 660 feet of the edge of the construction ROW. In Texas, bald eagles were found to be present in the vicinity of where the Project crosses a large wetland complex from MP 360 to 363 and at a large reservoir near the Houston Ship Channel. Keystone will continue to work with your office to resolve issues associated with this Project.

Raptor Nests

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. In Texas, twenty-eight active and inactive raptor nests have been located. Keystone will continue to work with your office to resolve issues associated with this Project.

Rookeries

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. Seven active or inactive rookeries have been located and one of these is located within the Project's workspace. Keystone will continue to work with your office to resolve issues associated with this Project.

AECOM appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Jerry Castillo at (713) 807-6541 or via e-mail at Jerome.Castillo@aecom.com.

Sincerely,

Jerry Castillo
Project Director

Enc: Project Location Map

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June 30, 2009

Mr. Steve Parris
U.S. Fish and Wildlife Service
Clear Lake ES Field Office
17629 El Camino Real, Suite 211
Houston, TX 77058-3051

Attn: Edith Erfling

Subject: TransCanada Keystone Pipeline, L.P.
Keystone XL Pipeline Project
Fannin, Lamar, Delta, Hopkins, Franklin, Wood, Upshur, Smith, Cherokee, Rusk, Nacogdoches, Angelina, Polk, Liberty, Hardin, Jefferson, Chambers, and Harris Counties, Texas
Agency Consultation for Environmental Resources

Dear Ms. Edith Erfling:

As a follow up to our recent discussions, TransCanada Keystone Pipeline, L.P. (Keystone) is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project is referred to as the Keystone XL Pipeline Project (Project). The Project is located in the abovementioned counties in Texas.

AECOM, on behalf of Keystone, met with your office on April 29, 2008, the Arlington ES Field Office on April 10, 2008, the Lufkin ES sub-office on June 3, 2008, and Texas Parks and Wildlife Department (TPWD) on May 23, 2008. At these meetings, AECOM presented a list of species, and groups of species, which had been identified by AECOM as species that the USFWS and TPWD were likely to recommend for surveys in Texas. This list was based on reviews of federal and state threatened and endangered species county lists, document reviews of known distributions, high-resolution aerial photography interpretation of suitable habitat, and AECOM's experience in the Project area. The USFWS and TPWD were asked to approve the lists by either adding missing information or by removing species from further analysis. These species were the red-cockaded woodpecker, interior least tern, American burying beetle, whooping crane, piping plover, bald eagle, Rafinesque's big-eared bat, Texas horned lizard, raptor nests, and rookeries.

Based on the outcomes of these initial meetings, AECOM submitted a consultation letter to your office, in September 2008, that detailed the final list of species that had been identified as requiring a detailed analysis of impacts for the Project and whether the analysis process would require species-specific surveys. Your office responded with a consultation letter that confirmed the species list and gave further details on the type or locations for surveys. Based on the agency meetings and consultations, one species, the Texas prairie dawn-flower was added to the list of species-specific surveys. Three species, the red-cockaded woodpecker, Texas horned lizard, and Rafinesque's big-eared bat, were removed from the list of species-specific surveys. USFWS personnel at the Lufkin ES sub-office reviewed the Project area and confirmed that the Project did not cross any known suitable habitat for the red-cockaded woodpecker. Additionally, no suitable habitat for the red-cockaded woodpecker was located within the Project area during aerial surveys. Finally, AECOM met with your office on January 6, 2009 to discuss the species list, status of environmental data gathering, and other concerns or issues.

Based on the abovementioned meetings, and subsequent informal conversations via phone or e-mail, AECOM initiated the recommended species-specific surveys. Below, for your review, is a summary for each species that includes the locations for species-specific surveys and results of surveys that have been completed to date. At this time, AECOM would like to confirm that any species that are not included in the below list are not likely to be adversely affected by the project. The following list has been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) and state agencies within each state.

Texas Prairie Dawn-Flower

Species-specific surveys for the Texas prairie dawn-flower occurred in Harris County on April 15, 2009. The Texas prairie dawn-flower was not observed within the survey corridor; however, due to the lack of landowner access permission, only 40% of the areas containing suitable soils and habitat for this species were surveyed. At this time, Keystone plans to complete surveys for the remaining areas in April 2010. Keystone will continue to work with your office to resolve issues associated with this Project.

Interior Least Tern

Species-specific surveys for the interior least tern occurred in June 2009 at the Red River in Texas. Suitable nesting habitat was observed; however, no nesting least terns were observed. Interior least terns were observed foraging at the Red River and these individuals were continuously leaving from and returning to an area approximately 0.34 mile west of the centerline. The interior least tern survey report will be submitted to the USFWS for review. The Red River will be crossed via HDD and the entry and exit points will be greater than 300 feet from the bank on each side of the river. Keystone will continue to work with your office to resolve issues associated with this Project.

American Burying Beetle

Presence/absence surveys for the American burying beetle will occur in Lamar County from July through August 2009. The American burying beetle survey report will be submitted to the USFWS for review. Keystone will continue to work with your office to resolve issues associated with this Project.

Whooping Crane

A review of the Project area for suitable habitat for migration stopovers by the whooping crane has been completed. The area with the highest potential for migration stopovers by the whooping crane in Texas is the Red River. If this species is found in close proximity to the right-of-way (ROW), its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Piping Plover

A review of the Project area for suitable habitat for migration stopovers by the piping plover has been completed. The areas with the highest potential for migration stopovers by the piping plover in Texas are the Red River, Bois D'Arc Creek, North Sulphur River, Neches River, Trinity River, and San Jacinto River. If this species is found in close proximity to the ROW, its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Bald Eagle

Aerial surveys for presence/absence of bald eagles, bald eagle nests, and winter roosts occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No bald eagle nests were observed within the construction ROW or within 660 feet of the edge of the construction ROW. In Texas, bald eagles were found to be present in the vicinity of where the Project crosses a large wetland complex from MP 360 to 363 and at a large reservoir near the Houston Ship Channel. Keystone will continue to work with your office to resolve issues associated with this Project.

Raptor Nests

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. In Texas, twenty-eight active and inactive raptor nests have been located. Keystone will continue to work with your office to resolve issues associated with this Project.

Rookeries

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. Seven active or inactive rookeries have been located and one of these is located within the Project's workspace. Keystone will continue to work with your office to resolve issues associated with this Project.

AECOM appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Jerry Castillo at (713) 807-6541 or via e-mail at Jerome.Castillo@aecom.com.

Sincerely,

Jerry Castillo
Project Director

Enc: Project Location Map

AECOM Environment
4888 Loop Central Drive, Suite 600, Houston, TX 77081
T 713.520.9900 F 713.5206802 www.aecom.com

June 30, 2009

Mr. Jerry Brabander
U.S. Fish and Wildlife Service
Tulsa ES Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129

Attention: Ms. Hayley Dikeman

Subject: TransCanada Keystone Pipeline L.P.
Keystone XL Pipeline Project
Lincoln, Creek, Okfuskee, Seminole, Hughes, Coal, Atoka, and Bryan Counties, Oklahoma
Agency Consultation for Environmental Resources

Dear Ms. Hayley Dikeman:

As a follow up to our recent discussions, TransCanada Keystone Pipeline, L.P. (Keystone) is proposing to construct and operate a crude oil pipeline and related facilities from Hardisty, Alberta, Canada, to the Port Arthur and east Houston areas of Texas in the United States (U.S.). The project is referred to as the Keystone XL Pipeline Project (Project). The Project is located in the abovementioned counties in Oklahoma.

AECOM, on behalf of Keystone, met with your office on April 16, 2008 and with the Oklahoma Department of Wildlife Conservation (ODWC) on July 1, 2008. At these meetings, AECOM presented a list of species, and groups of species, which had been identified by AECOM as species that the USFWS and ODWC were likely to recommend for surveys in Oklahoma. This list was based on reviews of federal and state threatened and endangered species county lists, document reviews of known distributions, high-resolution aerial photography interpretation of suitable habitat, and AECOM's experience in the Project area. The USFWS and ODWC were asked to approve the lists by either adding missing information or by removing species from further analysis. These species were the Arkansas river shiner, interior least tern, American burying beetle, whooping crane, piping plover, bald eagle, Texas horned lizard, raptor nests, and rookeries.

Based on the outcomes of these initial meetings, AECOM submitted a consultation letter to your office, in September 2008, that detailed the final list of species that had been identified as requiring a detailed analysis of impacts for the Project and whether the analysis process would require species-specific surveys or the assumption of presence and development of mitigation measures to minimize, avoid, or compensate potential impacts to the species. Your office responded with a consultation letter that confirmed the species list and gave further details on the type or locations for surveys. Based on the agency meetings and consultations, one species, the Texas horned lizard, was removed from the list of species-specific surveys. Finally, AECOM met with your office on January 20, 2009 to discuss the species list, status of environmental data gathering, and other concerns or issues.

Based on the abovementioned meetings, and subsequent informal conversations via phone or e-mail, AECOM initiated the recommended species-specific surveys. Below, for your review, is a summary for each species that includes the locations for species-specific surveys and results of surveys that have been completed to date. At this time, AECOM would like to confirm that any species that are not included in the below list are not likely to be adversely affected by the project. The following list has

been developed for each state and distributed for comment and approval to the appropriate USFWS office(s) and state agencies within each state.

Arkansas River Shiner

Species-specific surveys are not planned to be conducted for the Arkansas river shiner. Instead, presence of the shiner will be assumed at the South and North Canadian Rivers. Both of these rivers will be crossed via the horizontal directional drill (HDD) method and the workspace for the HDD entry and exit points will be greater than 300 feet from the bank on each side of the rivers. Keystone will continue to work with your office to resolve issues associated with this Project.

Interior Least Tern

Species-specific surveys for the interior least tern occurred in June 2009 at the North Canadian, South Canadian, and Red Rivers. Suitable nesting habitat was observed at all three rivers; however, no nesting least terns were observed. Interior least terns were observed foraging at the Red River and these individuals were continuously leaving from and returning to an area approximately 0.34 mile west of the centerline. The interior least tern survey report will be submitted to the USFWS for review. As described above for the North and South Canadian Rivers, the Red River will also be crossed via HDD and the entry and exit points will be greater than 300 feet from the bank on each side of the rivers. Keystone will continue to work with your office to resolve issues associated with this Project.

American Burying Beetle

Presence/absence surveys are not planned for the American burying beetle in Oklahoma. The USFWS has recommended setting up a compensatory mitigation plan for potential impacts to the American burying beetle in Oklahoma in lieu of surveys. An analysis for suitable habitat for the burying beetle will be completed by the fall of 2009. This report will be submitted to the USFWS for review. Keystone will continue to work with your office to resolve issues associated with this Project.

Whooping Crane

A review of the Project area for suitable habitat for migration stopovers by the whooping crane has been completed. The areas with the highest potential for migration stopovers by the whooping crane are the North Canadian, South Canadian, and Red Rivers. If this species is found in close proximity to the right-of-way (ROW), its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Piping Plover

A review of the Project area for suitable habitat for migration stopovers by the piping plover has been completed. The areas with the highest potential for migration stopovers by the piping plover are the North Canadian, South Canadian, and Red Rivers. If this species is found in close proximity to the ROW, its presence will be documented and the USFWS will be contacted. Keystone will continue to work with your office to resolve issues associated with this Project.

Bald Eagle

Aerial surveys for presence/absence of bald eagles, bald eagle nests, and winter roosts occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No bald eagle nests were observed within the construction ROW or within 660 feet of the edge of the construction

ROW. In Oklahoma, bald eagles were found to be present in the vicinity of where the Project crosses the Deep Fork River and the North Canadian River. Keystone will continue to work with your office to resolve issues associated with this Project.

Raptor Nests

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. In Oklahoma, forty-one active and inactive raptor nests have been located. Keystone will continue to work with your office to resolve issues associated with this Project.

Rookeries

Aerial surveys for presence/absence of raptor nests occurred within 1 mile of the construction ROW in March 2008 and January, March, and April of 2009. No active or inactive rookeries have been located near the Project area in Oklahoma. Keystone will continue to work with your office to resolve issues associated with this Project.

AECOM appreciates your review of this material and looks forward to your response. If you have any questions regarding the enclosed materials, please contact Jerry Castillo at (713) 807-6541 or via e-mail at Jerome.Castillo@aecom.com.

Sincerely,

Jerry Castillo
Project Director

Enc: Project Location Map

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Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

September 25, 2009

Jerry Castillo
AECOM Environment
4888 Loop Central Drive, Suite 600
Houston, Texas 77081

RE: TransCanada Keystone XL Pipeline
Keystone XL Pipeline Project

Dear Mr. Castillo:

Partners ConocoPhillips and TransCanada have proposed to construct the Keystone XL Pipeline that will traverse more than 2,000 miles from Hardisty, Alberta Canada to the Texas Gulf Coast. The project would traverse the following counties in Texas: Fannin, Lamar, Delta, Hopkins, Franklin, Wood, Upshur, Smith, Cherokee, Rusk, Nacogdoches, Angelina, Polk, Liberty, Hardin, Jefferson, Chambers, and Harris Counties.

Under section 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

AECOM has submitted a request for information regarding environmental resources including Threatened and Endangered Species and Species of Concern. Please refer to the enclosed letter dated April 13, 2009 to Ms. Elizabeth Orlando with the US Department of State for preliminary guidance on Water Resources including significant stream segments and wetlands, Vegetation, and Rare, Threatened and Endangered resources. All recommendations and concerns conveyed in the April 13, 2009 are still valid and should be addressed.

Floodplains

AECOM has provided TPWD with updated routing information that details the locations of the pipeline and associated infrastructure. According to this information, TransCanada has located infrastructure for the pipeline, pump stations and roadways, within the floodplains and wetland areas. One area of particular concern is the pump station to be located immediately adjacent to the Angelina River near MP 333.5.

Floodplains and the riparian vegetation and wetlands they support act as natural buffers to floods and aid in water quality maintenance and groundwater recharge. These benefits can be lost through the clearing of vegetation, filling, and excavation activities associated with development. In addition to providing valuable foraging and nesting habitat to fish and wildlife, floodplains represent an important cultural resource to the public. Therefore, TPWD cannot support placement of pipeline infrastructure within the floodplains and requests that TransCanada relocate infrastructure to upland areas to minimize impacts. It

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AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

is also preferred by TPWD that the project infrastructure be placed in areas previously cleared or disturbed to avoid unnecessary removal of valuable forested communities.

An additional concern of placing the pump station within the floodplain and within close proximity to the Angelina River involves potential surface water contamination that may result from petroleum related spills or leaks at the pump station. Although containment areas must be incorporated into the pump station design, overtopping of floodplain waters into the containment areas or excess storm water runoff from the pump station facility could cause contaminants to leave the station. The pump station should be placed outside of the floodplain and at a significant distance from a major surface water to minimize potential contamination concerns.

Pineywoods Mitigation Bank- MP 367-370

The proposed route will cross through the Pineywoods Wetland Mitigation Bank. This bank was approved as a wetland mitigation banking site due to its intact bottomland forested and vast size of the tract. Therefore, TPWD recommends that the pipeline be rerouted to avoid impacting the bank site. There is a cleared right-of-way east of US Highway 59 that the project proponent should investigate as potential alternate route.

RARE, THREATENED AND ENDANGERED RESOURCES

In the April 13, 2009 letter referenced above, TPWD presented information regarding the Texas Natural Diversity Database (TXNDD). TPWD recommends that AECOM contact Dorinda Scott at txndd@tpwd.state.tx.us for digital data (shapefiles) along the pipeline route regarding rare resources.

In addition, TPWD requests that AECOM submit detailed reports for the surveys conducted for Rare, Threatened, and Endangered Resources. These reports should include methodology, maps, hours, and findings.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence.

Rookery

Your June 30, 2009 letter indicated that a rookery was found within the project's workspace. To avoid impacts to the rookery, a route adjustment should be made to avoid removal of trees that contain active or inactive nests. The new route should not come within 500 ft of the rookery. Permanent pump stations should be placed at a greater distance from a rookery so that noise levels do not disturb birds or prevent the rookery from being utilized.

Specific Resource Concerns

Review of the proposed project GIS shapefiles (frozen_centerline_merge_03182009, workspace_mainline_20090316, and pump_station_footprint_20090219) indicate that the project would cross Water Oak-Willow Oak (WO-WO) and Swamp Chestnut Oak – Willow Oak communities, ecologically significant stream segments, mussel sanctuaries per Texas Administrative Code (TAC Title 31, §57.157), and riparian habitat associated with streams. Some specific concerns include, but are not limited to, potential impacts at the following approximate mileposts:

MP 309-311. The project would cross through WO-WO community north of the Angelina River. The Angelina River, a mussel sanctuary, would be crossed using open trench rather than horizontal directional drilling (HDD). The project also includes an extra workspace just south of the river that may impact riparian habitat.

> Recommendation. TPWD prefers that both the WO-WO community and the Angelina River at this location involve HDD or a reroute of the pipeline around the resources, if feasible. Extra workspaces and staging areas should be placed in previously cleared areas to avoid further loss of habitat. Non-regulatory mitigation should be provided for unavoidable impacts.
>
> If relocation of the route is not feasible, then Partners ConocoPhillips and TransCanada should provide TPWD with an assessment that compares the impacts associated with conducting an HDD of the Angelina River versus open trench. The amount and quality of the WO-WO community that would be lost associated with each method should be included in the assessment as well as impacts to the riverbed and mussels.
>
> If HDD of the Angelina at this location is not feasible, surveys for mussels both upstream and downstream of the project area should be conducted. A plan should be developed, in coordination with TPWD, for possible relocation (requires a TPWD permit) of mussels to suitable upstream locations to avoid direct impacts. Mussels are susceptible to sedimentation, thus special precautions should be taken regarding sediment containment strategies to minimize sedimentation to downstream habitat.

MP 333-337. The project includes a HDD of the river at this location, though the project would cross riparian habitat and a WO-WO community associated with the Angelina River and involves placement of a pump station south of the river within the floodplain as previously mentioned above.

> Recommendation. A route alternative that runs west of the Angelina River from approximately MP 308 to MP 338 should be considered. Such a route would eliminate the two crossings of the Angelina River and would avoid impacts associated with crossing the Angelina River floodplain and bottomland habitats.

MP 347-348.5, MP 351-352.5, MP 359-360.5, and MP 366-370. WO-WO communities would be crossed by the project.

MP 374. The project crosses Piney Creek, an ecologically significant stream segment.

> Request. To protect aquatic resources, TPWD requests that this stream be crossed using HDD. Staging areas for HDD should be placed in previously cleared areas to avoid disturbance to existing wooded corridor.

MP 386 – 389.5. The project runs parallel to and crosses four times Big Sandy Creek, an ecologically significant stream segment.

> Recommendation. To avoid removal of riparian habitat, the project should be routed to avoid running parallel to this stream.

> Request. To protect aquatic resources, TPWD requests that this stream be crossed using HDD, where feasible. Staging areas for HDD should be placed in previously cleared areas to avoid disturbance to existing wooded corridor.

MP 394.5 – 395. The project workspace encroaches on the riparian habitat up to the streambank of Menard Creek, an ecologically significant stream segment.

> Recommendation. To avoid removal of riparian habitat, the project should be routed to avoid running parallel to this stream. If a reroute is not feasible, the workspace should be narrowed and non-regulatory mitigation should be provided for riparian impacts.

MP 401.5. The project crosses Menard Creek, and extra workspaces are proposed on both sides of the creek within existing wooded riparian habitat.

> Recommendation. The workspaces should be moved farther from the creek and placed within existing cleared areas.

MP 446-449.5. The project runs parallel to and twice crosses Pine Island Bayou, an ecologically significant stream segment. Additionally, from MP 452.5 – 455.5 the project crosses a Swamp Chestnut Oak – Willow Oak G3S3 Series Community.

> Request. TPWD requests that the project be routed to avoid these resources.

MP 22-23 Houston Lateral. The project runs crosses the Trinity River, an ecologically significant stream segment. WO-WO communities would be crossed by the project.

> Request. To protect aquatic resources, TPWD requests that this stream be crossed using HDD, where feasible. Staging areas for HDD should be placed in previously cleared areas to avoid disturbance to existing wooded corridor.

MP 27-28 Houston Lateral. The project crosses Old River, an ecologically significant stream segment.

> Request. To protect aquatic resources, TPWD requests that this stream be crossed using HDD, where feasible. Staging areas for HDD should be placed in previously cleared areas to avoid disturbance to existing wooded corridor.

TPWD advises review and implementation of the comments and recommendations. If you have any questions, please contact Amy Hanna at (361) 576-0022 or amy.hanna@tpwd.state.tx.us.

Sincerely,

Amy Hanna

Amy Hanna
Wildlife Habitat Assessment Program
Wildlife Division

Ajh:14195 (13950)

Enclosures: Correspondence to Elizabeth Orlando, US Department of State, April 13, 2009.

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April 13, 2009

Ms. Elizabeth Orlando
OES/ENV Room 2657
U.S. Department of State
Washington, D.C. 20520

RE: TransCanada Keystone XL Pipeline
West Canadian Sedimentary Basin to the Texas Gulf Coast

Dear Ms. Orlando:

Partners ConocoPhillips and TransCanada have proposed to construct the Keystone XL Pipeline that will traverse more than 2,000 miles from Hardisty, Alberta Canada to the Texas Gulf Coast. The proposed pipeline would be a new buried 36-inch crude oil pipeline that will link the existing Texas Gulf Coast refineries with Canada's oilfields. The pipeline will be designed to initially transport approximately 700,000 barrels of crude oil per day from Canada to markets in the U.S. and will compliment the Keystone Pipeline which is currently under construction. The proposed pipeline will be constructed within a 110-foot construction right-of-way (ROW) and would maintain a 50-foot permanent ROW.

Under Section 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

TPWD will participate in the Department of State Process for preparation of an Environmental Impact Statement (EIS) for the project. Once compiled, TPWD will review the draft and final EIS for potential impacts to fish and wildlife resources and will provide comments and recommendations to avoid, minimize, or mitigate potential impacts resulting from this project. Based on the project description and the preliminary pipeline alignment, TPWD offers the following preliminary comments and recommendations:

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WATER RESOURCES

Habitats Associated With Water Resources

Within Texas, the proposed pipeline would cross streams, creeks and rivers. In association with those waterways, the proposed line would likely cross herbaceous, scrub/shrub, forested wetlands, bottomland forests, and riparian habitats. Wetlands, riparian areas, and bottomland forests generally provide habitat for local wildlife and protect waterways from sediment loads in runoff water. Riparian habitat is a priority habitat type targeted for conservation by TPWD across the state.

Recommendation: To minimize habitat fragmentation, the pipeline should be routed to run alongside existing utility corridors *except* where this would cause greater impact to wetland and riparian habitats or rare resources. *The EIS should indicate the locations where the proposed pipeline would and would not run parallel to existing utility corridors.*

Recommendation: The pipeline alignment should be routed to avoid or minimize disturbance to wetland, bottomland forest and riparian areas, especially large contiguous tracts of quality habitats. When it is not feasible to avoid such habitats, the footprint of disturbance should be reduced as much as possible and crossings should be conducted perpendicular to linear stream and riparian habitats to reduce the amount of disturbance.

Recommendation: In these areas, only vegetation impeding construction should be removed, equipment should not be driven over vegetation when it is extremely wet, and heavy machinery should not be stored on vegetative cover for long periods of time. Protective mats should be placed within streambeds during construction to reduce the amount of soil and root disturbance and aid in the recovery of plants.

Recommendation: High quality wetland, riparian, and bottomland hardwood communities should be crossed using directional drilling techniques when avoidance is not feasible. Staging areas for the drilling equipment should be located in previously disturbed areas or areas of low value habitat.

Recommendation: Vehicles not needed specifically at creek crossings should utilize nearby roadways and bridges when crossing wetlands and streams to avoid soil disturbances.

Recommendation: The applicant should minimize disturbance to inert microhabitats, i.e., snags, brush piles, fallen logs, creek banks, and pools as these provide habitat for a variety wildlife species and their food sources.

Stream Crossings

No TPWD permit is required for **boring underneath** navigable streams (as defined in Texas state law). A permit under Parks and Wildlife Code Chapter 86 may be required for open-cutting navigable streams. Information regarding such permits can be found at http://www.tpwd.state.tx.us/faq/landwater/sand_gravel/.

