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May 2, 2016

Ms. Martha Chieply
Regulatory Branch Chief
U.S. Army Corps of Engineers
Omaha District Office
1616 Capitol Avenue
Omaha, NE 68102-4901

Subject: Dakota Access Pipeline, Endangered Species Act Section 7 Consultation

Dear Ms. Chieply:

The U.S. Fish and Wildlife Service (Service) has reviewed your letter dated March 28, 2016, transmitting a Biological Assessment (BA) describing the anticipated effects of the proposed construction of the Dakota Access Pipeline (DAPL). Energy Transfer, Inc. (Applicant) proposes a new 12-inch to 30-inch diameter crude oil pipeline that will traverse approximately 1,168 miles, originating in Stanley, North Dakota in Mountrail County in the northwest portion of North Dakota and progressing in a southeasterly direction through South Dakota, Iowa, and Illinois. The terminal point will be at the existing Patoka, Illinois hub. The pipeline is expected to transport up to 570,000 barrels per day (bpd) of crude oil from the Bakken and Three Forks production areas in North Dakota to associated infrastructure in Illinois.

Construction of the new pipeline will require a typical construction right-of-way (ROW) width of 125 feet in uplands, 100 feet in non-forested wetlands, 85 feet in forested areas (wetlands and uplands), and up to 150 feet in agricultural areas. Following construction, a 50-foot wide permanent easement will be retained along the pipeline. Where necessary, the Applicant will utilize additional temporary workspace outside of the construction ROW to facilitate specialized construction procedures, such as horizontal directional drills (HDD); railroad, road, wetland, waterbody, and foreign utility line crossings; tie-ins with existing pipeline facilities; areas with steep side slopes; and pipeline crossovers. The DAPL Project also includes the construction of aboveground pig launchers/receivers, tank terminals, pump stations, and valve sites. Construction is anticipated to commence in May of 2016 and a planned in-service by the fourth quarter of 2016.

The U.S. Army Corps of Engineers (Corps) proposes to issue verifications of coverage under Nationwide Permit (NWP) 12 and section 408 permits/easements that authorize the Applicant to construct the DAPL Project across waters of the U.S., pursuant to Sections 404 of the Clean Water Act (CWA) and Section 10 and 14 of the River and Harbors Act (RHA). The Service has been informally consulting with you on this project under section 7 of the Endangered Species Act (ESA) as amended (16 U.S.C. 1531 *et seq.*), since the summer of 2014. As you are aware, the implementing regulations (50 CFR §402.02) for section 7 consultation require an analysis of all direct and indirect effects of the federal action, including those anticipated from interrelated and interdependent activities, in order to define the "effects of the action." Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Interdependent actions would be useless "but for" the completion of the action that is subject to section 7 consultation. In this case, the DAPL project would be useless if it did not connect through the permit areas.

We previously provided you a letter dated November 13, 2014 stating that pipeline construction in areas outside of the Corps' jurisdiction is interdependent to the Corps' issuance or verification of permits. We advised you that your effect determinations must consider impacts of the entire pipeline on listed species and designated critical habitat. The BA that was submitted on March 29, 2016 did not properly define the action area as the entire pipeline because it relied on a faulty definition of interdependent activities. On page 3-1, the Corps noted that "only those effects of activities to construct pipeline segments in uplands that affect the location and configuration of waterbody crossings are interrelated and interdependent with the proposed Regulatory actions". This is incorrect: the Service consults on proposed actions, not on the potential for an action to deviate from its proposed routing. Figure A-1 of your BA shows the proposed action in full. The Service continues to maintain that the action area for this consultation is the entire pipeline, and the effects to listed species in areas outside of the Corps' jurisdiction are interdependent to the Corps' actions. The pipeline would not be able to deliver oil from North Dakota to Illinois without connecting through your jurisdictional areas shown in Figure A-1. Therefore, the determinations in Table ES-1 of the BA are incomplete.