Recommendation: Disturbance to state-owned streambeds crossed by any pipeline may require a permit issued by TPWD. Regarding permits for streambed disturbances, please coordinate with Rollin MacRae, TPWD – Inland Fisheries at (512) 389-4639. Please keep the TPWD Habitat Assessment Program up-to-date on the status of coordination with Inland Fisheries.

Significant Stream Segments

Based upon the map of the pipeline route dated 04/23/2008, TPWD has identified the following significant stream segments:

Red River Basin

Bois d'Arc Creek - From the confluence with the Red River in Fannin County upstream to its headwaters in east Grayson County. This stream segment: 1) contains priority bottomland hardwood habitat that displays significant overall habitat value, 2) contains bottomland hardwood forest which provides valuable hydrologic function relating to water quality and flood attenuation, and 3) contains the riparian conservation area Caddo National Grassland.

Cypress Creek Basin

Little Cypress Bayou - From the confluence with Big Cypress Bayou in Harrison County to a point 0.6 mile upstream of FM 2088 in Wood County (TNRCC classified stream segment 0409). This stream segment: 1) provides priority bottomland hardwood habitat and displays significant overall habitat value, 2) is valued for its high water quality/exceptional aquatic life/high aesthetic value, and 3) contains habitat for the state-listed Bluehead Shiner (*Pteronotropis hubbsi*), Creek Chubsucker (*Erimyzon oblongus*), and Blackside Darter (*Percina maculata*).

Neches River Basin

Angelina River - From the aqueduct crossing 0.6 mile upstream of the confluence of Paper Mill Creek in Angelina/Nacogdoches County upstream to the FM 1911 crossing in Cherokee/Nacogdoches County (within TNRCC classified stream segment 0611). This stream segment: 1) provides priority bottomland hardwood habitat that displays significant overall habitat value, 2) contains the riparian conservation area Angelina National Forest, and 3) contains habitat for the state threatened Paddlefish (*Polyodon spathula*).

Big Sandy Creek - From the confluence with Village Creek in north Hardin County upstream to the Polk/Trinity County line. This stream segment: 1) is valued for its outstanding remarkable fish and wildlife values, 2) contains the riparian conservation areas Big Thicket National Preserve and the Alabama and Coushatta Indian Reservation, and 3) contains remarkable fish and wildlife values and exceptional aesthetic values.

Neches River - From a point immediately upstream of the confluence of Hopson Mill Creek in Jasper/Tyler County upstream to the Blackburn Crossing Dam in Anderson/Cherokee County (TNRCC classified stream segment 0604). This stream segment: 1) was a Texas Natural Rivers System nominee for outstandingly remarkable fish and wildlife values, 2) contains priority bottomland hardwood habitat which displays significant overall habitat value, 3) contains the following riparian conservation areas: Davy Crockett National Forest; Angelina National Forest; Big Thicket National Preserve; State Wildlife Scientific Area; and the Alabama Creek Wildlife Management Area, 4) maintains high water quality/exceptional aquatic life/high aesthetic value, and 5) contains habitat for the state-threatened Paddlefish (*Polyodon spathula*), Creek chubsucker (*Erimyzon oblongus*), Blue

sucker (*Cycleptus elongatus*), and the federal candidate for listing under the Endangered Species Act the Neches River rose-mallow (*Hibiscus dasycalyx*).

Pine Island Bayou - From the confluence with the Neches River in Hardin/Jefferson County upstream to FM 787 in Hardin County (TNRCC classified stream segment 0607). This stream segment contains the riparian conservation area Big Thicket National Preserve.

Trinity River Basin

Menard Creek - From the confluence with the Trinity River near the Polk/Liberty County line upstream to its headwaters located east of Livingston in the central part of Polk County. This stream segment: 1) is valued for its bottomland hardwood habitat that displays significant overall habitat value, 2) supports a high diversity of freshwater mussels, and 3) contains the riparian conservation area Big Thicket National Preserve.

Trinity River - From the confluence with Trinity Bay in Chambers County upstream to FM 787 in Liberty County (within TNRCC classified stream segment 0801 and 0802). This stream segment: 1) is valued for its bottomland hardwoods and extensive freshwater wetland habitats display significant overall habitat value, 2) contains the riparian conservation areas Wallisville Conservation Area, Trinity River National Wildlife Refuge, and Davis Hill State Park, and 3) contains the habitat for the state threatened Wood stork (*Mycteria americana*), Alligator snapping turtle (*Macrochelys temminckii*).

Old River - From IH 10 in Chambers County upstream to the Dayton Canal in Liberty County. This stream segment: 1) is valued for the cypress swamp habitat and extensive fringe wetlands that display significant overall habitat value, and 2) contains the riparian conservation area Wallisville Lake Project.

More information regarding the significant stream segments can be found at (http://www.tpwd.state.tx.us/landwater/water/environconcerns/water_quality/sigsegs/).

Recommendation: The pipeline crossing of the rivers and streams should be located to avoid or minimize loss to wetland, riparian, and bottomland hardwood habitat. Placing the proposed pipeline alongside existing corridors is preferred, except when doing so would have a greater impact on natural resources. The Environmental Assessment

or EIS should address wetland, riparian, and bottomland hardwood impacts at the proposed river and stream crossings to determine that the location chosen is most suitable and provides the least amount of unavoidable impacts compared to other possible crossing locations nearby. Mitigation for impacts to all wetlands, bottomland forests, and riparian areas should be provided.

Recommendation: Boring underneath the rivers and streams and the associated bottomland hardwood habitat should be conducted to minimize impacts.

Wetlands

Recommendation: Wetland impacts should be monitored using the attached U.S. Army Corps of Engineers-Galveston District Interagency Guidelines. Avoidance and minimization of impacts to wetlands should be proposed through:

1. reductions in the nominal construction ROW width in wetlands,
2. placement of the pipeline parallel to existing utility ROW,
3. selective routing,
4. the use of wetland and waterbody construction and mitigation procedures,
5. crossing wetlands using boring techniques, and
6. reducing maintenance of the permanent ROW in wetlands to a 10-foot (ft) wide area centered over the pipeline.

Pipeline projects usually do not result in a net loss of wetlands, though there are reductions in overall functional value when forested wetlands are permanently and temporarily converted to emergent or scrub-shrub. Typically, an area 10-ft. wide centered over the pipeline is permanently maintained in an herbaceous state. Often times, trees beyond the 10-ft. wide area are selectively removed or prevented trimmed; therefore, forested wetlands beyond the 10-ft. wide area would not be given the chance to become a mature forested wetland.

Recommendation: The permanent impacts to forested wetlands should be calculated to include the total width of area where trees would be removed during long-term maintenance including any removal areas beyond the 10-ft. wide area. All forested wetland

clearing is considered a permanent impact that would require compensatory mitigation.

Recommendation: The wetland mitigation plan should take into consideration the temporary and permanent impacts associated with conversion from forested to herbaceous or scrub/shrub wetlands.

Recommendation: The wetland mitigation plan should be developed in consultation with TPWD. TPWD requests that TransCanada address impacts to all wetland types in the wetland mitigation plan and mitigate for these impacts.

VEGETATION

Within Texas, the proposed project crosses the Blackland Prairie, Pineywoods, Oak Woods and Prairies, and the Gulf Coast Prairies and Marshes Ecoregions and potentially crosses different vegetation types based on the TPWD Vegetation Types of Texas – 1984 map and companion book, which can be accessed at http://www.tpwd.state.tx.us/landwater/land/maps/gis/data_downloads/ and http://www.tpwd.state.tx.us/publications/pwdpubs/pwd_bn_w7000_0120/download_book/. Because this data is at a broad scale, the project would likely cross additional vegetation types and habitats such as those associated with streams and wetland areas.

Native Prairie

Based upon the project information provided, it is unclear if the proposed pipeline route would impact remnants of native prairie located in Lamar County. Native prairies are important for supporting the declining populations of most grassland bird species. America's prairies are also diminishing due to habitat fragmentation and loss as a result of development, conversion to non-native pastures, and woody encroachment. TPWD recommends that the stand of native prairie found within the project area be avoided.

Recommendation: TPWD requests that TransCanada coordinate with Karen Hardin, TPWD Habitat Assessment Biologist, to ensure the proposed project route utilizes nearby areas of non-native grasses rather than native prairie. She can be reached at (512) 917-4155 or karen.hardin@tpwd.state.tx.us.

Revegetation Plan

For revegetation, TPWD recommends selection of species that are suited to the site conditions, ecoregion, and intended uses and to consider native species that have multiple values and provide species diversity.

> **Comment:** TPWD prefers that disturbed areas be restored to pre-construction contours and planted with a mixture of **native** herbaceous species, especially when the adjacent property on one or both sides of the pipeline ROW contains native species of vegetation. Introduction of non-native species into native landscapes should be prevented. Native perennial grass species preferred by TPWD for permanent cover include Switchgrass (*Panicum virgatum*), Eastern Gamagrass (*Tripsacum dactyloides*), Virginia Wildrye (*Elymus virginicus*), Canada Wildrye (*E. canadensis*), Yellow Indiangrass (*Sorghastrum nutans*) and Little Bluestem (*Schizachyrium scoparium*). Other species appropriate for the area can be found by accessing the TPWD Texas Plant Information Database at http://tpid.tpwd.state.tx.us/overview.asp or by accessing the TPWD Wildscapes website at http://www.tpwd.state.tx.us/huntwild/wild/wildscapes/.
>
> **Recommendation:** During the easement acquisition process, each landowner should be offered a native seed mix.
>
> **Comment:** To verify successful revegetation and to determine the need for additional restoration, the applicant should conduct at least 2 years of post-construction monitoring.
>
> **Recommendation:** In wetlands, vegetation should be allowed to reestablish naturally, though a three-year monitoring plan to determine success should be conducted. Unsuccessful revegetation would require active planting with native wetland herbaceous and woody plant species in consultation with a professional wetland ecologist.

Through experience, pipeline projects typically propose seed mixes that contain primarily Bermuda grass (*Cynodon dactylon*) and/or Bahia grass (*Panium notatum*). Both of these grasses are non-native species that typically create a monoculture on the landscape and limit biodiversity.

Bahia grass is considered undesirable from a wildlife perspective due to its invasive nature and lack of providing habitat for most wildlife. Once established, Bahia grass can thrive with little water and fertilizer and produces an abundance of seed. In habitat restoration, herbicide treatment may remove Bahia grass for one season, though eradication of Bahia grass is very difficult because of the seed that remains in the soil and its aggressive rhizome system. Whereas, without applications of fertilizer and lime, Bermuda grass tends to diminish and other herbaceous species are able to compete, thus biodiversity increases. Additionally, eradication of Bermuda grass with herbicide is more feasible than eradication of Bahia grass.

> **Comment:** When the use of native seed mixes is not feasible, TPWD prefers the use of Bermuda grass rather than Bahia grass for reasons mentioned above.

Exotic and Invasive Species Control

The Chinese Tallow tree (*Triadica sebifera*) is an invasive species that is known to invade stream banks, riverbanks, and wet areas as well as upland sites. Disturbed areas are especially susceptible to infestation of tallow trees. Other exotic species with potential to invade portions of the project ROW include cogon grass (*Imperata cylindrica*), Chinese privet (*Ligustrum sinese*), Japanese honeysuckle (*Lonicera japonica*), deep-rooted sedge (Cyperus entrerianus), and purple loosestrife (*Lythrum salicaria*).

> **Recommendation:** A revegetation and maintenance plan should be prepared to monitor and control invasive species within the construction and operation ROWs. Occurrences of the exotic species listed above should be treated and controlled.

RARE, THREATENED AND ENDANGERED RESOURCES

Texas Natural Diversity Database (TXNDD)

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence.

The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presences, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously based on new, updated and undigitized records; for questions regarding a record, please contact txndd@tpwd.state.tx.us.

TPWD has conducted a review of the TXNDD based upon the pipeline route map dated 04/23/2008.

> **Recommendation:** TPWD requests that TransCanada provide a GIS shapefile of the preliminary pipeline alignment to further assist in the search of the TXNDD for known rare resource occurrences and management areas in the vicinity of the project.

Review of the TXNDD revealed the following occurrences of rare and protected species within 5 miles of the proposed project route.

Blackland Prairie Ecoregion

Special Features and Natural Communities

Arkansas meadow-rue (*Thalictrum arkansanum*) (EO ID 6618 and 553)
Silveanus Dropseed Series (*Sporobolus silveanus*) Series Community (EO ID 1651)

Please refer to the attached map (Figure 2) and Element Occurrence Record printouts for more information regarding the occurrences in the Blackland Prairie Ecoregion. TXNDD records in such a large area are difficult to display graphically and are best viewed in a Geographic Information System.

For specific projects please request digital data (shapefiles) at txndd@tpwd.state.tx.us or contact Dorinda Scott, TXNDD Database Manager, at (512) 389-8723.

Pineywoods Ecoregion

Federal and State Listed Threatened
Black Bear (*Ursus americanus*) (EO ID 1354)

State Listed Threatened
Bald Eagle (*Haliaeetus leucocephalus*) (EO IDs 5988, 6039, 6944, and 6438)

Candidate for Federal Listing
Neches River rose-mallow (*Hibiscus dasycalyx*) (EO ID 5503)

Candidate for Federal Listing and State Listed Threatened
Louisiana Pine Snake (*Pituophis ruthveni*) (EO ID 308)

Species of Concern
Southern Myotis Bat (*Myotis austroriparius*) (EO ID 8676 and 6672)
Texas screwstem (*Bartonia texana*) (EO ID 1030)

Special Features and Natural Communities
Colonial Waterbird Rookeries (EO IDs 1325, 3191, 6522, 7811, and 717)
Silveanus Dropseed Series (*Sporobolus silveanus*) Series Community (EO ID 368)
Water Oak- Willow Oak Series (Quercus nigra- Quercus phellos) Series (EO IDs 7838, 6060, 4415, 3073, 5092, and 3756)

Please refer to the attached map (Figure 3) and Element Occurrence Record printouts for more information regarding the occurrences in the Pineywoods Ecoregion. As stated above, TXNDD records in such a large area are difficult to display graphically and are best viewed in a Geographic Information System. For specific projects please request digital data (shapefiles) at txndd@tpwd.state.tx.us or contact Dorinda Scott at (512) 389-8723.

Gulf Coast Prairies and Marshes Ecoregion

Federal and State Listed Endangered
Houston Toad (*Bufo houstonensis*) (EO ID 3224)

Species of Concern
Threeflower broomweed (*Thurovia triflora*)

Special Features and Natural Communities
Colonial Waterbird Rookeries (EO IDs 5599, 4869, 5879, and 1170)
Water Oak- Willow Oak Series (Quercus nigra- Quercus phellos) Series (EO IDs, 1095 and 1092)

Please refer to the attached map (Figure 3) and Element Occurrence Record printouts for more information regarding the occurrences in the Gulf Coast Prairies and Marshes Ecoregion. As stated above, TXNDD records in such a large area are difficult to display graphically and are best viewed in a Geographic Information System. For specific projects please request digital data (shapefiles) at txndd@tpwd.state.tx.us or contact Dorinda Scott at (512) 389-8723.

Bald Eagle

The Bald Eagle is known to nest and winter in the ecoregions along the pipeline route. Please note that, although the Bald Eagle is no longer federally listed threatened, this species remains state listed threatened and receives protection under the U.S. Bald and Golden Eagle Protection Act. Under this act eagles are protected from disturbance which is defined as: "*To agitate or bother a bold 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 it 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-caused 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 and 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.

Guidelines for minimizing disturbance to both nesting and wintering Bald Eagles can be found at http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0013_bald_eagle_mgmt.pdf.

Water Oak – Willow Oak (WO-WO) Series Community

The project would crosses numerous locations of the WO-WO vegetative community associated with bottomland ecosystems that contains valuable resources biologically and ecologically rich in animal and plant species. Placement adjacent to an existing utility corridor should have less impact on the resource than creating a new corridor through the resource at a different location and would minimize fragmentation to the WO-WO community at this location. Please note that the mapped boundary of the WO-WO community in the vicinity of the project may not be precise due to more recent land use changes that may have occurred since the community was first delineated.

Recommendation: To avoid impacts to the WO-WO community all efforts should be made to re-route around the resource or bore underneath the resource, where feasible.

Recommendation: Where unavoidable, mitigation should be provided for permanent impacts to the WO-WO communities that do not fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE). Habitat restoration would be most beneficial within the same system impacts occur. If nearby restoration is not feasible, purchase of credit at a mitigation bank would suffice.

Recommendation: The proposed construction and permanent ROW should be surveyed to determine the extent and quality of the WO-WO community present in the project area and the anticipated impacts to the community should be quantified. The tree species, range of tree heights, diameters-at-breast-height, and percent canopy cover should be determined.

Comment: Other areas along the pipeline ROW may occur that are similar in species composition to the mapped WO-WO community, thus the applicant should avoid and minimize impact to other WO-WO communities encountered along the proposed ROW. All efforts should be made to avoid or minimize impact to the WO-WO community, wetlands, bottomland hardwoods, riparian habitat, and

other sensitive communities or special habitat features during project planning, construction, and maintenance activities.

TPWD County Lists

The TPWD county lists for rare species may be obtained from the following link: http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx. These lists provide information regarding rare species that have potential to occur within each county. Rare species could potentially be impacted if suitable habitat is present at or near the project site.

Recommendation: Using the county lists of rare species, the portions of the proposed ROW with potential to support rare species should be field surveyed to determine the extent and quality of the suspect habitat and potential impacts.

Recommendation: If rare species or their habitat would be impacted by the proposed project, the applicant should coordinate with TPWD and the U.S. Fish and Wildlife Service, as appropriate, to determine avoidance, minimization, and mitigation strategies.

Recommendation: Construction crews should be informed of the rare species that have potential to occur in the project county and should avoid disturbance to sensitive species if encountered during construction. Only personnel with a TPWD scientific collection permit are allowed to handle and move state listed species. For further information on the required permit please contact Chris Maldonado, TPWD Wildlife Permits Specialist, at (512) 389-4647.

Comment: Further consultation with TPWD would be warranted upon detection of a Texas listed rare, threatened, or endangered species within or near the ROW at any time prior to or during construction and operation of the pipeline.

MITIGATION PLAN

TPWD recommends ConocoPhillips and TransCanada prepare a mitigation plan to provide compensatory mitigation for those habitats listed above where impacts from the pipeline cannot be avoided or minimized. This would include impacts to species and habitats covered under federal law (wetlands and associated habitats, threatened or endangered species) and state resource

habitat types not covered by state or federal law (riparian areas, native prairies, various areas of bottomland hardwoods). At a minimum, TPWD recommends a replacement ratio of 1:1 for state resource habitat types.

TPWD advises review and implementation of the comments and recommendations. If you have any questions, please contact Amy Hanna, TPWD Habitat Assessment Biologist, at (361) 576-0022 or amy.hanna@tpwd.state.tx.us. As the primary point-of-contact for this project, correspondence regarding this project should be addressed to Amy Hanna, TPWD Wildlife Division, Wildlife Habitat Assessment Program, 4200 Smith School Road, Austin, TX 78744.

Sincerely,

Clay Brewer

Clay Brewer,
Interim Director, Wildlife Division

CB:AJH:gg:13950

Attachements: TXNDD Occurrence List and Maps
USACE-Galveston District Interagency Guidelines

Gulf Coast Meeting Notes

USFWS Ecological Services, Arlington, TX
April 10, 2008. 10:00 to 11:30

Attendees:

Keystone XL Staff:	*Agency Staff:*
Kurtis Schlicht (ENSR)	**Thomas Cloud Jr.** (USFWS-Field Supervisor)
Brian Ham (ENSR)	**Omar Bocanegra** (USFWS-Biologist, Endangered Species)
William Stephens (ENSR)	**Sidney Puder** (USFWS-Biologist, Federal Projects)

Meeting Objectives

The goals of this meeting were to discuss: 1) describe project and associated schedule, 2) meet key USFWS personnel potentially associated with the project, 3) provide status of current environmental data gathering, 4) discuss future tasks –survey protocols, field mobilization, reporting & scheduling, 5) discuss current species lists and deviations, 5) define project area/survey approach, 6) discuss timetable for review of deliverables, 7) discuss concerns, issues, and/or questions.

Content of Key Messages Conveyed

- Introduction of KXL Project and TransCanada. TransCanada KXL Pipeline Project is strategic in delivering crude oil to US Gulf Coast refineries
- The KXL Project schedule: Environmental/Cultural Field survey-2008; Filing-Q3 2008 thru Q1 2010; Construction- Q2 2010; In service-Q4 2010
- 36 in diameter with 4 ft of cover as typical
- KXL Project critical to providing the US reliable supply from secure reserves
- BLM will serve as lead federal agency
- Defined ENSR's role in project/subcontractor management
- ENSR will manage all field surveys and report preparation
- Defined Project area
- Defined environmental survey approach and reporting procedures
- Will provide survey protocols to agency
- Presented route overview with map;16 Texas/8 Oklahoma counties involved
- >90% of proposed ROW is co-located/routing designed to minimize/avoid areas of potential concern/includes HDD
- Background research of databases/records included NWI habitat, Federal, state and county-listed species, aerial photography and aerial reconnaissance for raptors/T&E habitat
- Extensive GIS analysis-digitized wetlands, waterbodies, potential T&E habitat, and land use
- Proposed co-location (>90%)-extensive desk-top analysis, helicopter reconnaissance, environmental surveys may require ~66% realized pedestrian survey
- Environmental survey will include 100/200 ft. split for a collocated corridor/300 ft. centered split for a greenfield survey corridor; 110 ft. construction corridor
- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Discussed role of USFWS Arlington-Ecological Services as a stakeholder with Section 7 compliance, NEPA process/review, confirmation of information required and input

Agency Issues, Concerns, and Recommendations:

- Omar Bocanegra provided the USFWS list of "General Recommendations for Avoiding and/or Minimizing Environmental Impacts from Utility Pipeline Construction" and presented concerns
- Tom Cloud offered Jason Roesner/Jeff Reid in Lufkin sub-office to support RCW and habitat
- Concern for Pine Snake, Black Bear, Whooping Crane, Least Tern, and American Burying Beetle-(more of a concern in Oklahoma). Policy-concern for construction time-of-year to avoid-empty nests
- If Burying Beetle is present in Oklahoma county across from a respective Texas county, only then would it generate concern in Texas, potentially Lamar Co. Conduct presence/absence surveys if present
- Identified other State/Regional/ Local agencies needing to be consulted-Jason Roesner and Jeff Reid to verify existence of any public/private land issues as Jeff Reid works with US Forest Service and Private Lands Program
- Piney Woods Mitigation Bank offered by USFWS when necessary/offered potential buy-in for other mitigation areas
- Sidney Puder introduced as the go-to person for 404 components with PCN concerns with focus on areas requiring conversion
- Section 7 Submittals: no effects, not likely to have an effect, or likely to have an effect
- If potential for impacts exist, then consult with USFWS, otherwise just give the USFWS a copy and submit to BLM directly
- Use USFWS as consult for T&E and cross reference w/county lists.
- Refer to guidelines for disturbance potential (750 ft)-"avoid an impact" is the rule
- Conservation of bottomland hardwoods/wetlands is key-avoid the area, if potential for impact-then HDD

Action Items:

- Provide survey protocols to USFWS in Arlington as a courtesy/do not need to approve
- Contact Jeff Reid and Jason Roesner in Lufkin sub-office for public/private land concerns, RCW/habitat concerns
- Path forward-if "no impact" then just provide Arlington a copy but if an impact exists then need to consult
- Reports-WRP and CRP to USFWS
- Keep the USFWW-Arlington Ecological Services informed but do not over-burden; they are very comfortable with ENSR's expertise and proactive approach
- Contact Sidney Puder with PCN concerns
- Tom Cloud will contact Jason Roesner and Jeff Reid in the Lufkin sub-office

Summary:

- Tom Cloud was the supervisor in charge. Omar Bocanegra provided support for the endangered species and Sidney Puder was the biologist in charge of Federal Projects. All three interacted with us and we were very well received. That did not want to be over-burdened with any unnecessary information. They appreciated our proactive approach and knowledge associated with our proposed environmental survey of the ROW.

USFWS Ecological Services, Tulsa, OK
April 16, 2008. 11:00 to 12:00

Attendees:

Keystone XL Staff:	*Agency Staff:*
John Auriemma (ENSR) **William Stephens** (ENSR)	**Hayley Dikeman, (**USFWS-Fish & Wildlife Biologist, Endangered Species Recovery and Consultation- specifically insects/plants; Federal Activities, Petroleum and Mining Issues)

Meeting Objectives

The goals of this meeting were to discuss: 1) describe project and associated schedule, 2) meet key USFWS personnel potentially associated with the project, 3) provide status of current environmental data gathering, 4) discuss future tasks –survey protocols, field mobilization, reporting & scheduling, 5) discuss current species lists and deviations, 5) define project area/survey approach, 6) discuss timetable for review of deliverables, 7) discuss concerns, issues, and/or questions.

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- ENSR will manage all field surveys and report preparation
- Defined Project area
- Defined environmental survey approach and reporting procedures
- Presented route overview with map;16 Texas/8 Oklahoma counties involved
- >90% of proposed ROW is co-located/routing designed to minimize/avoid areas of potential concern/includes HDD
- 155 miles of proposed pipeline occur in Oklahoma and all is co-located
- Background research of databases/records included NWI habitat, Federal, state and county-listed species, aerial photography and aerial reconnaissance for raptors/T&E habitat
- Extensive GIS analysis-digitized wetlands, waterbodies, potential T&E habitat, and land use
- Proposed co-location (>90%)-extensive desk-top analysis, helicopter reconnaissance, environmental surveys may require ~66% realized pedestrian survey
- Environmental survey will include 100/200 ft. split for a collocated corridor/300 ft. centered split for a greenfield survey corridor; 110 ft. construction corridor
- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Discussed role of USFWS Tulsa-Ecological Services as a stakeholder with Section 7 compliance, NEPA process/review, confirmation of information required and input

Agency Issues, Concerns, and Recommendations:

- Hayley immediately presented concerns of her fisheries staff with previous pipeline-related environmental surveys
- She provided us with the most current list of T&Es as recommended by Tulsa Ecological Services
- Expressed concerns over migratory birds in general, Least Tern, Arkansas Shiner, Piping Plover, Whopping Crane, Bald Eagle and American Burying Beetle
- Whopping Crane area-of-concern includes rivers and *stock ponds*
- Bald Eagle while de-listed still has recommendations in place
- Migratory Birds-avoid during nesting seasons
- Avoid active nests
- Migratory Bird Habitat includes buffer as recommended by NEPA
- As dictated by Migratory Bird Treaty (MBT) and Endangered Species Act (ESA)- Biological Assessment (BA)
- Habitat for Least Tern-river crossings *and* at crossings with buffer
- Timing of survey may be an issue
- BA component of application (draft form) directly to Hayley Dikeman for comment
- Concern with American Burying Beetle will initiate a formal consultation with the Nature Conservancy
- BA for American Burying Beetle to be approved by the Nature Conservancy; mitigation rates will be based upon the cost of one survey (1-mile); concern is not only habitat loss but fragmentation.
- American Burying Beetle not found in Lincoln/Payne Co.
- Areas of concern are defined as 300 ft. from bank-full width
- Assessing wetlands along the ROW-avoid/minimize-HDD where appropriate
- If power lines becomes a component of the process (e.g.-pump stations), then burying the cable is preferred
- Shape files are recommended by Hayley for her review when appropriate

Action Items:

- Provide survey protocols to USFWS in Tulsa
- Visit list of waters for Arkansas Shiner as soon as Hayley Dikeman provides
- Re-visit amended T&E list provided by Hayley
- Re-visit Migratory Bird policies, species of concern to be included in BA include Least Tern, Piping Plover, Whopping Crane, and Bald Eagle
- Contact Nature Conservancy for concerns with American Burying Beetle and mitigation rates
- BA component of application (draft form) directly to Hayley Dikeman for comment
- Send Hayley Dikeman shape files for review

Summary:

- Hayley Dikeman initially was a little stand-offish. She expressed immediate concerns over previous pipeline issues and the quality of fisheries survey data provided for the Arkansas Shiner. She began to realize that we understood her concerns about T&Es for the project area, were knowledgeable about our subject matter, and would address them appropriately as related to the project. The meeting went very well. Keep the USFWS-Tulsa Ecological Services informed but do not over-burden; they are very comfortable with ENSR's expertise and proactive approach.

USFWS-Ecological Services
Clear Lake, Texas
April 29, 2008.

Attendees:

Keystone XL Staff:	*Agency Staff:*
Kurtis Schlicht (ENSR)	Moni Belton
Brian Ham (ENSR)	Steve Parrish
William Stephens (ENSR)	Edith Erfling

Meeting Objectives
The goals of this meeting were to discuss: 1) describe project and associated schedule, 2) meet key NPS personnel potentially associated with the project, 3) provide status of current environmental data gathering, 4) discuss future tasks –survey protocols, field mobilization, reporting & scheduling, 5) discuss current species lists and deviations, 5) define project area/survey approach, 6) discuss timetable for review of deliverables, 7) discuss concerns, issues, and/or questions.

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- Background research of databases/records included NWI habitat, Federal, state and county-listed species, aerial photography and aerial reconnaissance for raptors/T&E habitat
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- Proposed co-location (>90%)-extensive desk-top analysis, helicopter reconnaissance, environmental surveys may require ~66% realized pedestrian survey
- Environmental survey will include 100/200 ft. split for a collocated corridor/300 ft. centered split for a greenfield survey corridor; 110 ft. construction corridor
- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons

Agency Issues, Concerns, and Recommendations:
- Angelina Co. and south is the jurisdiction of USFWS-Clear Lake
- Main concerns-Flyways, Red-Cockaded Woodpecker (RCW), Bottomlands
- RCW-USFWS Jeffery Reid/Jason Reisner

- Houston toad in Liberty Co. mentioned
- Stewart Lewis @ refuge need to contact
- Mentioned 1600 acres recently acquired near Liberty Co. & Trinity River Refuge
- Piney Woods Mitigation Bank mentioned as a resource
- Discussed NEPA Process
- No construction during nesting period
- Push/Pull technique recommended for wetlands
- ID nests & protected birds
- For active rockeries (keep activity 100' away) March –June/July
- For Pipeline ROW need to identify heads, pump stations, ROW access land
- Permanent structures concerns: Temporary /perennial Impacts
- Greater than 1-yr. considered permanent impacts
- If forested habitat is cut then considered as a permanent impact
- 3 wks notice requested by USFWS before construction
- Minimal lighting effects at pump stations
- Moni requested habitat description, (Memorandums of agreement (MOAs), desk top information and field visit
- If pipeline corridor is to exist in tidal marsh then would initiate Coastal Zone Management issues for soil types
- Elevations returned to pre-existing conditions
- Side casting of materials; requested timeline for construction segments
- Identify all associated above-ground structures
- Herbaceous vegetation cover-Steve Parrish
- Mitigation aspect discussed
- Suggested ROW management by annually/biannually mowing
- Invasive species a concern (Chinese Tallow)
- Concern for deep-rooted sedge
- Conservation Fund-Andy Jones, Stewart Marcus mentioned in relation to mitigation for a continuous segment
- Concern for listed species and T&Es
- Edith Erfling: county by county listing for species and habitats. Talk to land owners & land managers
- Requested percent collocated in Clear Lake Area. No impact then do NOT contact
- Phlox=concern
- EIS-can be template
- ESA needs to be formal (endangered species assessment)
- Be specific for project
    - Supporting info to base decision
    - RCW disturbance, survey guidelines, noise sensitive
- Awareness for species
- Re-evaluate if time-line changes
- Coordinate w/ sub-offices or not

Action Items:

- Contact Jeff Reid at Lufkin for RCW
- Contact Edith Erfling for species and habitat concerns
- Provide percent co-location in Clear Lake area
- Identify locations for permanent structures
- Contact Moni Belton for habitat description, desk top info request and field visit

Summary:

- More in-depth overall concern expressed by USFWS than prior meeting with Arlington. USFWS-Clear Lake has defined ideas on the information they want and covered their topics well.

Texas Parks and Wildlife. Dickinson, Texas
Justin Hurst Wildlife Management Area
May 23, 2008.

Attendees:

Keystone XL Staff:	*Agency Staff:*
Kurtis Schlicht (ENSR)	**Jamie Schubert** (Wetland Biologist-Dickinson field office)
Brian Ham (ENSR)	
William Stephens (ENSR)	**Amy Hanna** (Wildlife Habitat Assessment Program-Victoria field office)

Meeting Objectives
The goals of this meeting were to discuss: 1) describe project and associated schedule, 2) meet key TPWD personnel potentially associated with the project, 3) provide status of current environmental data gathering, 4) discuss future tasks –survey protocols, field mobilization, reporting & scheduling, 5) discuss current species lists and deviations, 5) define project area/survey approach, 6) discuss timetable for review of deliverables, 7) discuss concerns, issues, and/or questions.

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- Background research of databases/records included NWI habitat, Federal, state and county-listed species, aerial photography and aerial reconnaissance for raptors/T&E habitat
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- Environmental survey will include 100/200 ft. split for a collocated corridor/300 ft. centered split for a greenfield survey corridor; 110 ft. construction corridor
- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Discussed role of TPWD in conjunction with USFWS's concerns and relationship as a stakeholder with Section 7 compliance, NEPA process/review, confirmation of information required and data input

Agency Issues, Concerns, and Recommendations:

- EIS as a part of the NEPA process will be followed
- Describe project and survey of area
- Karen Hardin from Nacogdoches North in Athens
- Amy Hanna from Nacogdoches South
- Area of co-location (needs clarification) and a map that describes
- Hagar out of Austin need to be contacted for North of Polk County; South of Polk County, Jamie Schubert needs to be contacted
- Blanket nationwide
    - IP for the route (Individual Permit)
    - wetlands that will trigger a PCN (Pre-construction notification)
- DO NOT constrict ROW in high organic areas, in coastal marsh areas (Hardin & Jefferson Co.)
- Agency contacts in Texas have included USACE-(Galveston, Arlington), USFWS (Arlington, Lufkin, NPS (Big Thicket), TDFW (Dickinson)
- Jamie wants mitigation for fragmentation effects
- Concern for WMA thru private land owners (North of Orange Co.)
    - Contact Robert Adams
    - Another level of detail that may justify additional surveys
- Identified
    - Blue heron rookeries along the route
    - Raptor surveys
    - Contact Brent Ortago for Bald Eagle
- Avoid/minimize, collocate
    - Large bottomland area HDD is [5200'] and is recommended
    - Jamie wants to help pick the areas for HDD
    - Piney woods mitigation bank
    - Jamie mentioned another conservation bank that will be will be wrapped up by June 9th
    - In-kind mitigation preferred
    - Concern for forested impacts
    - Other impacts
    - If route goes thru the mitigation bank then pay double credits
    - Trinity River thru National Park Service
    - Emergent marsh impacts National Park Service
    - 3 mile stretch of Coastal Management Zone we go thru
- Karen's Concerns;
    - Bore locations on map
    - Fannin/Lamar Co. (Native Prairie Remnants); check w/ Nature Conservancy
    - Pimple mounds-need to get on the ground & look for Prairie Dawn (e.g.)
- Jason Singhurst may be a contact
- Dorenda Scott-mussel species near Red River
- Make a formal request for shape files

Action Items:

- Digital layers [list of species] requested
- Midcontinent East/West line Gulf crossing
- EIS copies
    - To Jamie
    - To Amy
- Rollins McCrae may want to meet; Send to Jamie and he will farm out to the necessary people
- Nederland area ground nesting (rookeries concerns)

Summary:

Well received. TPWD offered their input from a stakeholder perspective and at the same time offered very useful and valuable information for issues and contact information.

USFWS Ecological Services-East Texas Suboffice, Lufkin, TX
June 3, 2008. 2:00 to 3:00 p.m.

Attendees:

Keystone XL Staff:	*Agency Staff:*
Deborah Endriss(ENSR)	**Jeffrey Reid** (USFWS-Fish/Wildlife Biologist)
William Stephens (ENSR)	

Meeting Objectives

The goals of this meeting were to discuss: 1) describe project and associated schedule, 2) meet key USFWS personnel potentially associated with the project, 3) provide status of current environmental data gathering, 4) discuss future tasks –survey protocols, field mobilization, reporting & scheduling, 5) discuss current species lists and deviations, 5) define project area/survey approach, 6) discuss timetable for review of deliverables, 7) discuss concerns, issues, and/or questions.

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- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Discussed role of USFWS Lufkin Suboffice-Ecological Services as a stakeholder with Section 7 compliance, NEPA process/review, confirmation of information required and input

Agency Issues, Concerns, and Recommendations:

- Discussed USFWS list of "General Recommendations for Avoiding and/or Minimizing Environmental Impacts from Utility Pipeline Construction" and presented concerns
- Jeff Reid supports USFWS concern for RCW/habitat, Pine Snake, Black Bear & Bald Eagle

- Jason Roesner and Jeff Reid works with public/private land issues, US Forest Service and Private Lands Program
- Piney Woods Mitigation Bank offered by USFWS when necessary/offered potential buy-in for other mitigation areas
- Jeff Reid mentioned RCW Recovery Website for information
- USFWS only wants to deal with T&E species
- Jeff Reid was very familiar with landowners and species presence/absence
- Jeff Reid mentioned HydroTrust and Henry Sunda as the person with information around Lake Nacogdoches area-Bald Eagle nest may be present
- Jeff Reid mentioned known Bald Eagle nests around MP 330 and area around MP 340
- No known RCWs or potential habitat in the survey corridor
- Only expressed concern for Black Pine Snake in Angelina Co.
- Anticipated that based upon the survey corridor that we provided, we would find nothing of concern

Action Items:

- Jeff Reid only requested that we provide him a letter of survey findings for him to respond with letter of concurrence

Summary:

- Did not want to be over-burdened with any unnecessary information. He appreciated our proactive approach and made the observation that we had been tenacious in achieving a meeting with him as he was hard to pin down.

Department of Wildlife Conservation, Oklahoma City, OK
July 1, 2008. 11:00 to 12:00

Attendees:

Keystone XL Staff:	*Agency Staff:*
Bill Stephens - ENSR	William "Buck" Ray – Department of Wildlife Conservation (ODWC)
Ginger Melms – ENSR	Mark Howery – Department of Wildlife Conservation (ODWC)

Meeting Objectives

The goals of this meeting were to discuss: 1) describe project and associated schedule, 2) meet key ODWC personnel potentially associated with the project, 3) provide status of current environmental data gathering, 4) discuss future tasks –survey protocols, field mobilization, reporting & scheduling, 5) discuss current species lists and deviations, 5) define project area/survey approach, 6) discuss timetable for review of deliverables, 7) discuss concerns, issues, and/or questions.

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- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Discussed role of ODWC in the process associated with Section 7 compliance, NEPA process/review, confirmation of information required and input

Agency Issues, Concerns, and Recommendations:

- Mark Howery suggested that we try to avoid the Blue River, Clear Boggy Creek (due to Maple Leaf Mussel species) and the Boggy River that has the Clear Creek and Muddy Creek.
- He would not suggest surveying the Canadian River / South Canadian River for the Arkansas River Shiner (They know it has the fish in the river).
- However he would suggest surveying the North Canadian River for the Arkansas River Shiner.
- He stated that the Red River and Canadian / South Canadian River do have Interior Least Terns.
- He said a species of concern for ODWC is the Blue Sucker and Great Blue Heron nest.
- He does not recommend river disturbance in March – June due to fish spawning in Southern Oklahoma.)
- He suggested that the Clear Boggy Creek, Canadian River and Red River be drilled under.
- He does not know of any Whooping Cranes in the proposed alignment. They are usually west of I-35 in Oklahoma.
- He has no record of Eagles in the proposed area; however one recorded is to the west and several recorded to the east.
- He does not request any survey on the Big Ear Bat.
- He stated there is no Red Cockaded Woodpeckers in the proposed alignment.
- Buck Ray stated that if any Texas Horned Lizards were seen to complete a "Texas Horned Lizard Sighting Report Form."

Action Items:

- Set up Arkansas Shiner surveys
- Set up Burying Beetle survey

Summary:

- Mark Howery and Buck Ray are very easy to work with and provided a wealth of information. Keep the informed but do not over-burden; they are very comfortable with ENSR's expertise and proactive approach.

USFWS-Ecological Services
Clear Lake, Texas
January 6, 2009. 1:00 – 4:00

Attendees:

Keystone XL Staff:	*Agency Staff:*
William Stephens (ENSR)	**Moni Belton**
Jeff Hill (ENSR)	**Catherine Yeargan**
	David Hoth

Meeting Objectives
The goals of this meeting were to discuss: 1) additional project details and schedule, 2) provide status of current environmental data gathering, 3) define project area/ provide status of current environmental data gathering, 4) discuss revised understanding of lead federal agency and NEPA process, 5) discuss current species lists and deviations and 6) discuss concerns, issues and/or questions.

Content of Key Messages Conveyed
- Briefed Ms. Belton, Ms. Yeargan and Mr. Hoth on KXL Project and TransCanada. TransCanada KXL Pipeline Project is strategic in delivering crude oil to US Gulf Coast refineries
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- DOS will serve as lead federal agency
- Defined ENSR's role in project/subcontractor management
- ENSR will manage all field surveys and report preparation
- Defined Project area
- Defined environmental survey approach and reporting procedures
- Will provide survey protocols to agency
- Presented route overview with map;16 Texas/8 Oklahoma counties involved
- >90% of proposed ROW is co-located/routing designed to minimize/avoid areas of potential concern/includes HDD
- Background research of databases/records included NWI habitat, Federal, state and county-listed species, aerial photography and aerial reconnaissance for raptors/T&E habitat
- Extensive GIS analysis-digitized wetlands, waterbodies, potential T&E habitat, and land use
- Proposed co-location (>90%)-extensive desk-top analysis, helicopter reconnaissance, environmental surveys may require ~66% realized pedestrian survey
- Environmental survey will include 100/200 ft. split for a collocated corridor/300 ft. centered split for a greenfield survey corridor; 110 ft. construction corridor
- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Provided spreadsheet of preliminary wetland and waterbody crossing information

Agency Issues, Concerns, and Recommendations:
- Main concerns-Flyways, Red-Cockaded Woodpecker (RCW), Bottomlands
- RCW-keep in contact with USFWS Jeffery Reid, he is the state expert for RCW and if he's satisfied with the alignment and avoidance then Clear Lake will concur
- Mitigation aspect discussed
- Mentioned land acquisitions by the NWRs at Trinity River and Anahuac. Stuart Marcus is POC.

- Discussion of Pineywoods Mitigation Bank and crossing. Ms. Belton provided copies of the bank from the MBI and a copy of the Galveston District's new guidance on functional assessments. A meeting is planned with Andy Jones and PMB
- Discussed NEPA Process
- ID nests & protected birds. Discussed helicopter survey methods and timing.
- If forested habitat is cut then considered as a permanent impact. Mitigation potential for restoration of these areas.
- Minimal lighting effects at pump stations. Discussed downshielding of lighting
- Discussed bird strike hazards associated with transmission lines and measures to reduce avian mortality from electrocutions and strikes in areas of high bird usage (burial of lines – expensive, measures to increase visibility of the lines, relatively inexpensive and highly effective). Ms Yeargan provide some examples of bird flight diverters.
- Ms. Belton requested habitat descriptions and field visit to PMB when available
- Requested percent collocated in Clear Lake Area. No impact then do NOT contact
- Ms. Belton undertook a detailed review of the planning strip maps and identified areas of concern by MP. She will forward the details of her assessment ASAP.
- For Pipeline ROW need to identify pump stations, ROW access including roads and temporary construction areas
- Elevations returned to pre-existing conditions
- Identify all associated above-ground structures
- Invasive species and a recommendation for using Clearcast for Chinese tallow control
- Concern for listed species and T&Es
- Discussed environmental windows for construction relative to nesting season for eagles and other species
- Texas trailing phlox of concern in Hardin County
- Neches River rose-mallow (known from Houston, Trinity, Cherokee counties, but could exist elsewhere)
- ESA needs to be formal (endangered species assessment)
- Be specific for project
    - Supporting info to base decision
    - RCW disturbance, survey guidelines, noise sensitive
- Awareness for species
- Re-evaluate if time-line changes

Action Items:

- Continue coordination with Jeff Reid at Lufkin for RCW
- Contact Trinity NWR (Stuart Marcus) as a courtesy regarding recent land acquisitions, but also for potential mitigation opportunities
- Provide percent co-location in Clear Lake area (Angelina County south)
- Identify locations for permanent structures
- Contact Moni Belton for habitat description, desk top info request and field visit

Summary:

- USFWS-Clear Lake has identified several areas of concern and additional information they want and covered their topics well. Key takeaway is that they want to be kept informed and are concerned that the Corps process, if done under NWP, could exclude them.

USFWS Ecological Services, Arlington, TX
January 14, 2009. 10 to 11:30

Attendees:

Keystone XL Staff:	*Agency Staff:*
William Stephens (ENSR)	**Omar Bocanegra** (USFWS-Biologist, Endangered Species)
Jeff Hill (ENSR)	**Sydney Puder** (USFWS-Biologist, Federal Projects)

Meeting Objectives

The goals of this meeting were to discuss: 1) additional project details and schedule, 2) provide status of current environmental data gathering, 3) define project area/ provide status of current environmental data gathering, 4) discuss revised understanding of lead federal agency and NEPA process, 5) discuss current species lists and deviations and 6) discuss concerns, issues and/or questions.

Content of Key Messages Conveyed

- Briefed Mr. Bocanegra and Mr. Puder on KXL Project and TransCanada. TransCanada KXL Pipeline Project is strategic in delivering crude oil to US Gulf Coast refineries
- The KXL Project schedule: Environmental/Cultural Field survey-2008-09; Filing-Q3 2008 thru Q1 2010; Construction- Q3 2010; In service-Q2 2011
- 36 in diameter with 4 ft of cover as typical
- DOS will serve as lead federal agency
- Defined ENSR's role in project/subcontractor management
- ENSR will manage all field surveys and report preparation
- Defined Project area
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- Will provide survey protocols to agency
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- Extensive GIS analysis-digitized wetlands, waterbodies, potential T&E habitat, and land use
- Proposed co-location (>90%)-extensive desk-top analysis, helicopter reconnaissance, environmental surveys may require ~66% realized pedestrian survey
- Environmental survey will include 100/200 ft. split for a collocated corridor/300 ft. centered split for a greenfield survey corridor; 110 ft. construction corridor
- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Provided spreadsheet of preliminary wetland and waterbody crossing information

Agency Issues, Concerns, and Recommendations:

- Mr. Bocanegra's primary concern was the NEPA process moving forward and designation of the lead federal agency. He was concerned that he had not received any notice for the project (NOI, scoping) and how the Gulf Coast Project fit into the TransCanada project overall.
- Concern for Pine Snake, Black Bear, Whooping Crane, Least Tern, and American Burying Beetle-(more of a concern in Oklahoma). Mr. Bocanegra did state that the majority of the Arlington office's T&E concerns were west of IH 35 and out of our project area. Policy-concern for construction time-of-year to avoid-empty nests

- If Burying Beetle is present in Oklahoma county across from a respective Texas county, only then would it generate concern in Texas, potentially Lamar Co. Conduct presence/absence surveys if present. Only known occurrence in Lamar County is at Camp Maxey.
- Sidney Puder primary POC with regard to mitigation and banking questions.
- Discussion of potential impacts to Pineywoods MB. Mr. Puder did not think that impacts to the bank would be problematic so long as the bank was agreeable to the impact. He also expressed the opinion that it should not be problematic to amend the MBI, if necessary.
- Section 7 Submittals: no effects, not likely to have an effect, or likely to have an effect
- If potential for impacts exist, then consult with USFWS, otherwise just give the USFWS a copy and submit to lead agency directly
- Use USFWS as consult for T&E and cross reference w/county lists.

Action Items:

- Contact Jeff Reid and Jason Roesner in Lufkin sub-office for public/private land concerns, RCW/habitat concerns
- Keep the USFWS-Arlington Ecological Services informed but do not over-burden; they are very comfortable with ENSR's expertise and proactive approach
- Contact Sidney Puder with PCN and mitigation bank concerns
- A periodic update for the Arlington Field Office personnel regarding the expected timing of regulatory filings might ease their concern about receiving notification of the project

Summary:

- Omar Bocanegra provided support for the endangered species and Sidney Puder was the biologist in charge of Federal Projects and mitigation banking. They did not want to be over-burdened with any unnecessary information. They appreciated our proactive approach and knowledge associated with our proposed environmental survey of the ROW.

USFWS Ecological Services, Tulsa, OK
January 20, 2009. 12:30 to 2:30

Attendees:

Keystone XL Staff:	*Agency Staff:*
William Stephens (ENSR) **Jeff Hill** (ENSR)	**Hayley Dikeman, (**USFWS-Fish & Wildlife Biologist, Endangered Species Recovery and Consultation-specifically insects/plants; Federal Activities, Petroleum and Mining Issues)

Meeting Objectives

The goals of this meeting were to discuss: 1) additional project details and schedule, 2) provide status of current environmental data gathering, 3) define project area/ provide status of current environmental data gathering, 4) discuss revised understanding of lead federal agency and NEPA process, 5) discuss current species lists and deviations and 6) discuss concerns, issues and/or questions.

Content of Key Messages Conveyed

- Briefed Ms. Dikeman on KXL Project and TransCanada. TransCanada KXL Pipeline Project is strategic in delivering crude oil to US Gulf Coast refineries
- The KXL Project schedule: Environmental/Cultural Field survey-2008-09; Filing-Q3 2008 thru Q1 2010; Construction- Q3 2010; In service-Q2 2011
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- Presented/discussed list of T&E species
- Provided examples of aerial photography alignment sheets marked with T&E, wetlands/waterbodies polygons
- Provided spreadsheet of preliminary wetland and waterbody crossing information

Agency Issues, Concerns, and Recommendations:

- Expressed concerns over migratory birds in general, and T&E including Least Tern, Arkansas Shiner, Piping Plover, Whopping Crane, Bald Eagle and American Burying Beetle
- Bald Eagle while de-listed still has recommendations in place
- Migratory Birds-avoid during nesting seasons
- Avoid active nests

- As dictated by Migratory Bird Treaty (MBT) and Endangered Species Act (ESA)- Biological Assessment (BA)
- Habitat for Least Tern-river crossings at bankfull width (Service recommends no disturbance within 300' feet of crossings, e.g., 300' buffer – river/stream – 300' buffer particularly during nesting season)
- Timing of survey may be an issue, but HDD can make surveys a moot point
- BA component of application (draft form) directly to Hayley Dikeman for comment. Ms. Dikeman will provide a copy of a BO completed for the burying beetl
- Concern with American Burying Beetle will initiate a formal consultation with the Nature Conservancy. Ms. Dikeman suggested that formal consultation, including incidental take and mitigation in the form of a donation for habitat acquisition would prove less expensive than surveys, trapping, relocations, and mitigation. She offered to send some estimated costs for surveys
- BA for American Burying Beetle to be approved by the Nature Conservancy; mitigation rates will be based upon the cost of one survey (1-mile); concern is not only habitat loss but fragmentation.
- American Burying Beetle not found in Lincoln/Payne Co.
- Areas of concern are defined as 300 ft. from bank-full width for both Arkansas river shiner and Interior least tern
- Assessing wetlands along the ROW-avoid/minimize-HDD where appropriate
- If power lines becomes a component of the process (e.g.-pump stations), then burying the cable is preferred. Discussion of our similar discussion with the Clear lake ES office.
- Shapefiles are recommended by Ms. Dikeman for her review when appropriate

Action Items:

- Provide survey protocols to USFWS in Tulsa
- Visit list of waters for Arkansas Shiner as soon as Hayley Dikeman provides
- Re-visit amended T&E list provided by Hayley
- Re-visit Migratory Bird policies, species of concern to be included in BA include Least Tern, Piping Plover, Whopping Crane, and Bald Eagle
- Contact Nature Conservancy for concerns with American Burying Beetle and mitigation rates. Ms. Dikeman offered to provide rate information she has.
- BA component of application (draft form) directly to Hayley Dikeman for comment
- Send Hayley Dikeman shape files for review if they are significantly different from the route as of July 2008.

Summary:

- Keep the USFWS-Tulsa Ecological Services informed but do not over-burden.

Keystone Phase III

USFWS – T&E and MBTA Surveys Conference Call

3/2/10 8:30 AM – 9:00 AM

Attendees:

Keystone Phase III Team	USFWS
Matt Comeaux	Hayley Dikeman
Dave Beckmeyer	

Conference Call Objectives

The goal of the call was to discuss helicopter survey windows for raptors/rookeries and bald eagles in 2010. The need of conducting additional pedestrian surveys for piping plovers was also discussed.

USACE Issues / Comments

- Raptor/rookery/bald eagle surveys for 2010
  - Keystone team informed Ms. Dikeman that helicopter surveys conducted in January, March and April for 2009.
  - Keystone stated that first round of 2010 surveys conducted during the week of 2/11/10.
  - Keystone requested if remaining surveys should be conducted in March and April, as was done in 2009.
  - Ms. Dikeman stated that helicopter surveys should be conducted prior to "leaf out" and that conducting the remaining surveys in March and April 2010 should be fine.

- Pedestrian surveys for piping plover (Red, Canadian and North Canadian Rivers)
  - Ms. Dikeman stated that 300-ft buffers should be adhered to.
    - Keystone explained that HDD tru-tracker cable need to be installed to guide drill stem/pipe.
    - Pumps and hoses would need to be placed in these areas also, for the acquisition of water for hydrostatic testing.
  - Ms. Dikeman stated that presence/absence surveys need to be conducted immediately prior to construction in areas of identified suitable habitat if project related activities were to occur in those areas in Spring /Fall when the species could be present (Ms. Dikeman to provide dates).
    - Survey ¼ mile upstream and downstream of the CL
    - Survey at appropriate times of day (i.e early morning)

Comprehensive Consultation Meeting Summaries

Meeting between US Fish and Wildlife Service (USFWS), Keystone, U.S. Department of State (DOS) and ENTRIX, Inc. regarding Endangered Species Act (ESA) Consultation for the Keystone XL Pipeline Project

Date: September 3, 2010
Time: 9:00 a.m. to 11:00 a.m. Central Time

Meeting Attendees:
John Cochnar, USFWS Grand Island, NE
Martha Tacha, USFWS Grand Island, NE
Brooke Stansberry, USFWS Grand Island, NE
Michael George, USFWS Grand Island, NE
Sarena Selbo, USFWS Denver, CO
Jon Schmidt, Trow
Matt Comeaux, Trow
Jonathan Minton, Trow
Matthew Kindred, Trow
Dave Beckmeyer, Perennial Environmental Services
John Beaver, Westech in Helena, MT
Wyatt Hoback, University of Nebraska
Michael Stewart, DOS
Lynn Noel, ENTRIX, Inc.
Kevin Freeman, ENTRIX, Inc.
Kimberly Demuth, ENTRIX, Inc.
Joe Rubin, ENTRIX, Inc.

Purpose: Discuss USFWS comments on the Draft Biological Assessment (BA). The initial Draft BA was considered incomplete, and this meeting is to discuss Keystone's responses and what is needed to go forward with formal consultation.

1) USFWS requests formal consultation on the Interior Least Tern, Piping Plover, Whooping Crane, and Western Prairie Fringed Orchid. Need to identify conservation measures for the procedure the power providers to consult on the power lines. Power providers have regulations that require the formal consultation required by the lead federal agency. The project as a whole needs to be analyzed at the consultation stage to evaluate the direct and indirect effects to the project.
    a. Utility conservation measures need to be discussed at the broader, formal level. This will be in the form of a letter from the power provider regarding the species. The power stations are being built in 2-3 years, and the power providers need to consult with USFWS about the impact of design on the environment.
    b. The Draft Environmental Impact Statement (DEIS) provides information regarding distribution lines that is up-to-date as of April of 2010. Include analysis of power lines in the BA.
    c. In Nebraska (NE), USFWS is in the process of dealing with distribution line issues with the Nebraska Public Power District (NPPD); with the

information in the DEIS, they can consult on those lines and then USFWS can comeback and reinitiate on any changes from the DEIS or any additional lines.

d. Letters of commitment from power providers would be valuable to have for the Keystone XL Project. A letter of commitment is sufficient, and an MOU or MOA is not necessary for this process.
    i. The letter should state that utility companies will meet their Section 7 obligations, and that an analysis in the letter should also reference the BA. There needs to be enough detail in the BA to discuss how alternatives will be used to minimize impacts. This can include marking distribution lines, burying lines when possible, and avoiding habitats used by ESA species.
    ii. If local power providers need to change the route, they can coordinate with USFWS but officially consult with DOS.
    iii. Once BA is redrafted, want to keep in an informal process until all parties are satisfied and then finalize. May see 1-2 more draft versions before calling it final.
    iv. NE USFWS field effort is coordinating the entire effort across 5 states and 2 regions, and they need to go to other offices to make sure the BA is in line with the other states.
    v. When considering the timeframe for the BA, no party wants the schedule to slip past the end of January for the Final Environmental Impact Statement (FEIS); over the next couple of months will try to wrap this up. This is a realistic timeline as far as USFWS is concerned.
    vi. If the FEIS differs from the final BA, then may need to reinitiate consultation; generally consult on preferred alternatives, not multiple alternatives. Need a decision to be made about the preferred alternative, want to make sure that any rerouting of the pipeline may affect other species that are not currently affected by the pipeline route. USFWS is making an assumption about the preferred alternative at this point and time. There will be refinements to the route over time – may be some revisions over time, but while the alignment may shift slightly, the route will not change. Can capture most of the situations that may arise during construction through the informal process.
    vii. USFWS needs to make sure the consultation process is correctly followed.

2) Insufficient information on the Interior Least Tern provided for counties in Texas.
    a. A report was submitted, but USFWS had not heard back from the Arlington office with their comments. The report should be sufficient to address this issue. John Cochnar will follow-up internally with the Arlington office on this issue.

3) Inadequate conservation measures for Whooping Crane, Interior Lease Tern, and Piping Plover. The USFWS want to make sure that while Keystone is undertaking construction, it makes sure that ESA species are not present on the work site. Surveys completed 2 weeks before construction and not during actual construction are insufficient. The main discussion revolves around three river crossings as well as the Playa wetlands.
    a. USFWS suggests that Keystone should have a brief survey of any habitat area for the Whooping Cranes in the morning and afternoon before starting the equipment. This should be a brief delay in construction, as the cranes will leave the area to feed by mid-morning. USFWS has the tracking program for the migrational corridor, and will pass on information to Keystone if Whooping Cranes are in the area.
    b. TransCanada wants to have flexible language in the BA to accommodate the realities of construction, so if a Whooping Crane lands during a directional drilling operation, there should be no problem. USFWS does not have a problem with this scenario as long as the drilling does not begin in the presence of the cranes.
    c. An Environmental Inspector (EI) could be qualified to do a sweep of the area to look for Whooping Cranes if trained to identify the cranes. If cranes were sighted, then the EM should contact the local USFWS office. Keystone will make sure the proper monitoring is in place and incorporate this into the BA.
    d. For terns and plovers, make sure there are no nesting pairs within a quarter-mile of the construction sites. The protocol does not delay construction, just monitoring to ensure due diligence.
    e. John Cochnar will send Keystone the protocols for Whooping Crane monitoring.

4) Develop conservation measures for loss of grassland nesting habitat for Sprague's Pipit in northwest South Dakota (SD) and Montana (MT) following BLM recommendations found in the DEIS.
    a. This is a newly identified issue for the Project, and Keystone missed the window to survey this migratory bird and is unsure how to address this issue. Currently the Sprague's Pipit is not a candidate or ESA protected species, but next week the USFWS is sending determination to the Federal Register for adding the Pipit to the list. Currently it is at the discretion of the DOS whether to include this issue in formal consultation. Because this species has not come up before, and it is not yet a candidate species, Keystone should also have a discussion with local SD and MT agencies.
    b. Keystone has defined restoration measures per Natural Resources Conservation Service (NRCS) and other agencies, and so sees this as a temporary impact on the habitat and will need more information about this species.
    c. Construction outside of nesting, restoration, and monitoring of native prairie may be satisfactory for remediating any problems posed to the Sprague's Pipit.

5) Western Prairie Fringed Orchid – Keystone surveyed a 300' corridor. The Western Prairie Fringed Orchid population found does not fall within the construction right-of-way (ROW).
    a. No direct or indirect area of impact currently found in the project corridor; avoided the area where the orchid was found.
    b. If an orchid is found during the construction phase, the BA would need to describe the measures taken to deal with this species.
    c. Orchids do not transplant well, if found in the project area in private lands surveyed after condemnation, the identification of orchids could result in reinitiating consultation.
    d. Any areas that have suitable habitat that have not yet been surveyed need consultation with the USFWS. Keystone can mitigate for impacts based on an assumption that the plants are present in habitat areas currently not surveyed.
    e. If Keystone can complete surveys for orchids in areas currently not accessible, then the BA can have flexible language regarding the mitigation. Reasonable and prudent measures for the orchid included that Keystone could get a conservation easement and protect alternative orchids. Language in the BA could address how this is handled. If the time was right and a survey could be completed when orchids could be present, then a survey would be completed, but if not then a non-protected orchid population could be found and protected through a conservation easement. Keystone may decide to forgo a survey and just implement mitigation measures.
    f. Keystone would be allowed the flexibility to either survey for Western Prairie Fringed Orchid when they are blooming, and if they find a flower then they could take necessary measures. However, due to the nature of the orchid, not finding a flower does not indicate that the flower is not present.
    g. If they could not survey or choose not to survey, undergo an assumption that the flowers are present, and they could undertake mitigation measures such as protecting a known group of orchids with a conservation easement. Can work with Gary Steinhauer, NE botanist, who can provide information about protecting flowers.

6) Texas Prairie Dawn-flower
    a. USFWS will speak internally with the Texas office and see if a similar measure to the orchid would work for the dawn-flower. Keystone would like to discuss survey results with the Clear lake office and the remaining surveys before committing to assuming presence and mitigating for habitat impacts.
    b. Need to speak with the Clear Lake USFWS office to make sure the mitigation measures discussed with the Western Prairie Fringed Orchid would be sufficient for the Texas Prairie Dawn-flower.

7) Texas Trailing Phlox
    a. USFWS needs to discuss this internally with the Clear Lake USFWS office to find out what changed; will clarify and get back to Keystone and DOS.

8) HDD within the North and South Canadian Rivers
    a. The purpose of the 300' buffer is for the critical habitat for the Arkansas River Shiner. The biggest issue is the clearing of trees. The only clearing would be a nominal amount to lay cables down. Keystone is using previously cleared corridors such as farmers' roads at rivers for access to water.

9) American Burying Beetle
    a. Keystone would like to discuss the conservation measures in a detailed plan with the 4 different USFWS field offices at a separate meeting. The meeting will take place on an as-yet-determined Tuesday in September at the Grand Island USFWS facility. John Cochnar will ask the other offices about a time that will work for them, and Dr. Hoback will join the meeting.
    b. When addressing vegetation maintenance impacts, areas where construction won't be able to start immediately will incorporate measures to reduce take. Need to allow for a certain level of take with a formal take statement.

10) Migratory Bird Treaty Act (MBTA) – Region 2 requests inclusion in discussion of MBTA compliance. Construction ROW reviewed to identify areas to clear prior to nesting season. Pre-clearing areas for Tulsa have been reviewed and accepted, but there was no response for Clear Lake USFWS office. Region 2 – Arlington has also agreed to pre-clearing and has reviewed the project mapping.

    Keystone will submit the aerial alignment sheets and their habitat assessment to John Cochnar at the FWS for dissemination. Need to send aerial alignment sheets and a conservation plan on other areas that are not pre-cleared to the Arlington office, and need a conservation plan with that office. Keystone will get maps together with the construction ROW, and John Cochnar will speak with the offices.

Arturo Vale/R2/FWS/DOI
09/16/2010 03:06 PM

To Martha Tacha/R6/FWS/DOI@FWS

cc Edith Erfling/R2/FWS/DOI@FWS, Moni Belton/R2/FWS/DOI@FWS

Subject Re: Fw: Keystone's responses to FWS comments

Our response to Keystone's responses:

Page 1-8, sixth paragraph:

DBA: Texas Trailing Phlox

CLESFLO Comments: On January 6, 2009, CLESFLO staff participated in a meeting with Keystone representatives, during which time, concerns for listed species including the Texas trailing phlox in Hardin County were raised (see attached meeting notes)**.**

Page 3-26, fifth paragraph:

DBA: Proposed presence of Texas prairie dawn in the project area.

CLESFLO Comments: CLESFLO maintains that we cannot concur with the determination that the proposed pipeline may affect, but is not likely to adversely affect the Texas prairie dawn. We look forward to evaluating the remaining survey results.

A. J. Vale
U. S. Fish & Wildlife Service
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
281-286-8282 ext. 223
fax. 281-481-5882

Meeting between U.S. Fish and Wildlife Service, Keystone, Nebraska Game Fish and Parks, and Cardno ENTRIX regarding the Keystone XL Pipeline Project Section 7 Endangered Species Act Formal Consultation for the American Burying Beetle

Date: October 12, 2010

John Cochnar, USFWS Grand Island, Nebraska
Martha Tacha, USFWS Grand Island, Nebraska
Mike George, USFWS Grand Island, Nebraska
Bob Harms, USFWS Grand Island, Nebraska
Brook Stansberry, USFWS Grand Island, Nebraska
Serena Selbo, USFWS Denver, Colorado
Sharon Whitmore, USFWS
Hayley Dikeman OK USFWS Tulsa, Oklahoma
Charlene Bessken, USFWS Pierre, South Dakota
Michelle Cook, Nebraska Game and Parks
Carey Grell, Nebraska Game and Parks
Mike Fritz, Nebraska Games and Parks Commission
Michelle Koch, Nebraska Games and Parks Commission
Jon Schmidt, Keystone
Matt Comeaux, Keystone
Dave Beckmeyer, Keystone
Jonathan Minton, Keystone
Steve Craycroft, Keystone
John Buccannon, Keystone
Wyatt Hoback, University of Nebraska, Keystone
Lynn Noel, Cardno ENTRIX, Department of State
Kevin Freeman, Cardno ENTRIX, Department of State
Joe Rubin, Cardno ENTRIX, Department of State

Purpose: discuss comments on the Draft Biological Assessment (BA) concerning the American Burying Beetle and the formal Section 7 consultation.

1) Current status of survey work done by Keystone
    a. Phase III covers the gulf coast segment of the Keystone XL Pipeline in Oklahoma and Texas
        i. Keystone has completed presence/absence ABB trapping surveys around the pipeline Right of Way (ROW) in Texas, and did not find any ABB. Came to the conclusion there are no effects on the ABB in Texas.
        ii. Desktop habitat assessments for ABB in OK were completed through a desktop assessment and historic analysis of occurrences.
    b. Phase IV covers the Steele City segment of the Keystone XL Pipeline project in Nebraska and South Dakota.
        i. Completed desktop habitat assessment in SD

ii. Completed presence/absence trapping along the ROW in NE
    1. The surveys in NE were positive; about 300 miles of the pipeline route; approx 100 miles from the SD boarder going down has found ABB. The bottom 200 mi do not have ABB
iii. NE Survey: Roughly 100 pipeline miles with ABB; starting around mile 91 in Wheeler County and go to 597; several points where no beetles were found and several points where high densities of beetles were found.

c. Dr. Wyatt Hoback developed a 5 point scale to rank suitability of habitat through visual survey before trapping.
    i. For the pipeline route, rated the habitat on a mile-by-mile basis
    ii. From South to North, did not see any ABB until Wheeler County, where the habitats were highly ranked.
    iii. Had numbers around 0.2 per trap night close to the SD border, 0.5 in Wheeler county; but in Polk county had as many as 26 per trap night, which was higher than any other previously trapped areas.
    iv. ABB is active in two seasons- early June to early July and Early August to September.

2) Keystone's current plans regarding ABB habitat
    a. In Texas, there is no plan because none were found along the route.
    b. Based on desktop habitat data, Keystone would contribute cost value of trapping surveys to a conservation fund for OK.
    c. In NE, would trap and relocate ABB along the ROW prior to construction, then restore the habitat after construction.
    d. Based on existing survey data, Keystone would contribute cost value of trapping surveys to a conservation fund for SD.
    e. No ongoing vegetation maintenance activities are planned because Keystone would restore the ROW to the original grades and replant native grasses.
    f. Annual monitoring is planned, as described in the CMR plan.

3) Description of the pipeline construction process
    a. Construction ROW is 110' wide, potentially wider based on geography, and will be narrower over water bodies and wetlands. Comes out to 13.3 acres per mile of potentially disturbed land. The permanent ROW is 50' which is not necessarily centered within the 110' construction ROW.
    b. The process can be described as a moving assembly line or train of operations- basically, there is clearing, where the vegetation is removed from the ROW; grading, where topsoil is stripped from the working area to create a level working surface; trench excavation, using backhoes or wheeled excavators; the pipeline will then be wheeled out to the ROW and be bent to fit the trench; welding, where the pipeline is formed into long lengths; placement, where the pipe is placed in the trench; fill-in of the trench; topsoil replacement; and finally remediation/revegetation.

c. This works as a moving assembly line, with a spread being constructed is over a 4-5 month period of time with the clearing and grading going first at a mile per day, then the trenching will follow, etc.
d. The original contours will be restored, with the clean-up material going back to its original position; basically they create a road and then remove the road. Resulting pipeline burial in areas with a restored contour could be deeper than the general pipeline burial depth of four feet.
e. There are also different types of temporary staging areas for pipe storage, equipment marshalling, etc. These storage yards are located every 30-60 miles, and are generally located in pre-disturbed areas such as farmland. Keystone has worked with state agencies to locate temporary areas for camps for the workers, which are restored and reclaimed, and reverts back to the landowners. Any workspace away from the ROW would be restored in the same manner as the ROW.
f. Disturbance will happen every 30-60 miles, generally in agricultural land; pipeyard is 30 acres and contractors are 50 acres. In NE there is 1 pump station and 1 pipeyard where the ABB may be present. These are moderate based on numbers per trap night. The habitat ratings of these areas are moderate to low; and the pump station in a hay field.

Project effects on ABB: soil compaction, heat dissipation, soil moisture, and construction camps

1) Effects of soil compaction on the ABB
    a. Because of the heavy equipment used on the project and because the ABB burrows, there is a question about the compaction effects on the ABB.
        i. The CMR plan describes the measures to remediate compaction; The entire acreage will be decompacted; tools such as the deepshank subsoiler, the vibrashank, and others will be used to decompact a minimum of 18 inches of the subsoil. The topsoil will go over the decompacted subsoil.
        ii. Decompacted soil will match the surrounding areas. The BA states the testing measures and parameters for decompaction as well as specifying the methods for testing.
        iii. Keystone no longer incorporates any blasting in its plan; the revised plan will use ripping instead of blasting.

2) Discussion of effects of pipeline heat dissipation on the ABB
        i. There is a question about the long-term effects of the pipe on the habitat because of the heat the pipe may give off.
        ii. John Schmidt- modeling done shows that temperature was isolated to about 20 inches around the diameter of the pipeline, depending on soil type; it should be well within the 4’ of burial for the pipeline
            1. Question about the effect of the pipeline on the frost line, which may not allow the beetle to go dormant during the

winter. Need process and procedures for 2-3 years down the road

2. In the CMR plan, there will be monitoring of these effects.
3. The Keystone CMR plan provides annual vegetation monitoring, and USFWS can be added to the distribution list.
4. The heat modeling study which is part of the DEIS models heat dissipation from the pipeline based on the burial depth, geographic area, and season; other studies have been done by other industries. A copy of the study is in the appendix of the DEIS.
    a. Kevin- this is a specific thermal model for a specific set of conditions, and a literature search will not be an effective tool to evaluate the study. Peer review is a more appropriate method.
    b. The model was run on a 900,000 bpd case, which is no longer applicable.
        i. **USFWS will review the document and make a decision as to whether to have the document peer reviewed**

3) Discussion on impact of Moisture to ABB
    a. ABB are sensitive to moisture; Keystone is required to reseed and remulch to make sure the moisture levels are the same as before the pipeline was built. This is included in the remediation plan.
        i. USACE has specific conditions for wetlands, which Keystone is meeting per the CMR plan.
        ii. Keystone waived jurisdiction of wetlands, and all wetlands will get the same treatment during construction and restoration.

4) Discussion on Construction Camp's impact to ABB.
    a. Camps take place up and down the project ROW;
        i. Camps are planned in Mead county and Tripp county South Dakota near Colome;
        ii. Because beetles have been found near Colome, the USFWS prefers Keystone look for areas of unsuitable habitat to place the worker camp, such as farmland.
        iii. Charlene- anything south of HWY 18 is of major concern for the ABB, and is concerned about the habitat in this area; Area is mostly grassland, but restoration will take 2-3 years; even with trap and relocate, several beetles will be killed;
    b. No camps are planned in NE at this time.
    c. Camps are temporary for the period of construction, and will be restored back to the original condition like the ROW.

d. Also camps are difficult, if not impossible, to move because of the state and local permits as well as issues with transportation between the camps and the work site.

Remediation plan for soil and discussion of state and federal laws.

1) Remediation plan for soil in ABB Habitat
    a. ABB buries carcasses in the ground; they look for grasses they can bury through; burial times are long, so loose sandy loam is great for the beetles, while clay is not. Dry sand is also avoided by the beetles.
    b. The vegetation component and land use discussion needs to be separated out in the BA; the intent is to revegetate with the original vegetation, but the land owner does have some say to the restoration plan.
        i. Keystone is contracting with a major seed supplier to acquire and blend the seed for the project; gotten from a number of sources. The seed mixes are NRCS approved.
    c. Wyatt has provided suggestions as to the vegetative varieties that work best for ABB habitats.
    d. Keystone would like the USFWS offices from different states to come to a consensus on what is desired for remediation.

2) Discussion of differences between state and federal law regarding the ABB, as well as the different determinations on a state-by-state basis.
    a. (Michelle Koch from the Game and Parks Commission) State law for NE does not allow a trap and relocate of any state-listed species;
    b. There is a question about if the NE USFWS prefers the trap and relocate method and the NE Game and Parks does not.
        i. State and Federal Authorities need to work together to offset impacts with compensation
    c. Uniqueness of NE is because the state law mimics the federal law and is very stringent Additional measures may be needed to comply with the state law.
        i. Need consistency on trap and relocation before construction
    d. Keystone is dealing with 4 states dealing with 4 different ways to deal with the species, and want consistency to deal with the species in a consistent way. Looking for a way to go forward on this issue. USFWS needs to streamline and standardize the responses. Can all agree on doing formal consultation.
    e. What is needed for closure?
        i. Assuming the 110’ ROW is the project area; will take into account what Wyatt has taken into account
        ii. Need an accepted, consistent mitigation ratio across USFWS; will speak internally and make a decision.
            1. Mitigation approach should be consistent among states; 5 habitat levels of quality, and need all parties to review Dr. Hoback’s report.

Additional information that should be included in the BA

1) The USFWS would like to have more information for their decision regarding the mitigation ratio:
    a. Dr. Hoback's most recent report will be sent to all meeting attendees.
    b. The next revision of the BA will include details on:
        i. Geographic area impacted
            1. Boundaries, surveys, capture rate, mile surveys with 1-5 suitability
            2. GIS shapefiles and maps sent out for NE, SD, OK, TX
        ii. Habitat
        iii. Disturbance to areas
            1. Impacts to ABB
        iv. Thorough description of the Restoration plan including:
            1. Reseeding
            2. Reclamation
            3. Decompaction
        v. Difference between original area and restored land regarding:
            1. Compaction
            2. Heat
            3. Moisture
    c. The BA and accompanying documentation needs to connect the dots- how does construction impact the ABB, and how Keystone is going to alleviate the effect.
    d. Keystone will need a specific list of people who need the AB and reports;
        i. John Cochnar will give to Jon Schmidt and Lynn Noel a list of people for distribution.
        ii. Jon Schmidt will set-up an ftp site to let meeting attendees access the documents.
    e. Need a letter from DOS; will send draft BA's until the service deems that BA provides the necessary information to provide a biological opinion.
    f. USFWS will have the internal discussion to make a decision on the mitigation ratio.
    g. In 2-3 weeks the USFWS will make a determination
        i. USFWS want a formal consultation for the ABB based entirely on the BA; all of the issues must be in the BA or referenced in the BA.

Action Items

a. Martha Tacha will find correspondence for the original request for mitigation.
b. USFWS personnel will look at the provided literature for pipeline modeling (Appendix L of the DEIS) and determine if they would like to request the model be submitted for peer review.
c. Keystone will also look for additional literature on pipeline temperature effects.

d. John Cochnar will provide Jon Schmidt, Keystone and Lynn Noel, Cardno ENTRIX & DOS, a distribution list of USFWS personnel.
e. Keystone will provide GIS shapefiles and Maps with the 1-5 scale as provided by Dr. Wyatt Hoback, as well as Dr. Hoback's latest report on the ABB.
f. USFWS will try to come to an internal consensus on mitigation ratios and other remediation recommendations for Keystone.
    i. The internal USFWS meeting was set for November 2nd at 11:00am Central.
g. A new draft BA will be provided to the USFWS as a Word document.

Keystone XL Pipeline Project
ESA Consultation re: Comments on the preliminary Final BA

Friday, January 7, 2011
7:00 AM Alaska, 10:00 AM Central, 11:00 AM Eastern

Participants:
Martha Tacha, USFWS NE
John Cochnar, USFWS NE
Mike George, USFWS NE
Charlene Besskin, USFWS SD
AJ Vale, USFWS TX
Joe Rubin, Cardno ENTRIX (on behalf of DOS)
Lynn Noel, Cardno ENTRIX (on behalf of DOS):
Steve Craycroft, Keystone
Dave Beckmeyer, Keystone
Matt Comeaux, Trow (on behalf of Keystone)
Jon Schmidt, TROW (on behalf of Keystone)
Johnathan Minton, TROW (on behalf of Keystone)
Jon Beaver, Westech (on behalf of Keystone)

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Item	**Focus/Outcomes**
Topics	**Initial topics** The FEIS is currently in preparation and review by DOS. Pending receipt of the presidential permit, Keystone would like to begin construction of the pipeline this year by the end of summer and be in service by 2012. **Issue 1: Section 2.1.1** – Use of Segment vs. Phases in terminology Stick with segment instead of phases because it is consistent with EIS. All documents and reports should refer to the segment name instead of the phase number for construction. Phase numbers are not directly interchangeable with segment names. Keystone will clearly define the segment references to be consistent with the EIS. **Issue 2: Section 2.1.6** – Summary of acreages for additional workspaces Numbers change as the project develops, so would prefer to put the numbers in the tables of the final draft BA. While the acreages may be changed after the BA is in place, the acreage provided are likely to be larger than the actual acreage used, which will be refined approaching construction. Any reference to acreages in the BA will be reviewed and revised for consistency with the EIS. Text summaries will be included and additional areas (out of ROW) will be clarified. **Issue 3: Section 3.1.1** – Black-footed Ferret The prairie dog town close to ROW in MT is too small to reintroduce black footed ferrets. "All prairie dog towns within the ROW are unsuitable for the reintroduction of the BFF, and there are no currently existing Black Footed Ferrets within the ROW." No change to determination required. **Martha will provide Lynn with a citation and data regarding this issue, and it will be closed.**

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	Issue 4: Section 3.1.2 – Interior Least Tern The current issue regards the refueling distance; no refueling within the buffer with the exception of drawing water from the three rivers, and that would have secondary containment. The secondary containment units are described in the CMRP. Follows best management practices for containment of fuels per the federal guidelines. Refueling equipment at least 100 feet from waterbodies is standard procedure for protection of waterbodies and wetlands. Keystone will have environmental inspectors enforcing secondary containment and evaluating situations such as where fueling would occur less than 100 feet from water. May need to refuel equipment in larger wetland crossing areas that would be completed according to refueling in water guidelines from the USACE. The highlighted sentences do not conflict and are taken directly from the CMRP. **Lynn will remove the quotation marks and revise for clarity.** The 300' buffer is related to tern habitat, but also relates to the designated critical habitat for the Arkansas River shiner. Within this buffer will be water withdrawal for hydrostatic testing activities and clearing for temporary placement of the tru-tracker cable. Hydrostatic test water would be pumped from an existing access point (no clearing required). Laying the cable will only involve clearing a footpath for the track cables. Would only work if the birds were not present. No additional measures will be added for clearing and human disturbance. **Issue 5: Section 3.1.3** – Whooping Crane Power provider issues; letter from Grand Electric Cooperative (GEC) requesting comment has been received by FWS SD Field Office. The power line associated with pump station 16 is problematic due to its location through a Sage Grouse lek. Requested C. Bessken to forward GEC letter to Lynn for Appendix J. Regarding the Lamar Electric cooperative letter, the pump station 36 power line is outside the whooping crane corridor. Not aware of any problems with whooping cranes in TX. No whooping crane issues remain related to this comment. **Issue 6: Section 3.1.4** – Pallid Sturgeon Want to know more about the Tru-tracker wire system, and if this could have an effect on the Pallid Sturgeon. Keystone explained that the drill pilot tool sends out a signal giving its location. This signal is picked up by the Tru-tracker wire, guiding the original drilling tool. This method has been used for years without problem. The wire itself does not emit a signal, it is a receiver about the size of a standard television cable. No anticipated problems with the technology are expected after this explanation. **Issues 7 & 8: Section 3.1.6** – Texas Prairie Dawn Flower and Texas Trailing Phlox Comments have been accepted and will be incorporated into the BA. **Issue 9: Section 3.2.1** – Piping Plover Suggested revision in BA p.53; this suggestion was made if there were camps or other work areas outside the ROW affected by construction activities. Not sure what type of operations would require surveys. **Suggested deleting the operations part of the sentence, which was accepted by the meeting participants.**

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	Issue 10: Section 3.2.2 – Arkansas River Shiner This is not a migratory fish and occurs year-round in the Canadian River. Need to ensure sufficient water within the river to support the shiner. FWS recommends that the intake for the hydrostatic testing be withdrawn from a tributary, not directly from the Canadian River. Keystone proposes to withdraw a nominal amount of water from the river; maximum withdrawal is approximately 625,000 gal. and will be working with the Oklahoma Water Resources Board (OWRB) for the permit. Based on Keystone's conversations with OWRB, there is no minimum water level for the river or a stipulated level needed for the species. Will abide by the applicable state regulations. Martha will speak with the folks in OK and revisit this topic. There is a vegetative buffer to make sure water quality is maintained. The water withdrawal would be done over the construction period of a month. Keep the vegetation clearing language the way it currently stands. Second issue is the Shiner may get caught in the intake pump, even if there is a mesh screen over the intake valve. Main components associated with the screening of the inlet- 1) size of mesh- smaller than fish and 2) adequate surface area so fish can swim away from intake valve. This comment was not provided to Keystone along with the other FWS comments on the BA. May ask for clarification regarding the hydrostatic testing. Change the language for critical habitat to "would not adversely modify determination" **Will set-up a follow-up conference with Dave and Hayley Dikeman, Oklahoma Field Office biologist, to further discuss Arkansas shiner issues. Will get back to Lynn if there are any comments to include in the BA. Martha Tacha will set-up a call with Hayley Dikeman, Matt Comeaux, and Dave Beckmeyer.** **Issue 11: Section 3.2.3** – Fringed Orchid Concern is that the orchid does not bloom every year and is difficult to identify when not in bloom. The identification of 1 plant in an area does not minimize the protection of that plant within that area. It usually means more orchids are in the area but are not being detected. Eighteen sites would be affected by the ROW, and mitigation for those sites would be appropriate. However, these share a similar habitat for the ABB, so there would already be mitigation measures in those areas. The reason for the change in the first BA was that during the surveys, only an individual plant was found, not a larger population. This was found on private property and the site is a native hay pasture. The site will be restored with native prairie grasses and the landowner will likely continue to utilize the site as a hay meadow. Will need monitoring per the USACE requirements in the wetlands, and want to acknowledge that additional consultation with the USFWS and mitigation will be required if restoration is not successful. **Will add a measure to the BA that monitoring of affected WPFO habitat will happen for a period of five years post construction (per the USACE guidelines for wetlands). If restoration of suitable WPFO habitat is unsuccessful, compensatory mitigation could include purchase of one or more conservation easement(s).** **Issue 12: New 3.1.Section 3.1.6** – Blowout Penstemon Keystone will avoid the major blowouts; these are most often grazed areas and have cattle

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	that create blowouts. Keystone would need to restore the areas due to landowner requirements and pipeline integrity issues. Revegetation is not a conservation measure for the species. **Martha recommends not to put the sentence under conservation measures;** main conservation measure is to avoid building the pipeline through active blowouts, and the preservation of seed banks in the topsoil. No significant issues remain. **Issue 13: New Section 3.2.1** – Mountain Plover Received Martha's comments, and these are accepted as long as bullets 2 & 3 are only related to when nests are identified; this is a long period to survey and exclude construction activity unless a mountain plover nest or brood has been located. Change to the surveys; a measure to revise surveys must be done between April 10th and July 10th, with 3 surveys conducted a minimum of 14 days apart. Request comes from BLM of the Rollins Area office resource plan. This is a process they use in their resource management plan. Similar to a measure from the Miles City office. This changes the date ranges from the original dates provided for the surveys. The longer dates are stated in the mountain plover survey guidelines for linear surveys. If construction were to occur before July 10, then survey would be done earlier. **TransCanada will mark-up and distribute language to participating parties.** **Issue 14: Section 3.1.5** – American Burying Beetle – Need to schedule a call to discuss comments before revising work early next week to go through comments and get a revised report with Dr. Hoback, Hayley, and TC representatives. **Matt Comeaux will get times for Dr. Hoback, and based on availability and will set a date/time for the call. Martha will get dates from Hayley Dikeman as well. Will combine call with river shiner issue. *After meeting, it was decided to meet on Wednesday 1/12/11, at 10:30 am Alaska, 2:30 pm Eastern. Lynn will distribute a detailed agenda.*** **Issue 15**: Follow-up – Lynn will be able to turn around revisions to species by the end of next week (January 14th) with the exception of the ABB. Would like to finish the ABB by the end of the month. **Lynn will send revisions re: Arkansas Shiner, Fringed Orchid, and Mountain Plover to the group.**
Next Steps	• Martha will send Lynn data about the Black Footed Ferret and Mountain Plover Survey Guidelines. • Lynn will send revisions re: Arkansas Shiner, Fringed Orchid, and Mountain Plover to the group. Lynn will also send out the most recent section of the project description from the EIS. • Meeting Re: ABB & Arkansas River Shiner on Wednesday, January 12, 2011 at 10:30am Alaska, 11:30am Pacific, 1:30pm Central, 2:30pm Eastern. Lynn will distribute a detailed agenda. • Complete revisions and resubmit BA for review/approval by January 31, 2011.

Keystone XL Pipeline Project
ESA Consultation re: Comments on the preliminary Final BA

Wednesday, January 12, 2011
10:30 AM Anchorage, 1:30 PM Central, 2:30 PM Eastern
Dial-in: 1-800-910-2586, Passcode: 190988

Participants:
US Fish and Wildlife Service: Martha Tacha, John Cochnar, Hayley Dikeman, Charlene Bessken, Mike George, Bob Harms, Daniel Fenner
Nebraska Game and Parks Commission: Michelle Koch, Mike Fritz
Cardno ENTRIX (on behalf of DOS): Lynn Noel, Joe Rubin
TROW Engineering and Others (on behalf of Keystone): Jon Schmidt, Jonathan Minton, Dave Beckmeyer, Stephen Craycroft, Matthew Comeaux, Dr. Wyatt Hoback,

Note: References used during the discussion include pFBA version with Keystone and FWS comments (**USFWS 12-30-10 additions to Schmidt Keystone comments on BA 11-29-10.doc**) and the two versions of the American burying beetle report (**USFWS comments 1-American Burying Beetle survey report - REV1_112910.docx**; **USFWS comments 2-included on rewritten ABB report from J. Schmidt 11-29-10.doc**) provided by Martha.

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Purpose	• Purpose: (1) Discuss issues related to potential impacts on the Arkansas River shiner from water withdrawals required for the HDD crossings and for hydrostatic pipeline testing from the North and South Canadian rivers in Oklahoma. (2) Discuss comments on the report *American Burying Beetle Habitat Assessment Model and Field Survey Results for Nebraska and Texas along the Keystone XL Pipeline Project and Habitat Assessment for South Dakota* and the preliminary Final Biological Assessment (BA). This meeting is to discuss specific issues related to the American burying beetle assessment including specific comments related to the habitat model, survey results, and impact assessment; to discuss issues and resolutions, and to develop consensus on the method(s) that will to be used to estimate incidental take.
Topics	**ARKANSAS RIVER SHINER ISSUES** • To avoid impacting the Arkansas River shiner, FWS would prefer that a tributary or a stock pond be used in lieu of screening. Daniel Fenner, the FWS lead for the Arkansas Shiner recovery, questions the effectiveness of implementing the screening procedures. Keystone believes it is critical to get water from the sources for horizontal directional drilling (HDD), which is a method of crossing the rivers by drilling that avoids direct impacts to the river bottom and banks. The water is needed to mix with drilling 'mud' to lubricate the drill bit and string and for hydrostatically testing the pipeline segment that is installed under the river. Proposed is a two-step procedure to prevent the Arkansas River shiner from being affected by the water draw. 1) use appropriately sized mesh screens to reduce the approach velocity so that fish are not entrained and to prevent the shiner (or other aquatic creatures) from being drawn in and 2) Keystone will not withdrawal water during the spawning season for the shiner.

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	The size of the mesh would be consistent with that used for window screens (18 x 18 mesh or the equivalent), which should prevent larval stage fish from entering the intake pipe. The mesh size and open area for the screen is designed to prevent fish the size of 2.5 cm from nose to fork of tail from entering. **For final consultation, FWS would like to see the final mesh size and an appropriate description in the Arkansas River shiner impact assessment description.** Keystone will reduce the approach velocity at the screen itself so fish would not be entrained and could swim away from the withdrawal location, based on the 3,000 gallon per minute maximum withdrawal rate. This would be accomplished by increasing the size of the surface area screened around the intake. Project engineers have taken this approach in the past using calculations and over-sizing the screen exclosure. The approach velocity will be 0.36 feet per second for the screened uptake structure. FWS will check if 0.36 feet per second will avoid entrainment. FWS would also like to have a biologist concur on the velocity. * **Note: FWS confirmed the 0.36 feet per second value is adequate with a follow-up email communication.** **Keystone will provide FWS with technical specifications on the mesh screens and a diagram describing how the screened exclosures are constructed to reduce the approach velocity for the intake valves.** **Dave Beckmeyer will augment the impact description section of the BA for the Arkansas River shiner in the BA with the descriptions/conditions discussed.** The language should be similar although more detailed than the pallid sturgeon discussion because the screening measures for both species are similar. Dave/Lynn will provide the revised language for further review. • Keystone will implement the screening outside the spawning period unless an alternate plan is developed in consultation with FWS. FWS will provide dates so the intake avoids spawning season. Per the current measures, Keystone is avoiding drilling June 1 through August 15. **The BA will reflect new information, which changes the spawning dates to May 15th through August 15th.** • FWS is also concerned about the amount of water withdrawn. The withdrawal is relatively small; the volume withdrawn is 270,000 out of the North Canadian River and 625,000 gal out of the [South] Canadian River; this is the total volume withdrawn over a roughly 30 day period based on the HDD drilling rate. Keystone will withdrawal 3,000 gal per minute at max velocity. FWS recommends that if river is not flowing, then no water should be taken. Keystone has no issue with this because if the river is not flowing, it would not be a viable water source. • Discussion concerning adverse modification of designated critical habitat – limited hand clearing of vegetation for Tru-tracker wire. The maximum clearing for the wire would be a 3' path to allow for variability to snake it through trees. This is not a cut trail, so very little real clearing is required. A single person takes the cable up and through the river. Manual tools would be used for clearing this path. Sample language to include in the BA may be "Minimal hand-clearing using machete or other power hand tools of vegetation within a maximum 3' wide path." With revised language FWS does not see this as being an issue for the Arkansas River shiner designated critical habitat.

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	AMERICAN BURYING BEETLE (ABB) ISSUES • All of the ABB surveys were included in the 2009 and 2010 Keystone reports using a survey protocol approved for current Nebraska projects. The habitat model is the currently accepted standard for northern Nebraska (NE) and southern South Dakota (SD) and is not directly applicable for other areas of the country. A windshield (driving) survey was conducted along the propose pipeline route from public roads using an approved protocol. In areas not accessible by public road, a desktop survey was completed using the high-resolution aerial imagery provided by Keystone. Land cover was assessed on a mile-by-mile basis to find potentially suitable ABB habitats where trapping would take place. • FWS requested further clarification to improve their understanding of the five step habitat ranking system. FWS would like to understand how to replicate habitat surveys such as those presented in the ABB report for the Keystone XL Project. **Hayley Dikeman requested a separate technical discussion with Dr. Hoback in the near future about his ABB methodology.** Otherwise, the NE and SD FWS offices are comfortable with the assessment methodology, and the habitat rating criteria will remain as presented in the survey report. • A majority of the habitat in Oklahoma (OK) was ranked by doctoral student Kendra Bauer using a habitat rating system similar to Dr. Hoback's system for northern NE. Dr. Hoback updated this assessment to account for a few minor route deviations and updated mapping and shapefiles have been provided to FWS. Follow-up trapping surveys were not completed because FWS did not recommend surveys. For OK, the process was completed using the same method as the Arkoma pipeline – mitigation would be based on cost per mile of ABB trapping surveys. • Do habitats ranked as "fair" require mitigation in the Nebraska Protocol? Dr. Hoback's research found that after over 400 trap nights in "fair" habitat only 3 ABB were captured , resulting in 0.003 ABB per trap night in "fair" habitat. Keystone believes this is not significant enough to raise this issue to the point where mitigation is required. **Thermal impact discussion** • Keystone used a 7' wide area centered on the pipeline to calculate thermal impacts, while FWS considers the area of thermal impacts should be 22' wide centered on the pipeline. Dr. Hoback evaluated the temperature model data and determined at what point he would consider there would be a biologically significant difference in temperature, which he considered was the difference between frozen, almost frozen, and unfrozen soils at about out to 3.5 feet on either side of the pipeline or a 7' wide area centered on the pipeline. FWS determined the 22' area by looking at Figures 8, 9, 13, 36, and 38; from Table 2 in Appendix K of the Biological Assessment, which indicates changes in temperature out from the center of the pipeline that would be substantial downstream of the pipeline; and from other information. • Participants were not aware of any direct research data for the ABB to evaluate the resulting impacts from a 1-2 degree increase in temperature during winter dormancy. While there is no direct ABB research; studies of other insects have shown effects from changes in microclimate and all participants acknowledge altered temperature as a potential impact. Mechanisms could include: a warmer soil corridor could bring beetles out of sync with their surrounding population. An increase in soil temperature may also affect soil moisture, which could be an issue in both summer and winter.

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	USFWS indicated that literature does state that insects are affected by changes to the microclimate, which is an adverse effect. Dr. Hoback indicated during the call that he believes the critical component is the point at which the soil is no longer frozen. • **Keystone would like to have another teleconference that includes engineers responsible for the thermal modeling to further discuss how the referenced model is now beyond worst case scenario.** This change is based on the withdrawal of the special permit with PHMSA that has resulted in a reduced maximum flow rate. There is a new model being developed based on the reduced flow rate. However, if an agreement can be made on the current model, that would be preferred. Keystone has no due date on the new model document, but it would be provided to FWS once it has been created. **ABB Mitigation Discussion** • Keystone does not have access to all areas along the project corridor, and is opposed to having to wait for surveys before receiving the presidential permit, and would like to propose mitigation without surveying every acre. • Keystone will present their mitigation proposal under a separate cover. They propose to provide mitigation for loss of suitable habitat, but not for areas that are suitable habitat but that are not occupied by ABB based on survey information. **To get an estimated count for areas where Keystone does not have access, traps will be placed in accessible areas on both ends of an inaccessible segment of ROW. Keystone will then average the number of beetles caught in the traps, and use that data to infer the count for the inaccessible land. FWS would prefer the higher trap count rather than the average trap count be applied to stretches with no trapping estimate.** FWS will provide population estimates in SD and OK. Keystones proposed to use the ABB trap data in NE. The largest distance between traps in NE is 7 miles between MP 656 and 646 because there are no public roads in that area. • FWS would prefer mitigation based on both the number of beetles and the impacted habitat. Recent court cases are based on ABB counts, so FWS needs to state how many individuals are likely to be taken, as well as the number of impacted acres for each state and the mitigation ratio for these acres. FWS desires a two-fold component for mitigation in Nebraska- mitigate for the number of ABB in areas where ABB have been discovered and mitigate in areas where there is habitat loss. This is in the separate mitigation measure, which can be completed separately from the technical report, but which should be included in the BA. • Previous recommendations and potential mitigation has not been consistent across all states because different protocols were established in each state during initial consultations for the Keystone XL project. A habitat assessment was completed for the entire project corridor. There are a number of places in NE where habitat is suitable, but no ABB were captured. These areas are surrounded by unsuitable habitats. • For Oklahoma, it was previously agreed that mitigation would be based on the cost per mile of ABB trapping surveys and that this was different from the mitigation required for Nebraska because the survey recommendations and potential mitigation were different. Under the consultation, no surveys were recommended in OK, rather money will be contributed for the mitigation fund. • FWS is uncertain whether restoration would be entirely successful, and recommends compensatory mitigation for both temporary impacts and permanent impacts. To FWS

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Item	**Focus/Outcomes**
	the most important result is to have no net loss of suitable habitat for the ABB across the pipeline corridor. • Keystone is committed to complete restoration of the ROW and believes there are no temporary impacts to the ABB. Restoration procedures will be implemented and the ROW will be monitored. Keystone proposes that USFWS agree to Keystone's monitoring for the ROW following US Army Corps of Engineers methods. If restoration is not successful then additional consultation and compensatory mitigation could be addressed in the future similar to what has been proposed for the western prairie fringed orchid. **Measures to Avoid Take** • Mowing would be appropriate after trapping if construction were not to directly follow trapping. Mowing would make the ROW unsuitable habitat that would not be re-occupied by ABB. A description of this conservation measure – standard in NE due to constraints from State law that lacks provisions for incidental take, should be included in the BA. • Trapping and relocating ABB is only used in NE with no bait-away (due to predator issues). NGPC feels this is best done if construction follows immediately (3 day period) behind the trap and relocate actions during the beetles active period. If the construction occurs while the ABB are dormant, then trap and relocate should be followed by mowing. If trapping and relocating occurred at the end of the July period, and then Keystone performed the conservation conditions, Keystone would be covered through the period of inactivity until the June period of activity, which would restart the conservation conditions. • The FWS and NE Parks Commission will provide .pdf copies of all supporting or cited references (including published and in-review manuscripts) or remove citations. Michelle Koch will provide the following NE publications for the Administrative Record: o Conservation Measures for ABB (2008) o Beetle Trapping Protocol (2008) **Spill risk assessment (Appendix B)** • Risk of spill in the BA- Martha has a question about the frequency of detection of small leakages. Remedial actions and offsets would address the acknowledgment of this and the remediation plan in place to deal with this. • FWS deals with spill response as an emergency consultation. It is not so much the spill that is the issue for ABB, but the clean-up activities. The life of a pipeline is 50+ years, so an estimation of the length of how many spills happen over x miles and estimate the gallons of spill, and estimate the acres over the 50 year life of the project, all of which is in the spill risk assessment (Appendix B of the BA) and discussed in Section 3.13 of the Environmental Impact Statement. • FWS wants notification by a responsible entity in the event of an oil spill. They would like the DOS or other responsible governmental agency to reinitiate consultation in case of an oil spill.
Next	**For proceeding with Biological Assessment:**

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Item	**Focus/Outcomes**
Steps	• FWS will make a resolution on Arkansas River shiner swimming speed – completed (1/13/2011) FWS concurs that the 0.36 feet per second intake velocity is acceptable to avoid impacts to the shiner. • Dave Beckmeyer will develop a paragraph describing the shiner screening measures and will also provide a diagram. Per an email from Martha, this diagram does not need to be included in the fBA – completed (1/19/2011). • ABB protocol with description of when the conservation measures will come into play (Michelle from NE Game and Parks will distribute) – completed (1/13/2011) documents forwarded. • Should have everything but the ABB temperature discussion and western prairie fringed orchid conservation measures for the next draft of the BA. • Call to discuss the temperature impact issues – Wednesday, Jan 26th at 10:30am Alaska, 1:30pm Central, 2:30pm Eastern • Complete revisions and resubmit ABB report for review/approval by January 31st.

Keystone XL Pipeline Project
ESA Consultation re: Comments on the preliminary Final BA

Friday, January 26, 2011
10:30 AM Anchorage, 11:30 Pacific, 1:30 PM Central, 2:30 PM Eastern
Dial-in: 1-800-910-2586, Passcode: 190988

Participants:
USFWS: Martha Tacha, John Cochnar
Cardno ENTRIX (on behalf of DOS): Lynn Noel, Joe Rubin
Trow Engineering and Others (on behalf of Keystone): Jon Schmidt, Dave Bechmeyer, Dr. Wyatt Hoback

Note: Participants please have pFBA version with Keystone and FWS comments (***USFWS 12-30-10 additions to Schmidt Keystone comments on BA 11-29-10.doc***) and Appendix K – *Pipeline Temperature Effects Study* available for reference to specific comments and be prepared to discuss/suggest appropriate revisions.

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Item	**Focus/Outcomes**
Introductions	• Participants
Purpose	• Purpose: discuss comments on the preliminary Final Biological Assessment (BA). This meeting is to discuss specific issues related to pipeline temperature effects and the American burying beetle assessment and to revise/approve issue resolutions.
Topics	• **Issue 1: Appendix K – Heat Dissipation Model** Factors included in model that effect amount of heat generated and area for dissipation: flow rate, soil type, soil water content, other factors? Assumptions in model – validity, robustness Actual numbers versus graphics – difficult to read changes in temperature - approximated degrees from graphs Other model discussions? • **Issue 2: Appendix K – Review effects** Heat effects review in Appendix K: soil temperature, biological activity, vegetation (early emergence, increased productivity), soil water availability (drying), altered freeze-thaw timing Hypothesized versus measured/observed effects:

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	• **Issue 3: Section 3.1.5 – Thermal Effects** Why thermal effects were generally considered to be of greater significant in northern portions of the Project than in southern portions – seasonally consistent at ~5° at 6 inch depth in Oklahoma and Texas. Suggested Text Clarification: Seasonal differences in soil temperatures resulting from heat generated by oil flow through the pipeline would not be noticeable at the ground surface but would consistently elevate soil temperature 6 inches below the surface by several degrees year round above the pipeline in southern regions (Oklahoma and Texas). • **Issue 4: Section 3.1.5** – American Burying Beetle (primary issues) Thermal effects calculations – 7 feet (out to 3.5 feet from pipeline) versus 22 feet (out to 11 feet from pipeline) Suggested Impact Text Revision: Modeled heat dissipation from the pipeline indicates potential seasonal thermal effects on soil freezing to an area within about 7 feet around the pipe compared to background temperatures (Appendix K). Thermal effects – likely to have most effect during period when beetles/eggs/larvae are in the ground and when the difference in soil temperatures are most pronounce (spring/fall/winter)? What area should be used for estimating permanent impacts within occupied (NE)/suitable habitat (SD, OK) – will need total acres for quantification in BA • **Any Other Outstanding Issues**
Next Steps	• Complete revisions and resubmit ABB report for review/approval by Date • Complete revisions and resubmit BA for review/approval by Date

Keystone XL Pipeline Project
ESA Consultation re: Comments on the preliminary Final BA

Wednesday, February 2, 2011
10:30 AM Anchorage, 11:30 Pacific, 1:30 PM Central, 2:30 PM Eastern
Dial-in: 1-800-910-2586, Passcode: 190988

Participants:
USFWS: Martha Tacha
DOS: Alex Yuan, Keith Benes
Cardno ENTRIX (on behalf of DOS): Lynn Noel, John Watkins
Trow Engineering and Others (on behalf of Keystone): Jon Schmidt , Dr. Wyatt Hoback, Mike Schmaltz, Matt Comeaux, Jonathan Minton, Steve Craycroft, Dave Beckmeyer, Jessy Benock, Beez Hazen

Note: Participants please have pFBA version with Keystone and FWS comments (***USFWS 12-30-10 additions to Schmidt Keystone comments on BA 11-29-10.doc***) and Appendix K – *Pipeline Temperature Effects Study* available for reference to specific comments.

Agenda	
Item	**Focus/Outcomes**
Introductions	• Participants
Purpose	• Purpose: discuss comments on the preliminary Final Biological Assessment (BA). This meeting is to discuss specific issues related to pipeline temperature model and effects on the American burying beetle.
Topics	• **Issue 1: Appendix K – Heat Dissipation Model** Beez Hazen provided a description of how the model was developed and factors that were included in model. Then specific questions were asked and addressed. Martha Tacha – Would like to preface discussions with requirements of Section 7 which include a robust analysis of potential impacts during formal consultation. She needs to find out all she can about how the project will potentially affect the species. Martha thanked participants for their time to assist with understanding potential impacts from the project. When there is a range of potential impacts, FWS is required to evaluate the worst case scenario to err on the side of the species. Her questions are not challenges to the information presented, but are intended to clarify and define potential impacts. Beez Hazen – In explaining the model, they simulated the different regions crossed by the pipeline. The model takes into account parameters to create a calibration for testing results. Pipe materials and pipe depths play a role. Soil types and ground composition also play an important role. The model then combines the aspects of the pipeline in combination with the ground composition and local climatic conditions. Martha Tacha – Silt loam will not be encountered where the ABB are located in Nebraska. The land there is sandier. How would this affect the transfer of heat? Beez Hazen – Sand will transfer heat faster than the silt. At 6 inches you would have cooler temperatures. Moisture content is also important, higher

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	moisture creates faster heat transfer. Ground cover, such as snow and vegetation, will also play a role and can cause variation. Martha Tacha – Is there a parameter for longitudinal differences in oil temperature along the pipeline? Beez Hazen – Yes, such as being closer to a pump station will have different modeling. The spikes in the Figure 2, Appendix L in the pfBA, signify the pipe is at a pump station location. Martha Tacha – What do the figures in the report suggest; the highest or average change in temperatures? Beez Hazen – Temperatures from February and August are used as the averages, therefore the data represent the average temperature at the warmest and coldest months at the maximum flow rate. He also pointed out that the temperatures used in the model were the highest temperatures from the pipeline as the oil exited the Pump Station, therefore representing the hottest case model. Martha Tacha– Does the width of the trench being dug for the pipe affect the dissipation away from the pipe? This is assuming the material around the pipe is disturbed and repacked? Beez Hazen – This could have an effect on heat transfer such as if the top layer was peat. This could also be a factor in permafrost areas. However the composition of the soil in Nebraska would not have much of an impact. Jessie Benock – TransCanada could rerun the model to specify the ground conditions for habitat that support ABB; sandy soils and saturated or high moisture content. Jon Schmidt – Will provide the mile posts range for region with ABB presence in Nebraska for the modelers. Martha Tacha (USFWS) – This would be extremely helpful. *Action: Keystone agreed to have the model run for sandy, saturated soils and climate conditions for northern Nebraska. Keystone will provide both graphics and data tables for the resulting model. Jon Schmidt will supply the mile post ranges for the regions in Nebraska where ABB are present.* • **Issue 2: Appendix K – Review of resulting effects** Dr. Wyatt Hoback provided a summary of how he used the information on heat dissipated from the pipeline to evaluate potential effects on the ABB. Wyatt indicated that he had considered the potential effects during the winter in particular on overwintering beetles and eggs as most critical. Martha Tacha – Did you have access to the tables or did you use the same report (Appendix K) as Lynn and Martha. Wyatt Hoback – I used the same graphics as you initially, but was later supplied with a table of the model data. Martha Tacha – Your opinion is that the greatest impact to the ABB would be if the temperature in the winter increases the soil temperature above freezing. Can you explain what is known and what were your assumptions for this conclusion?

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	Wyatt Hoback – The biology of the ABB is not well known. Among insects in general, two general strategies are used by northern insects during overwintering. One strategy is to find and use areas that do not freeze and hibernate until conditions improve. The second strategy is to encase themselves in ice and use an internal antifreeze to avoid freezing to survive until the soil thaws. We are not sure which method the ABB uses. It is highly improbable that ABB engages in both strategies. The only research on winter survival is from Arkansas. The beetles buried themselves 3-20 centimeters into the ground. The ones supplied with food survived better than the ones that did not receive food. The problem with this experiment is that soil and air temperature did not often fall below freezing. The level of soil frost in the Sand Hills of Nebraska averages about 40 inches deep. It is unlikely that ABBs would bury themselves below the frost depth – so they likely use some type of internal antifreeze. The beetles are surviving the winter by entering the ground about 1 September and emerge by June 1. Over these nine months, if they are at a lower temperature, they use less energy; and if they are warmer, they use more energy. If soil temperatures are increased to above freezing the ABB would expend more energy during the winter, then there would be an effect. Martha Tacha – So you believe that the ABB are freezing solid for the winter. Wyatt Hoback – Yes, but if they are not, then they have to find areas that do not freeze over the winter such as springs or compost piles. Martha Tacha – Is there any evidence that beetles move vertically through the soil to adjust their temperatures? Wyatt Hoback – It is possible for them to move if they do not freeze solid during the winter. If they are not frozen during the winter then the heat change from the pipeline is not likely to have much effect on the ABB. Lynn Noel – Are there overwintering studies that have been conducted on similar species? Wyatt Hoback – No other studies have been completed on the physiological aspect of these beetles. Martha Tacha – Regarding the emergence in the springtime, what are the environmental cues that trigger emergence? Wyatt Hoback – Not sure, but my idea is that emergence is triggered by springtime rains. The beetles are extremely sensitive to moisture. This is just my opinion and there is no science to back up this claim. Martha Tacha – Let's assume that the soil temperature where they are buried plays a role in when they emerge. If the soil temperature was 3-4 degrees warmer than normal would this cause them to surface too early? Wyatt Hoback - Even if the soil temperature triggered them to surface, once the beetle encountered the low air temperature they should re-bury themselves. The capturing experiments that have been conducted show that very few beetles are captured during the colder nights. The beetles seem to only fly in the warmer conditions. Martha Tacha – When they reproduce, the month of July, would the soil

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	temperature six inches below the surface being 5-6 degrees warmer have an effect on the behavior or metabolism of adults, or the development of juveniles? Wyatt Hoback - When they are underground the temperature affects the rate of development so this could have an effect on all the above. If it is warmer during the brooding period, it does have a negative impact. Some laboratory studies have been completed that reflect this statement. 18 Celsius (65 F) is used in the Rhode Island facilities by Lou Perotti for breeding. Alex Yuan – Is there any study on how the ABB finds a carcass? Is it related to heat? Wyatt Hoback – The ABB finds a carcass based on smell, not temperature. The change in heat should not affect the beetles' ability to find food. Martha Tacha – Are there any known temperature thresholds for the ABB. Wyatt Hoback – No, 55-60 degrees F for the air temperature is the point which we notice flight, no documentation on soil temperatures. Martha Tacha – Will the temperature increases underground caused by the pipeline affect soil moisture? Mike Schmaltz – During the year moisture can more easily enter the previously trenched areas because the soil is less compacted. There are also reports that say the more moisture that enters the soil the cooler the soil temperature can remain. • **Issue 3: Section 3.1.5 – Thermal Effects in Other Areas** What about potential thermal effects in southern portions – seasonally consistent at ~5° increase at 6 inch depth in Oklahoma and Texas. Martha Tacha – will need to discuss with others, not prepared to discuss this portion of the pipeline. • **Other Questions/Issues** Martha Tacha – In terms of the process of digging the trench in the sand hills, I would guess there would be a 3 to 1 slope on the banks of the trench. Therefore, you would have a much wider trench through the Sand Hills than other areas. Do you have an estimate of the width of the right-of-way that will be needed for a trench? Jon Schmidt– Yes, and that information has been included in development of the workspace areas. Martha Tacha – When digging through an area of high water table how do you manage digging a 6-7 foot trench? Steve Craycroft – They will work off timber mats and the water may fill the trench. Martha Tacha – Is it possible to get deep enough to get four feet of cover? Steve Craycroft – Yes, this is a common technique through saturated areas. Alex Yuan – How many miles of the pipeline will affect the ABB habitat? Martha Tacha – In Nebraska about 100 miles would go through occupied

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	ABB habitat. Jon Schmidt – About 30 miles in South Dakota. Wyatt Hoback – According to Haley there is about 100 miles in Oklahoma. Occurrence of ABB in parts of Oklahoma, especially on the pipeline route is questionable because there are two counties that had a historical presence, but these have not been confirmed with recent data. There is also one county with an expected population, but no sampling has been conducted. Alex Yuan – Is there enough land elsewhere to accommodate for the lost of ABB habitat from the pipeline? Jon Schmidt – That is not fair to evaluate at this time because it has not been established if we are going to set aside land or money for the ABB habitat. Alex Yuan – If we had a decision today, how long would it take for TransCanada to get the land? Jon Schmidt – The money will be set aside, but the land does not have to been purchased before construction begins.
Next Steps	• Complete revisions and resubmit ABB report for review/approval by Date? Keystone will submit a revised ABB survey report by February 11, 2011. Additionally, Keystone will submit an ABB mitigation proposal on February 11, 2011. • Complete revisions and resubmit revised preliminary final BA for review by Date? Hopefully – mid February Power distribution lines – measures to include in BA? May be possible to include some – will know within a few days. Concerns primarily within the Whooping Crane migration corridor.

Keystone XL Pipeline Project
ESA Consultation re: Introductions, Roles, and Responsibilities

Thursday, February 17, 2011
12:00 PM Anchorage, 1:00 PM Pacific, 3:00 PM Central, 4:00 PM Eastern

Minutes	
Item	**Focus/Outcomes**
Attendees	USFWS: Martha Tacha, John Cochnar, Mike George DOS: Dr. Nicole Gibson, Alex Yuan Cardno ENTRIX (on behalf of DOS): Lynn Noel, Joe Rubin
Purpose	• Purpose: to introduce Dr. Nicole Gibson and discuss the process for developing the Final Biological Assessment (BA) and Biological Opinion. This meeting is to discuss the progress of the formal consultation and roles and responsibilities in developing mitigation.
Topics	• **Roles:** Nicole Gibson – Dr. Gibson has a Ph.D. from Yale and did her thesis studying primate behavior in Peru. She has a background in sustainable development and has been brought in as a subject matter expert in biology for the Keystone XL EIS. Her role is evolving as the BA process continues. Alex Yuan – In charge of the Keystone XL NEPA process for the Department of State. John Cochnar – Deputy Field Supervisor has worked with projects for over 26 years, having been the lead in the original Keystone project for USFWS and is the current lead for the FWS. Martha Tacha – works on Section 7 consultations and has worked with issues around the whooping crane for 12 years at the FWS. Before working for the USFWS, she worked with the Nebraska Game and Parks Commission. Mike George – Project Leader and Supervisor for the NE field office who will be signing the Biological Opinion for the USFWS for Nebraska. • **Issue 1: Outline of Process** Nebraska has a unique system where the state law regarding endangered species is actually stricter than the federal law, because the state law does not allow for any take. So the evaluation of the BA involves both the USFWS and the NE Game and Parks Commission. USFWS needs to undergo formal consultation with DOS and TransCanada because there will be take on this project. Formal consultation for Keystone XL will officially begin upon receipt of acceptable Final BA along with a letter request from DOS. Compensatory mitigation negotiations for ABB will likely continue after formal consultation has been initiated.

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	- The BA review can take a differing amount of time depending on agreement. The process allows for a 90 day formal review after the USFWS receives a BA, and then the USFWS has 45 days to give a Biological Opinion (BO) in response. If the USFWS agrees with the conservation measures and compensatory mitigation for the project when the BA is presented, then the development of the BO may take a substantially shorter amount of time. This timeframe can be as short as 5 weeks. • **Issue 2: ABB – impacts and compensatory mitigation** The USFWS wants ABB compensatory mitigation to be based on habitat rankings, not by occurrence ratings generated from the the surveys completed by Dr. Hoback. The USFWS is considering a permanent impact of 22' area around the pipeline ROW due to temperature increases. They are also considering an 88' temporary impact around the ROW because of the land clearing and other disturbances. If landowners request Keystone to restore the land to a condition other than original condition, this may also be considered a permanent impact. Martha would like for Keystone to provide the temperature charts that were the basis for the graphs provided in the Hoback ABB report. She would like this data to have a more accurate determination of the soil temperatures that may affect the ABB. • **Issue 3: WPFO – occurrence surveys** Because the western prairie fringed orchid is a plant, no take permit is required. Compensatory mitigation for the ABB will also cover the western prairie fringed orchid because habitats used are similar. USFWS would like Keystone to consider compensatory mitigation alternatives, including protection of known western prairie fringed orchid populations. Keystone could perform long-term monitoring and restoration of habitat or Keystone could contribute to a conservation fund for the USFWS to perform monitoring and restoration. Generally the fund is about 10% of the total cost of restoration. Considering that 8-10% of restoration can fail, and will need further restoration, it may make sense to use the fund instead of Keystone monitoring the site themselves. Also, the DOS will not be involved in further mitigation, as it does not have the staff or the purpose to enforce the EIS beyond the ROD. • **Issue 4: Whooping Crane, Least Tern, Piping Plover - Power line assessments** There are still migratory bird issues concerning power lines. A final conservation plan is needed for compliance with the Migratory Bird Treaty Act. Keystone will need to ensure that treatments regarding power lines are completed by the power providers; it may be necessary to approach recommended measures in a programmatic manner.

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	Keystone will be responsible for ensuring that the power providers follow the guidelines and measures set by the USFWS. • **Issue 5: Inclusion of BO as appendix to FEIS** Completion of the Final BA depends upon consultation and ABB issues, but should be completed around the end of February. Preliminary schedule for BO – Depends upon on whether consensus has been reached on all of the conservation measures and compensatory mitigation. It could be completed as quickly as five weeks. Preliminary schedule for FEIS – there is no current timeline for the completion of the FEIS, and will keep the USFWS apprised of its status. DOS intends to issue the BO with the FEIS.
Next Steps	• Lynn would like to get the final BA out by the end of February, depending upon the ABB mitigation development and power line measures • Development of Biological Opinion depends upon whether the submitted BA mitigation measures are agreed upon. Could be issued as soon as May. • Currently, there is no timetable for when the FEIS for this project will be submitted.

Keystone XL Pipeline Project
ABB Habitat Assessment & Compensatory Mitigation Negotiations
Thursday, March 24, 2011
10:00 AM – 5:00 PM CDT

Participants:

USFWS: Mike George, Martha Tacha, John Cochnar, Hayley Dikeman (morning only), Charlene Bessken,
NGPC: Carey Grell, Michelle Koch, Mike Fritz,
DOS: Dr. K. Nicole Gibson, Alex Yuan (morning only)
Cardno ENTRIX (on behalf of DOS): Lynn Noel, Kevin Freeman, Joe Rubin
Keystone: Jon Schmidt, Stephen Craycroft, Dave Beckmeyer, Michael Schmaltz, Jim White. Dr. W. Wyatt Hoback, Beez Hazen, Matt Comeaux, Jonathan Minton

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Item	**Focus/Outcomes**
Purpose & Goal	• Purpose: to discuss and resolve assessment and mitigation issues for the American burying beetle (ABB) in order to proceed with finalization of the Biological Assessment (BA). The goal is to develop final conservation measures that are appropriate and protective of the species, that are based on the best available scientific data, and that are legally defensible • Mike George will sign the USFWS's Biological Opinion, and ultimately will make decisions for the USFWS
Discussion	**Background** Endangered Species Act Two sections of the Endangered Species Act apply to large linear projects like the proposed Keystone XL Pipeline Project: Section 7 and Section 9. • Section 7 is the consultation between federal agencies, in this case between Department of State and the US Fish and Wildlife. Section 7 is enforceable by civil law and any US citizen has standing to sue under this provision of the endangered species act. If USFWS does not properly review the Biological Assessment, then the USFWS will likely be sued under this provision. The threshold for liability in a lawsuit is "arbitrary and capricious," so there is a great deal of time spent on the part of the USFWS making sure decisions have a logical basis. This especially applies to areas where there is an absence of scientific data, because the USFWS needs to base a rationale on available data. • Section 9 is enforced criminally, and concerns the take of endangered species. This can include lethal take of individual species members, harassment of an animal, or take of critical habitat. This provision is enforced by the USFWS. An Incidental Take Statement issued at the conclusion of the formal Section 7 consultation with the USFWS provides coverage for incidental take under Section 9. Under this coverage, a party will not be criminally liable for incidental take during a project if it operates within the requirements of the Incidental Take Statement. Nebraska State Law

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	The Nebraska (NE) non-game and endangered species act is modeled after the federal endangered species law and it requires any state agency issuing a permit to list impacts to state-listed species. In addition to the federally-listed species, the state law protects state-listed endangered and threatened species. The NE law does not allow for incidental take. Any permits from NE DEQ affecting endangered species will all go through a consultation process with NE Game and Parks Commission. Federal agency determinations do not necessarily trump state laws concerning incidental take. When working in Nebraska, companies need to avoid and minimize impacts, and mitigate impacts through due diligence. **Habitat Assessment for ABB** Different field offices and regions, 2 and 6, of the USFWS have used differing methods to protect ABB when conducting consultations concerning ABB populations. Dr. Wyatt Hoback completed habitat assessments and trapping for ABB in NE and TX for Keystone to gather data to identify areas along the Project ROW likely to be occupied by ABB and for input and subsequent refinement of his ABB habitat rating system for other projects. Habitat ratings for the Keystone XL Project ROW were not refined after trapping was completed. Trapping surveys for presence/absence of ABB were not recommended by USFWS and consequently not carried out in SD and OK. • In Nebraska and South Dakota, the habitats for the ABB along the area of potential effect for the Keystone XL Pipeline Project were rated on a 5 point scale designed by Dr. Hoback in order to focus the ABB trapping survey efforts. Trapping surveys were completed to identify areas occupied by ABB along the Project ROW, for subsequent use by Dr. Hoback to further refine his habitat rating system, to identify potential patchiness in ABB distribution due to habitat fragmentation, and to identify locations of large sustainable ABB populations. The calculation of habitat mitigation based on Dr. Hoback's habitat rating system in Nebraska is considered a better method than what was used previously for other projects crossing the state (such as the Burlington Northern railroad project), and the USFWS in Nebraska would like the Keystone XL project to set a new standard for review concerning the ABB. • In South Dakota and Oklahoma, the USFWS recommends habitat rating in the absence of trapping surveys for the evaluation of potential project impacts on the ABB because year-to-year variability in ABB abundance does not support ABB density-based mitigation (i.e., because ABB densities are both spatially and temporally variable). Because ABB trapping was not recommended in SD and OK, Keystone could not use occurrence data to develop abundance-based ABB mitigation for those states. USFWS rationale for a habitat-based mitigation approach follows from the year-to-year variability in abundance and from the fact that take of the species applies to both individual ABBs and the habitat upon which they depend for survival. Trapping surveys are primarily presence/absence surveys, and the USFWS from SD and OK consider that trapping results do not accurately reflect ABB abundance.

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	USFWS is required to use the best available information to develop the Biological Opinion. The results of ABB trapping will be used by the USFWS to estimate incidental take of individual ABBs in Nebraska. While there may be fragmentation of ABB populations in the South East, this does not appear to be the case in the Sand Hills area. USFWS is only considering habitat impacts in Nebraska for the area along the Project ROW where ABB were found during trapping (i.e., from the SD-NE state line to approximately MP 695.). The two assessment methods (habitat-based versus abundance-based from trapping) may not be that divergent in terms of the total number of acres requiring mitigation; however, the USFWS believes that the mitigation plan should not be solely based on ABB abundance information. USFWS requires a habitat-based mitigation plan in the Sand Hills of SD and NE and in OK. The general ABB occurrence information available for each state was used to determine the areas where habitat disturbances will require compensatory mitigation. Keystone would prefer that the data collected by Dr. Hoback from the trapping surveys for NE be used to develop the mitigation plan for NE because these data show presence/absence and density of ABB. USFWS prefers to use Dr. Hoback's habitat assessment surveys, instead of using the trapping data, because a habitat based approach adds consistency across all states, even those where ABBs were not trapped. In June 2011, there is a window to determine ABB presence in SD and OK based on trapping. This opportunity could be used by Keystone to determine presence or absence of ABBs in these areas in a manner consistent with the trapping surveys completed in NE and TX. Keystone offered to conduct trapping surveys, however, there was no interest in conducting trapping from SD or OK USFWS offices. There is concern that basing mitigation on habitat assessments alone may lead to mitigation of impacts in areas where ABBs are not present and where they are not expected to be in the future (e.g., prime habitat areas that are surrounded by human activity). Information on surrounding habitat is factored in to Dr. Hoback's habitat ratings. However, USFWS notes that trapping data from only 1 or 2 years may not adequately estimate ABB occurrence or densities because these fluctuate from year to year. Mike George, the signatory for the BO, defers to Dr. Hoback on whether or not habitat surveys are reliable. Dr. Hoback – if beetles are present in the habitat at a minimum viable population size, which is not defined, then impacts to the occupied habitat should be eligible for compensatory mitigation. Surveys to determine presence-absence were completed to determine whether mitigation was needed. Habitat was rated first, then trapping surveys were completed. As noted above, the area determine to require mitigation in Nebraska based on occurrence data is from the SD-NE state line to approximately MP 695. Dr. Hoback located isolated pockets of suitable habitat south of that point, but trapping found no ABB. In SD, the area requiring compensatory mitigation based on the best available information are Project areas in Tripp County south of Hwy 18. Areas with apparently suitable habitat north of Hwy 18 do not currently appear to support ABB. In Oklahoma, the area requiring compensatory mitigation includes Project areas in Bryan, Atoka, Coal, and Hughes counties. Mike George - ABB impacts will require habitat-based mitigation; the population surveys help support the habitat quality ratings. We will defer to Dr. Hoback on habitat ratings. Using the habitat surveys is the more conservative approach and adds consistency across all states. The trapping survey data will be used to estimate incidental take of individual ABBs. Keystone has

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	permanent impacts. If the soil temperatures are the same as background, then there would be no effect, which is the desired condition. The point of using background levels for comparison is that background would show the temperature profile under ambient conditions and changes relative to ambient conditions would indicate an adverse impact. For Mike George to conclude no effect, soil temperatures should be between those distances. Based on our discussions and Dr. Hoback's evaluation, Mike George is comfortable using the 11 foot distance to evaluate thermal impacts, not the 7 foot distance. Based on the available information the appropriate distance for evaluating heat dissipation effects appears to be 11 feet or an area 22-feet wide centered over the pipeline. **Seed Mix and Monitoring Discussion** What constitutes an appropriate seed mix is based on a determination by the USDA NRCS and relevant state agencies (i.e., in Nebraska, the NGPC; in SD, the SDGF). Seed mix can be tricky because there can be a predominant species that grows and displaces native species in the background of the seed mix. Keystone has contacted seed companies to acquire seed for construction next year. Erosion is the biggest concern for Keystone, so they have a vested interest in the native grass coming back over the pipeline. USFWS and NGPC repeatedly made the point that local seed (local ecotype) is necessary for the successful restoration of disturbed prairie areas. Additionally, the invasive nature of some native species that have been cultivated (cultivars) make them unsuitable as an alternative. Monitoring is to make sure the appropriate seed mix is established properly. USFWS wants native grasslands restored because of the impact a change in vegetation may have to the listed species. The seed mix should be the same as in the surrounding land area, because if it is a different seed mix then it would be a permanent impact. Most land owners will want continuity for their pastures, and will want to keep what they have now. Keystone needs to restore the construction ROW consistent with the surrounding vegetation. Native seeds of local ecotype consistent with what is presently on the property crossed need to comprise the seed mix. USFWS developed a temporal modifier of 6 years (12 percent of permanent impact = 6/50 year Project life), including the year of impact and 5 additional years for revegetation, to adjust for the temporary nature of the pipeline construction disturbance in restored areas. The challenge is that 6 years after the project is completed, a different mix of species may develop which differs from the original and surrounding cover and the USFWS will need to determine if this affects the ABB. However, Keystone maintained that restoration for most locations would be complete within 4 years; and USFWS agreed to a 4 year monitoring window (including the year of construction). Financing issues for monitoring – possibilities for financing monitoring include either a restoration fund or possibly bonding; Keystone could take on monitoring with USFWS approval of the monitoring plan, or there could be a monitoring fund established so that USFWS completes the monitoring. Keystone could control expenses for monitoring if it undertakes its own plan; however, if monitoring is completed by the USFWS, then Keystone would only need to set-up a fund. USFWS would like to see a restoration fund established to cover the risk that vegetation

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	restoration fails – Assurance for funds in year 4 for a second vegetation restoration, in case first habitat vegetation restoration is unsuccessful. Failure rate is typically about 10% for native vegetation (e.g., prairie grass). Vegetation in disturbed areas will be restored to original vegetation (consistent with vegetation on either side of the construction ROW). If restoration fails, in part or entirely, funds could be available to cover cost of a second restoration. Keystone could choose how funds would be set aside, options could include bond, escrow, other. Mike George – Would like to see a 4 year monitoring plan, and then a contingency plan that would continue for another period if there was failure to re-establish appropriate habitat along the ROW. Success of restoration would be measured by having vegetation with the same composition of native species and/or composition that is consistent on the ROW as compared to off the ROW (to allow for when native species are not originally present). Mike George is comfortable with the restoration and comfortable with using a 4-year period for monitoring. This period is defensible because native plants need 2 years to establish roots and 1 year to show. This needs to be an aggressive plan; success is determined by the mixture of native plants or having the same composition of plants both on and off-ROW. Failure would be when composition on the ROW is not the same off-ROW in the surrounding land. Failure of native vegetation to re-establish consistent with adjacent undisturbed areas would result in designation of a permanent ABB habitat impact and the conservation funds would be augmented accordingly. Keystone will prepare a monitoring and restoration plan to start negotiations on details of plan. The monitoring and restoration plan would include comparison of on-ROW to off-ROW vegetation. **Take Issues in Nebraska** Nebraska Law does not allow for incidental take, and certain regions, including the Sand Hills area, are of great concern from the standpoint of habitat conservation. There are various mitigation measures that can avoid or minimize ABB take. At some interval before construction begins, mitigation measures along the ROW will begin, including trap and relocate, mowing and clearing vegetation, and the removal of carcasses. In June, it is critical to keep beetles out of the construction zone because that is when beetles are burying carcasses and reproducing. During the month of June minimizing measures may be performed more than once a week in high traffic sites. Also, Keystone may need to remove carrion every other day. Keystone will supply ABB take mitigation plan and vegetation restoration plan to NE Game and Parks Commission for further discussion on this issue. **Discussion of Additional Identified Impacts in OK:** ***Heat Dissipation Impacts on the ABB During the Summer in OK*** USFWS presented a new analysis of pipeline heat dissipation in Oklahoma and concluded

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	there may be permanent habitat impacts from heat dissipating from the pipeline during summer months in Oklahoma. Temperatures increase up to 9.2° F relative to background out to 3 feet on either side of the pipeline, which is a 7 foot sub corridor, and that at 12 inches deep these increases could be enough to cause stress impacts on the ABB and affect reproduction. Dr. Hoback – there is no study that has specifically looked at how different temperatures affect the breeding of the ABB. A zoo breeding program for ABB shows that lowering temperatures by about 7°F encourages greater reproduction in captivity, but this was not peer reviewed or published. Also, the ABB have an ability to move a carcass depending upon where they find the carcass; a related species has been shown to move a carcass through the soil quite a ways horizontally. This enables the ABB to move away from thermal impact areas. Mike George – The information available is too nebulous to support in court; the scientific data are just not there to suggest that this is a permanent impact, therefore, Mike George is not willing to support this as a permanent impact. This impact will be removed from the mitigation plan. ***Forest Impacts in OK*** In OK, some ABB occur in forested and savannah habitats. The pipeline crosses through areas with trees in OK, and no agreed-upon determination has been made whether this is a temporary or permanent impact to the ABB. Even if the trees re-establish within the construction corridor, re-establishment of forested habitats would be long-term and loss of forest would be considered by USFWS a permanent impact. Some trees benefit the ABB, while other trees may be harmful to the ABB. The ABB is a habitat generalist and a carrion specialist. Removing trees may result in habitat fragmentation and edge effects. The ABB occurs in 6 states currently (formerly 32 states); fragmentation occurs through development of transportation corridors, alteration of land cover that results in changes in vegetation such as conversion to agriculture or subdivisions, as well as other developments. Converting sections of contiguous forest into smaller forest fragments separated by grassland may have an adverse impact on the ABB. Need to check all charts to make sure nothing is double-counted; thermal impacts are not included in the OK assessment, so the remaining temporary impacts would be the values in the BA minus the trees, as presented in the USFWS distributed spreadsheet. Using the process of adjusting the temporary impacts using a temporal modifier (2-3 years plus impact) resulted in a reduction to 8% of the permanent impact. Keystone does not recognize an issue with removal of trees as an impact to ABB habitat in OK. For 90 percent of the proposed Project ROW the Keystone pipeline would parallel existing ROWs, and there do not appear to be any large contiguous undisturbed native forest areas along the route in OK. The Keystone XL pipeline would parallel the MarkWest project which did not require mitigation for ABB impacts. Mike George – Keystone will check on the route of the pipeline in relation to tree cover and existing pipelines, utility and transportation corridors to consider possible affects related to trees in OK, and needs to determine if removal of trees has no effect or some effect that should

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	be mitigated; this decision should be supported with the best available science. Keystone will review this issue and will work on identifying blocks of forested habitats, and then use the ABB habitat rating within the block, according to subjective analysis. This analysis should be completed for the southernmost 4 counties in OK: Bryan, Cole, Atoka, and Hughes. Keystone can complete the assessment on the blocks of trees and make a determination. This is the only area where habitat fragmentation could potentially affect the ABB. **Access Roads and Mitigation Plan for ABB** Before construction, trap and relocate mitigation measures will be carried out by Dr. Hoback along the pipeline where ABBs are located. There are significant portions of the Project route through ABB habitats that are not accessible from roads. For trap and relocate activities, traps need to be accessed every morning and ABB should be transported to release locations and released prior to noon that day. Dr. Hoback will consult with NGPC to determine alternative access points and methods to reach ABB habitats for trap and relocate activities. An alternative mitigation measure for use in remote areas could be to use "bait-away" to attract ABB away from the construction area. Bait-away would not require daily access to remote locations. Keystone will investigate alternative methods to minimize impacts to ABB in remote areas where trap and relocate access may not be practicable and will include recommendations in their mitigation plan. **Next steps for ABB** • Keystone and Dr. Hoback will develop language for the BA regarding the methods of minimizing ABB take. • The NE Game and Parks Commission need to have evidence and documentation that they have done their job to ensure that the Project does not jeopardize the ABB in the state. • The mitigation plan needs to go through a new council and Commissioners' approval before signature from NE Game and Parks Commission. • So, it is very early in the state's process, and a change in NE legislation to provide for incidental take will likely not occur prior to construction of the Keystone XL pipeline.. **Western Prairie Fringed Orchid Discussion** Keystone identified potential suitable western prairie fringed orchid (WPFO) habitat areas and has surveyed the areas with access; surveys found a single plant. Keystone has rerouted the pipeline around the wetland containing this plant. Keystone did not identify any other areas with WPFO, although 6 of the 18 areas in NE with potentially suitable habitat were inaccessible. Keystone will return to those locations this year and survey the areas that were inaccessible and those that had a potential to support WPFO or other endangered orchids. Because the WPFO is so difficult to identify when not in bloom, and because it does not bloom every year, the USFWS would like Keystone to include areas where WPFO were not previously discovered, but that contained suitable habitat as part of the endangered species survey for this year.

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	If WPFO are identified within the Project area, then it would be best to mark and relocate (move) the plant away from any areas where disturbing activities may occur and to other suitable habitat (e.g., the same meadow or wetland). This mitigation measure also applies to the small white ladyslipper which is a NE state listed plant with similar habitat requirements and growth characteristics. Will also move ancillary plants along with the WPFO; will add marking and relocating plants to the conservation measures. Agreement for potential locations previously surveyed, it was determined where they would take off the top soil and restore the wetland using similar/same species to the contiguous habitat. The habitat mitigation requirements for the ABB would also apply to the WPFO; spots in wetlands are always restored back to the original; can't change hydrology, or plant composition. Keystone would be required to follow USACE wetland permit requirements for construction and restoration of wetlands which include stripping topsoil and allowing natural revegetation from the native seed bank, re-seeding wetlands would be contrary to permit stipulations. Wetland restoration monitoring would be based on comparison to adjacent undisturbed wetland areas following USACE permit requirements. USFWS would like to see completion of detailed baseline site descriptions prior to construction, with successful restoration based on the return of conditions included in the detailed site description or based on undisturbed areas immediately off the ROW.
Next Steps	• DOS – Finalize and submit Final BA • USFWS – Development of Biological Opinion

Keystone XL Pipeline Project
ESA Consultation re: Introductions, Roles, and Responsibilities

Thursday, February 17, 2011
12:00 PM Anchorage, 1:00 PM Pacific, 3:00 PM Central, 4:00 PM Eastern

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Item	**Focus/Outcomes**
Attendees	USFWS: Martha Tacha, John Cochnar, Mike George DOS: Dr. Nicole Gibson, Alex Yuan Cardno ENTRIX (on behalf of DOS): Lynn Noel, Joe Rubin
Purpose	• Purpose: to introduce Dr. Nicole Gibson and discuss the process for developing the Final Biological Assessment (BA) and Biological Opinion. This meeting is to discuss the progress of the formal consultation and roles and responsibilities in developing mitigation.
Topics	• **Roles:** Nicole Gibson – Dr. Gibson has a Ph.D. from Yale and did her thesis studying primate behavior in Peru. She has a background in sustainable development and has been brought in as a subject matter expert in biology for the Keystone XL EIS. Her role is evolving as the BA process continues. Alex Yuan – In charge of the Keystone XL NEPA process for the Department of State. John Cochnar – Deputy Field Supervisor has worked with projects for over 26 years, having been the lead in the original Keystone project for USFWS and is the current lead for the FWS. Martha Tacha – works on Section 7 consultations and has worked with issues around the whooping crane for 12 years at the FWS. Before working for the USFWS, she worked with the Nebraska Game and Parks Commission. Mike George – Project Leader and Supervisor for the NE field office who will be signing the Biological Opinion for the USFWS for Nebraska. • **Issue 1: Outline of Process** Nebraska has a unique system where the state law regarding endangered species is actually stricter than the federal law, because the state law does not allow for any take. So the evaluation of the BA involves both the USFWS and the NE Game and Parks Commission. USFWS needs to undergo formal consultation with DOS and TransCanada because there will be take on this project. Formal consultation for Keystone XL will officially begin upon receipt of acceptable Final BA along with a letter request from DOS. Compensatory mitigation negotiations for ABB will likely continue after formal consultation has been initiated.

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	- The BA review can take a differing amount of time depending on agreement. The process allows for a 90 day formal review after the USFWS receives a BA, and then the USFWS has 45 days to give a Biological Opinion (BO) in response. If the USFWS agrees with the conservation measures and compensatory mitigation for the project when the BA is presented, then the development of the BO may take a substantially shorter amount of time. This timeframe can be as short as 5 weeks. • **Issue 2: ABB – impacts and compensatory mitigation** The USFWS wants ABB compensatory mitigation to be based on habitat rankings, not by occurrence ratings generated from the the surveys completed by Dr. Hoback. The USFWS is considering a permanent impact of 22' area around the pipeline ROW due to temperature increases. They are also considering an 88' temporary impact around the ROW because of the land clearing and other disturbances. If landowners request Keystone to restore the land to a condition other than original condition, this may also be considered a permanent impact. Martha would like for Keystone to provide the temperature charts that were the basis for the graphs provided in the Hoback ABB report. She would like this data to have a more accurate determination of the soil temperatures that may affect the ABB. • **Issue 3: WPFO – occurrence surveys** Because the western prairie fringed orchid is a plant, no take permit is required. Compensatory mitigation for the ABB will also cover the western prairie fringed orchid because habitats used are similar. USFWS would like Keystone to consider compensatory mitigation alternatives, including protection of known western prairie fringed orchid populations. Keystone could perform long-term monitoring and restoration of habitat or Keystone could contribute to a conservation fund for the USFWS to perform monitoring and restoration. Generally the fund is about 10% of the total cost of restoration. Considering that 8-10% of restoration can fail, and will need further restoration, it may make sense to use the fund instead of Keystone monitoring the site themselves. Also, the DOS will not be involved in further mitigation, as it does not have the staff or the purpose to enforce the EIS beyond the ROD. • **Issue 4: Whooping Crane, Least Tern, Piping Plover - Power line assessments** There are still migratory bird issues concerning power lines. A final conservation plan is needed for compliance with the Migratory Bird Treaty Act. Keystone will need to ensure that treatments regarding power lines are completed by the power providers; it may be necessary to approach recommended measures in a programmatic manner.

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	Keystone will be responsible for ensuring that the power providers follow the guidelines and measures set by the USFWS. • **Issue 5: Inclusion of BO as appendix to FEIS** Completion of the Final BA depends upon consultation and ABB issues, but should be completed around the end of February. Preliminary schedule for BO – Depends upon on whether consensus has been reached on all of the conservation measures and compensatory mitigation. It could be completed as quickly as five weeks. Preliminary schedule for FEIS – there is no current timeline for the completion of the FEIS, and will keep the USFWS apprised of its status. DOS intends to issue the BO with the FEIS.
Next Steps	• Lynn would like to get the final BA out by the end of February, depending upon the ABB mitigation development and power line measures • Development of Biological Opinion depends upon whether the submitted BA mitigation measures are agreed upon. Could be issued as soon as May. • Currently, there is no timetable for when the FEIS for this project will be submitted.

Keystone XL Pipeline Project
ABB Habitat Assessment & Compensatory Mitigation Negotiations
Thursday, March 24, 2011
10:00 AM – 5:00 PM CDT

Participants:

USFWS: Mike George, Martha Tacha, John Cochnar, Hayley Dikeman (morning only), Charlene Bessken,
NGPC: Carey Grell, Michelle Koch, Mike Fritz,
DOS: Dr. K. Nicole Gibson, Alex Yuan (morning only)
Cardno ENTRIX (on behalf of DOS): Lynn Noel, Kevin Freeman, Joe Rubin
Keystone: Jon Schmidt, Stephen Craycroft, Dave Beckmeyer, Michael Schmaltz, Jim White. Dr. W. Wyatt Hoback, Beez Hazen, Matt Comeaux, Jonathan Minton

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Purpose & Goal	• Purpose: to discuss and resolve assessment and mitigation issues for the American burying beetle (ABB) in order to proceed with finalization of the Biological Assessment (BA). The goal is to develop final conservation measures that are appropriate and protective of the species, that are based on the best available scientific data, and that are legally defensible • Mike George will sign the USFWS's Biological Opinion, and ultimately will make decisions for the USFWS
Discussion	**Background** Endangered Species Act Two sections of the Endangered Species Act apply to large linear projects like the proposed Keystone XL Pipeline Project: Section 7 and Section 9. • Section 7 is the consultation between federal agencies, in this case between Department of State and the US Fish and Wildlife. Section 7 is enforceable by civil law and any US citizen has standing to sue under this provision of the endangered species act. If USFWS does not properly review the Biological Assessment, then the USFWS will likely be sued under this provision. The threshold for liability in a lawsuit is "arbitrary and capricious," so there is a great deal of time spent on the part of the USFWS making sure decisions have a logical basis. This especially applies to areas where there is an absence of scientific data, because the USFWS needs to base a rationale on available data. • Section 9 is enforced criminally, and concerns the take of endangered species. This can include lethal take of individual species members, harassment of an animal, or take of critical habitat. This provision is enforced by the USFWS. An Incidental Take Statement issued at the conclusion of the formal Section 7 consultation with the USFWS provides coverage for incidental take under Section 9. Under this coverage, a party will not be criminally liable for incidental take during a project if it operates within the requirements of the Incidental Take Statement. Nebraska State Law

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	The Nebraska (NE) non-game and endangered species act is modeled after the federal endangered species law and it requires any state agency issuing a permit to list impacts to state-listed species. In addition to the federally-listed species, the state law protects state-listed endangered and threatened species. The NE law does not allow for incidental take. Any permits from NE DEQ affecting endangered species will all go through a consultation process with NE Game and Parks Commission. Federal agency determinations do not necessarily trump state laws concerning incidental take. When working in Nebraska, companies need to avoid and minimize impacts, and mitigate impacts through due diligence. **Habitat Assessment for ABB** Different field offices and regions, 2 and 6, of the USFWS have used differing methods to protect ABB when conducting consultations concerning ABB populations. Dr. Wyatt Hoback completed habitat assessments and trapping for ABB in NE and TX for Keystone to gather data to identify areas along the Project ROW likely to be occupied by ABB and for input and subsequent refinement of his ABB habitat rating system for other projects. Habitat ratings for the Keystone XL Project ROW were not refined after trapping was completed. Trapping surveys for presence/absence of ABB were not recommended by USFWS and consequently not carried out in SD and OK. • In Nebraska and South Dakota, the habitats for the ABB along the area of potential effect for the Keystone XL Pipeline Project were rated on a 5 point scale designed by Dr. Hoback in order to focus the ABB trapping survey efforts. Trapping surveys were completed to identify areas occupied by ABB along the Project ROW, for subsequent use by Dr. Hoback to further refine his habitat rating system, to identify potential patchiness in ABB distribution due to habitat fragmentation, and to identify locations of large sustainable ABB populations. The calculation of habitat mitigation based on Dr. Hoback's habitat rating system in Nebraska is considered a better method than what was used previously for other projects crossing the state (such as the Burlington Northern railroad project), and the USFWS in Nebraska would like the Keystone XL project to set a new standard for review concerning the ABB. • In South Dakota and Oklahoma, the USFWS recommends habitat rating in the absence of trapping surveys for the evaluation of potential project impacts on the ABB because year-to-year variability in ABB abundance does not support ABB density-based mitigation (i.e., because ABB densities are both spatially and temporally variable). Because ABB trapping was not recommended in SD and OK, Keystone could not use occurrence data to develop abundance-based ABB mitigation for those states. USFWS rationale for a habitat-based mitigation approach follows from the year-to-year variability in abundance and from the fact that take of the species applies to both individual ABBs and the habitat upon which they depend for survival. Trapping surveys are primarily presence/absence surveys, and the USFWS from SD and OK consider that trapping results do not accurately reflect ABB abundance.

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	USFWS is required to use the best available information to develop the Biological Opinion. The results of ABB trapping will be used by the USFWS to estimate incidental take of individual ABBs in Nebraska. While there may be fragmentation of ABB populations in the South East, this does not appear to be the case in the Sand Hills area. USFWS is only considering habitat impacts in Nebraska for the area along the Project ROW where ABB were found during trapping (i.e., from the SD-NE state line to approximately MP 695.). The two assessment methods (habitat-based versus abundance-based from trapping) may not be that divergent in terms of the total number of acres requiring mitigation; however, the USFWS believes that the mitigation plan should not be solely based on ABB abundance information. USFWS requires a habitat-based mitigation plan in the Sand Hills of SD and NE and in OK. The general ABB occurrence information available for each state was used to determine the areas where habitat disturbances will require compensatory mitigation. Keystone would prefer that the data collected by Dr. Hoback from the trapping surveys for NE be used to develop the mitigation plan for NE because these data show presence/absence and density of ABB. USFWS prefers to use Dr. Hoback's habitat assessment surveys, instead of using the trapping data, because a habitat based approach adds consistency across all states, even those where ABBs were not trapped. In June 2011, there is a window to determine ABB presence in SD and OK based on trapping. This opportunity could be used by Keystone to determine presence or absence of ABBs in these areas in a manner consistent with the trapping surveys completed in NE and TX. Keystone offered to conduct trapping surveys, however, there was no interest in conducting trapping from SD or OK USFWS offices. There is concern that basing mitigation on habitat assessments alone may lead to mitigation of impacts in areas where ABBs are not present and where they are not expected to be in the future (e.g., prime habitat areas that are surrounded by human activity). Information on surrounding habitat is factored in to Dr. Hoback's habitat ratings. However, USFWS notes that trapping data from only 1 or 2 years may not adequately estimate ABB occurrence or densities because these fluctuate from year to year. Mike George, the signatory for the BO, defers to Dr. Hoback on whether or not habitat surveys are reliable. Dr. Hoback – if beetles are present in the habitat at a minimum viable population size, which is not defined, then impacts to the occupied habitat should be eligible for compensatory mitigation. Surveys to determine presence-absence were completed to determine whether mitigation was needed. Habitat was rated first, then trapping surveys were completed. As noted above, the area determine to require mitigation in Nebraska based on occurrence data is from the SD-NE state line to approximately MP 695. Dr. Hoback located isolated pockets of suitable habitat south of that point, but trapping found no ABB. In SD, the area requiring compensatory mitigation based on the best available information are Project areas in Tripp County south of Hwy 18. Areas with apparently suitable habitat north of Hwy 18 do not currently appear to support ABB. In Oklahoma, the area requiring compensatory mitigation includes Project areas in Bryan, Atoka, Coal, and Hughes counties. Mike George - ABB impacts will require habitat-based mitigation; the population surveys help support the habitat quality ratings. We will defer to Dr. Hoback on habitat ratings. Using the habitat surveys is the more conservative approach and adds consistency across all states. The trapping survey data will be used to estimate incidental take of individual ABBs. Keystone has

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	not provided information that has convinced him that Martha Tacha's acreage calculations based on habitat ratings are incorrect. USFWS needs to use a defensible estimate of ABB numbers for the Incidental Take Statement. The BA/BO will provide information for a habitat-based mitigation plan, and will identify the total acres impacted by habitat rating. **Heat Dissipation Effects on the ABB** There has been some disagreement between the USFWS and Keystone regarding in the area permanently affected by heat dissipating from the pipeline. The disagreement stemmed from differing interpretations of the results of the thermal model and how far from the pipeline soils may remain unfrozen during the winter months. Keystone interpreted the affected area as 2.5 feet from the pipeline – or a total area of 7 feet wide centered over the pipeline. USFWS concluded that temperature changes could adversely impact the ABB out to 11 feet from the pipeline – or a total area of 22 feet wide centered over the pipeline. Dr. Hoback considers that the ABB's strategy for surviving the winter is likely to freeze solid within frozen soils, such that if the pipeline prevents soils from freezing in northern climates, a permanent habitat impact would result. There is uncertainty about ABB overwintering strategies concerning whether beetles freeze during winter, how deeply they bury, and other physiological factors associated with overwinter survival. Beetles that bury along the pipeline route may emerge from the ground earlier into a colder environment than other individuals in the population; which could disrupt their reproductive cycle. Dr. Hoback described that overwintering insects generally employ either of 2 survival strategies in northern regions: insects either seek a warm refuge, or they freeze and use a natural type of antifreeze in their circulatory systems such as glycerin to prevent damage from crystal formation. Temperatures above 32°F may be problematic for an overwintering insect if they become active and use metabolic reserves, but temperatures below 32°F would generally reduce metabolism and energy drain would cease when the beetle is frozen. . Dr. Hoback – 32°F should be the determining factor as a biologically differentiated temperature. The soil does not freeze at all at a distance of 7' around the pipeline. The model developed to indicate soil temperature differences around the pipeline shows that at 11 feet out and at a depth of 12 inches, the SH4 and SH1 soils do not freeze, although at the background distance of 80 feet and at the 12 inch depth the modeled temperatures reached freezing or below 7 and 6 times, respectively. Additionally, there are observed reductions in the incidence of frozen soils at the 12-inch depth in the remaining 4 soil types modeled. Based on these models the USFWS concluded that the heat dissipating from the operating pipeline will permanently and negatively affect ABB habitat within at least a 22-foot wide corridor centered on the pipeline. The point where there is no difference in temperature from background levels measured at 80 feet from the pipeline would be located between 11 and 80 feet from the pipeline based on the model used for the analyses. Mike George – The distance where soil temperature would return to background levels, appears to be somewhere between 11 feet and 80 feet from the pipeline. Pump stations will be

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	permanent impacts. If the soil temperatures are the same as background, then there would be no effect, which is the desired condition. The point of using background levels for comparison is that background would show the temperature profile under ambient conditions and changes relative to ambient conditions would indicate an adverse impact. For Mike George to conclude no effect, soil temperatures should be between those distances. Based on our discussions and Dr. Hoback's evaluation, Mike George is comfortable using the 11 foot distance to evaluate thermal impacts, not the 7 foot distance. Based on the available information the appropriate distance for evaluating heat dissipation effects appears to be 11 feet or an area 22-feet wide centered over the pipeline. **Seed Mix and Monitoring Discussion** What constitutes an appropriate seed mix is based on a determination by the USDA NRCS and relevant state agencies (i.e., in Nebraska, the NGPC; in SD, the SDGF). Seed mix can be tricky because there can be a predominant species that grows and displaces native species in the background of the seed mix. Keystone has contacted seed companies to acquire seed for construction next year. Erosion is the biggest concern for Keystone, so they have a vested interest in the native grass coming back over the pipeline. USFWS and NGPC repeatedly made the point that local seed (local ecotype) is necessary for the successful restoration of disturbed prairie areas. Additionally, the invasive nature of some native species that have been cultivated (cultivars) make them unsuitable as an alternative. Monitoring is to make sure the appropriate seed mix is established properly. USFWS wants native grasslands restored because of the impact a change in vegetation may have to the listed species. The seed mix should be the same as in the surrounding land area, because if it is a different seed mix then it would be a permanent impact. Most land owners will want continuity for their pastures, and will want to keep what they have now. Keystone needs to restore the construction ROW consistent with the surrounding vegetation. Native seeds of local ecotype consistent with what is presently on the property crossed need to comprise the seed mix. USFWS developed a temporal modifier of 6 years (12 percent of permanent impact = 6/50 year Project life), including the year of impact and 5 additional years for revegetation, to adjust for the temporary nature of the pipeline construction disturbance in restored areas. The challenge is that 6 years after the project is completed, a different mix of species may develop which differs from the original and surrounding cover and the USFWS will need to determine if this affects the ABB. However, Keystone maintained that restoration for most locations would be complete within 4 years; and USFWS agreed to a 4 year monitoring window (including the year of construction). Financing issues for monitoring – possibilities for financing monitoring include either a restoration fund or possibly bonding; Keystone could take on monitoring with USFWS approval of the monitoring plan, or there could be a monitoring fund established so that USFWS completes the monitoring. Keystone could control expenses for monitoring if it undertakes its own plan; however, if monitoring is completed by the USFWS, then Keystone would only need to set-up a fund. USFWS would like to see a restoration fund established to cover the risk that vegetation

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	restoration fails – Assurance for funds in year 4 for a second vegetation restoration, in case first habitat vegetation restoration is unsuccessful. Failure rate is typically about 10% for native vegetation (e.g., prairie grass). Vegetation in disturbed areas will be restored to original vegetation (consistent with vegetation on either side of the construction ROW). If restoration fails, in part or entirely, funds could be available to cover cost of a second restoration. Keystone could choose how funds would be set aside, options could include bond, escrow, other. Mike George – Would like to see a 4 year monitoring plan, and then a contingency plan that would continue for another period if there was failure to re-establish appropriate habitat along the ROW. Success of restoration would be measured by having vegetation with the same composition of native species and/or composition that is consistent on the ROW as compared to off the ROW (to allow for when native species are not originally present). Mike George is comfortable with the restoration and comfortable with using a 4-year period for monitoring. This period is defensible because native plants need 2 years to establish roots and 1 year to show. This needs to be an aggressive plan; success is determined by the mixture of native plants or having the same composition of plants both on and off-ROW. Failure would be when composition on the ROW is not the same off-ROW in the surrounding land. Failure of native vegetation to re-establish consistent with adjacent undisturbed areas would result in designation of a permanent ABB habitat impact and the conservation funds would be augmented accordingly. Keystone will prepare a monitoring and restoration plan to start negotiations on details of plan. The monitoring and restoration plan would include comparison of on-ROW to off-ROW vegetation. **Take Issues in Nebraska** Nebraska Law does not allow for incidental take, and certain regions, including the Sand Hills area, are of great concern from the standpoint of habitat conservation. There are various mitigation measures that can avoid or minimize ABB take. At some interval before construction begins, mitigation measures along the ROW will begin, including trap and relocate, mowing and clearing vegetation, and the removal of carcasses. In June, it is critical to keep beetles out of the construction zone because that is when beetles are burying carcasses and reproducing. During the month of June minimizing measures may be performed more than once a week in high traffic sites. Also, Keystone may need to remove carrion every other day. Keystone will supply ABB take mitigation plan and vegetation restoration plan to NE Game and Parks Commission for further discussion on this issue. **Discussion of Additional Identified Impacts in OK:** ***Heat Dissipation Impacts on the ABB During the Summer in OK*** USFWS presented a new analysis of pipeline heat dissipation in Oklahoma and concluded

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	there may be permanent habitat impacts from heat dissipating from the pipeline during summer months in Oklahoma. Temperatures increase up to 9.2° F relative to background out to 3 feet on either side of the pipeline, which is a 7 foot sub corridor, and that at 12 inches deep these increases could be enough to cause stress impacts on the ABB and affect reproduction. Dr. Hoback – there is no study that has specifically looked at how different temperatures affect the breeding of the ABB. A zoo breeding program for ABB shows that lowering temperatures by about 7°F encourages greater reproduction in captivity, but this was not peer reviewed or published. Also, the ABB have an ability to move a carcass depending upon where they find the carcass; a related species has been shown to move a carcass through the soil quite a ways horizontally. This enables the ABB to move away from thermal impact areas. Mike George – The information available is too nebulous to support in court; the scientific data are just not there to suggest that this is a permanent impact, therefore, Mike George is not willing to support this as a permanent impact. This impact will be removed from the mitigation plan. ***Forest Impacts in OK*** In OK, some ABB occur in forested and savannah habitats. The pipeline crosses through areas with trees in OK, and no agreed-upon determination has been made whether this is a temporary or permanent impact to the ABB. Even if the trees re-establish within the construction corridor, re-establishment of forested habitats would be long-term and loss of forest would be considered by USFWS a permanent impact. Some trees benefit the ABB, while other trees may be harmful to the ABB. The ABB is a habitat generalist and a carrion specialist. Removing trees may result in habitat fragmentation and edge effects. The ABB occurs in 6 states currently (formerly 32 states); fragmentation occurs through development of transportation corridors, alteration of land cover that results in changes in vegetation such as conversion to agriculture or subdivisions, as well as other developments. Converting sections of contiguous forest into smaller forest fragments separated by grassland may have an adverse impact on the ABB. Need to check all charts to make sure nothing is double-counted; thermal impacts are not included in the OK assessment, so the remaining temporary impacts would be the values in the BA minus the trees, as presented in the USFWS distributed spreadsheet. Using the process of adjusting the temporary impacts using a temporal modifier (2-3 years plus impact) resulted in a reduction to 8% of the permanent impact. Keystone does not recognize an issue with removal of trees as an impact to ABB habitat in OK. For 90 percent of the proposed Project ROW the Keystone pipeline would parallel existing ROWs, and there do not appear to be any large contiguous undisturbed native forest areas along the route in OK. The Keystone XL pipeline would parallel the MarkWest project which did not require mitigation for ABB impacts. Mike George – Keystone will check on the route of the pipeline in relation to tree cover and existing pipelines, utility and transportation corridors to consider possible affects related to trees in OK, and needs to determine if removal of trees has no effect or some effect that should

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	be mitigated; this decision should be supported with the best available science. Keystone will review this issue and will work on identifying blocks of forested habitats, and then use the ABB habitat rating within the block, according to subjective analysis. This analysis should be completed for the southernmost 4 counties in OK: Bryan, Cole, Atoka, and Hughes. Keystone can complete the assessment on the blocks of trees and make a determination. This is the only area where habitat fragmentation could potentially affect the ABB. **Access Roads and Mitigation Plan for ABB** Before construction, trap and relocate mitigation measures will be carried out by Dr. Hoback along the pipeline where ABBs are located. There are significant portions of the Project route through ABB habitats that are not accessible from roads. For trap and relocate activities, traps need to be accessed every morning and ABB should be transported to release locations and released prior to noon that day. Dr. Hoback will consult with NGPC to determine alternative access points and methods to reach ABB habitats for trap and relocate activities. An alternative mitigation measure for use in remote areas could be to use "bait-away" to attract ABB away from the construction area. Bait-away would not require daily access to remote locations. Keystone will investigate alternative methods to minimize impacts to ABB in remote areas where trap and relocate access may not be practicable and will include recommendations in their mitigation plan. **Next steps for ABB** • Keystone and Dr. Hoback will develop language for the BA regarding the methods of minimizing ABB take. • The NE Game and Parks Commission need to have evidence and documentation that they have done their job to ensure that the Project does not jeopardize the ABB in the state. • The mitigation plan needs to go through a new council and Commissioners' approval before signature from NE Game and Parks Commission. • So, it is very early in the state's process, and a change in NE legislation to provide for incidental take will likely not occur prior to construction of the Keystone XL pipeline.. **Western Prairie Fringed Orchid Discussion** Keystone identified potential suitable western prairie fringed orchid (WPFO) habitat areas and has surveyed the areas with access; surveys found a single plant. Keystone has rerouted the pipeline around the wetland containing this plant. Keystone did not identify any other areas with WPFO, although 6 of the 18 areas in NE with potentially suitable habitat were inaccessible. Keystone will return to those locations this year and survey the areas that were inaccessible and those that had a potential to support WPFO or other endangered orchids. Because the WPFO is so difficult to identify when not in bloom, and because it does not bloom every year, the USFWS would like Keystone to include areas where WPFO were not previously discovered, but that contained suitable habitat as part of the endangered species survey for this year.

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	If WPFO are identified within the Project area, then it would be best to mark and relocate (move) the plant away from any areas where disturbing activities may occur and to other suitable habitat (e.g., the same meadow or wetland). This mitigation measure also applies to the small white ladyslipper which is a NE state listed plant with similar habitat requirements and growth characteristics. Will also move ancillary plants along with the WPFO; will add marking and relocating plants to the conservation measures. Agreement for potential locations previously surveyed, it was determined where they would take off the top soil and restore the wetland using similar/same species to the contiguous habitat. The habitat mitigation requirements for the ABB would also apply to the WPFO; spots in wetlands are always restored back to the original; can't change hydrology, or plant composition. Keystone would be required to follow USACE wetland permit requirements for construction and restoration of wetlands which include stripping topsoil and allowing natural revegetation from the native seed bank, re-seeding wetlands would be contrary to permit stipulations. Wetland restoration monitoring would be based on comparison to adjacent undisturbed wetland areas following USACE permit requirements. USFWS would like to see completion of detailed baseline site descriptions prior to construction, with successful restoration based on the return of conditions included in the detailed site description or based on undisturbed areas immediately off the ROW.
Next Steps	• DOS – Finalize and submit Final BA • USFWS – Development of Biological Opinion

Keystone XL Pipeline Project
American Burying Beetle – Forest Impacts in Oklahoma
Thursday, April 21, 2011

Participants:

USFWS: Mike George, Martha Tacha

DOS: Nicole Gibson

Cardno ENTRIX (on behalf of DOS): Lynn Noel, Joe Rubin

Keystone: Jon Schmidt, Matt Comeaux, Dave Beckmeyer, Mike Schmaltz

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Item	**Focus/Outcomes**
Purpose	To discuss potential pipeline impacts to wooded areas that may be American burying beetle (ABB) habitat in Oklahoma.
Minutes	The USFWS would like to review areas of forested habitat along the Keystone XL Project right-of-way (ROW) to evaluate whether any of these areas are intact, or have not been previously fragmented. If there are large forested areas that have not been previously fragmented, USFWS may consider that these areas should be mitigated in some manner as permanent habitat impacts for the American burying beetle (ABB). The main issue concerning loss of forested areas is related to habitat fragmentation and edge effects resulting from fragmentation when the pipeline ROW crosses wooded areas, and how these habitat alterations and edge effects may affect the ABB. The concern is primarily related to the introduction of edge effects that could affect the ABB, such as increases in predators/scavengers such as raccoons and opossums, and resulting effects on the availability of carrion for ABB reproduction. Keystone should review the ROW for large blocks of forest that have not been previously fragmented – either by pasture, pipelines, or other utility or transportation corridors. Habitats throughout Oklahoma have been fragmented, and for most of the ROW (90%) previous pipeline or utility corridors are followed through Oklahoma. USFWS and Keystone are willing to review the Project area for 40 acre blocks of forest that have not been previously fragmented and contain no existing edge components. The scientific literature indicates that a 40 acre block is the minimum intact area that would be useful for ABB. Keystone and USFWS will evaluate the route through Oklahoma and identify areas that do not parallel other pipelines, utilities or transportation corridors where areas 40 acres or larger of intact forested habitat persist. The analysis will consider: 1) ABB habitat rating a. If the habitat is rated poor, then no further evaluation

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	2) Look at the blocks of acreage a. If under 40 acres of forest land, then no further evaluation 3) Look at the block of forest land to see if there are existing pipelines or other utilities a. If the Keystone XL parallels existing utilities, then no further evaluation 4) The remaining blocks of forest would potentially be eligible for compensatory mitigation as permanent habitat impacts.
Actions	Keystone will create a table including habitat ratings, areas with 40 acre blocks of forest land, and locations where existing utilities are not paralleled by the pipeline to determine which, if any, acres may be eligible for mitigation. Keystone will review this information with Martha Tacha, Nicole Gibson, and Lynn Noel. There may be further follow-up to discuss mitigation measures depending on the results of the evaluation. Note: After subsequent internal discussions, USFWS determined that there was insufficient scientific information to consider impacts to forested habitats in Oklahoma as permanent habitat impacts for the ABB. USFWS will not consider permanent impacts to habitat for the ABB in Oklahoma other than direct habitat loss from aboveground facilities.

Keystone XL Pipeline Project
ESA Monitoring and Reclamation Bonding
Thursday, April 21, 2011

Participants:
DOS: Nicole Gibson, Keith Benes
Cardno ENTRIX (on behalf of DOS): Lynn Noel, Bill Stager, Joe Rubin
TROW Engineering and Others (on behalf of Keystone): Jon Schmidt, Jim White, Mike Schmaltz

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Purpose	To discuss monitoring for ESA species habitats and reclamation bonding issues.
Topics	**Monitoring issues** • Keystone Issues with Monitoring: o Concerned with the unprecedented request for the USFWS to monitor during construction. ▪ Extra disturbance, intrusive, dangerous to have extra on-site people during construction ▪ Unsure USFWS has experts who would understand remediation during the construction process ▪ Cover established after reclamation is the best determination of reclamation effectiveness, not the process to achieve reclamation during construction. o Keystone is required to complete monitoring regarding obligations to land owners, USACE and others. ▪ There are multiple issues involved with post construction monitoring, and so having additional measures is duplicative due to the requirements of the USACE for the Clean Water Act, the PHMSA, and other state and federal permitting agencies. ▪ The post-construction monitoring plan for Keystone is to walk the pipeline two to three times per year and make sure there are no erosion or vegetation reestablishment issues. Keystone would quantitatively evaluate vegetation cover, erosion, restoration, weed establishment. Keystone will implement remediation activities as soon as problems are discovered to mitigate any discoveries, and then a follow-up survey would be completed. ▪ Keystone would accept USFWS accompanying their monitors during post-construction surveys; and would provide USFWS with post-construction monitoring reports. o Keystone is concerned about frequency and intensity of monitoring by USFWS. ▪ The current version of the USFWS-DOS MOU includes Keystone

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	funding a field biologist who will monitor 2 days per week for 4 years • DOS Discussion o Need to get a clear idea about what information the USFWS wants from monitoring. o Also need to know specific goals for post-construction monitoring; what does USFWS want to do in the stead of DOS? o DOS is not interested in creating unnecessary and duplicative efforts that may slow down re-vegetation efforts. o DOS is also sensitive to this process, and the issue of the ABB and the Sand Hills. A process for ESA compliance monitoring needs to be established. o DOS does not have a mechanism to respond to post-construction ESA issues related to reclamation and would prefer to defer this authority to USFWS. **Bonding issues** • Keystone issues with bonding o Keystone has not found statutory authority for bonding requirements by the USFWS; the laws for the USFWS to request a bond are unclear when the agency does not own the land. o Posting a reclamation bond for private lands would establish new precedent, and has consequences industry-wide o A bond may be subject to expansion o There is a question about when and under what conditions the money for the bond would be released o Keystone is required to restore the land to the landowner's satisfaction. If a bond is imposed on Keystone to ensure the habitat is restored as American burying beetle (ABB) habitat, this may be interpreted as a 'take' of the landowner property. o In FERC projects, the monitoring has been consistent to restore the property to the pre-construction habitat, and Keystone is concerned the USFWS may be asking for something different. • DOS discussion o One of the benefits of having to address the reestablishment of habitat for ABB is that when DOS speaks to people about ESA issues, DOS will be able to relay that USFWS has oversight on this issue beyond the monitoring done by Keystone. o The way USFWS has explained the need for the bond is that the bond would be released to address ABB habitat loss due to reclamation failure after 4-years or returned if unused after 8 years.

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Action Items	• DOS will contact USFWS and discuss these issues separately, and then there will be a follow-up meeting with all parties. • Keystone will provide Keith Benes with the templates for the post-construction monitoring in Nebraska and Texas.