The Corps included information in Appendix C of the BA to address listed species along the entire DAPL Project. In this response letter, we rely upon the combination of determinations in Table ES-1 and Table C-1 of your BA, as listed in Table 1 below. Furthermore, the Corps provided additional information and conservation measures on April 28 and May 2, 2016, that are proposed to be undertaken as part of this federal action to avoid, minimize, and mitigate impacts to listed species beyond the information provided in the BA. Finally, the Applicant also provided information to the Service in April 2016 to assist with the evaluation of impacts to listed species for the entire project. In total, the BA and additional consultation materials provided by the Applicant and the Corps are sufficient to initiate section 7 consultation on the project pursuant to CFR 402.14(c).

Table 1. Federally listed species and designated critical habitat determinations for the entire DAPL route consolidated from Table ES-1 and Table C-1 of the Corps' BA.

Species/Critical Habitat	Status	Determination
Plants		
Decurrent false aster (*Boltonia decurrens*)	Threatened	No effect
Eastern prairie fringed orchid (*Platanthera leucophaea*)	Threatened	No effect
Prairie bush clover (*Lespedeza leptostachya*)	Threatened	No effect
Western prairie fringed orchid (*Platanthera praeclara*)	Threatened	No effect
Invertebrates		
Dakota skipper (*Hesperia dacotae*)	Threatened	MA, NLAA*
Higgins eye pearly mussel (*Lampsilis higginsii*)	Endangered	No effect
Sheepnose mussel (*Plethobasus cyphyus*)	Endangered	No effect
Spectaclecase mussel (*Cumberlandia monodonta*)	Endangered	No effect
Fish		
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	MA, NLAA
Topeka shiner (*Notropis topeka*)	Endangered	MA, LAA**
Birds		
Interior least tern (*Sterna antillarum*)	Endangered	MA, NLAA
Piping plover (*Charadrius melodus*)	Threatened	MA, NLAA
Piping plover critical habitat	Designated	MA, NLAA
Rufa red knot (*Calidris canutus rufa*)	Threatened	MA, NLAA
Whooping crane (*Grus americana*)	Endangered	MA, NLAA
Mammals		
Black-footed ferret (*Mustela nigripes*)	Endangered	No effect
Gray bat (*Myotis grisescens*)	Endangered	No effect
Gray wolf (*Canis lupus*)	Endangered	No effect
Indiana bat (*Myotis sodalis*)	Endangered	MA, NLAA
Northern long-eared bat (*Myotis septentrionalis*)	Threatened	MA, NLAA

*MA, NLAA = May affect, but is Not Likely to Adversely Affect
**MA, LAA = May Affect, Likely to Adversely Affect

From this information, the Service has established the action area under consultation to be the entire DAPL project, encompassing all areas within and outside of Corps jurisdictional areas. In total, the consultation material indicated there are 19 listed species and one area designated as critical habitat that could potentially be impacted by the Corps action and the interrelated and interdependent actions (8 within the areas of Corps jurisdiction and an additional 11 federally-listed species outside of the identified Corps jurisdictional areas).

In addition to the Corps' action the Service has identified additional federal agency actions along the pipeline route. For instance, the Service's National Wildlife Refuge (Refuge) Division is considering authorizations for crossing some private lands in North and South Dakota that have Refuge conservation easements associated with them. There is also a single parcel in Iowa,

purchased for conservation with partial federal funding provided by the Service's Wildlife and Sport Fish Restoration Program, which is managed by the State of Iowa.

In both of these cases, Special Use Permits are under consideration for issuance by these Service Divisions/Programs. The Service has prepared an EA regarding the issuance of Special Use Permits in North Dakota and South Dakota and is evaluating the site in Iowa whether additional authorization is needed. Furthermore, we anticipate there could be other federal agencies along the route, such as the Farm Services Agency who administers the Conservation Reserve Program and the Natural Resources Conservation Service who administers the Wetland and Grassland Reserve Program that have programs associated with private lands that may need to provide additional authorization.

In such cases as this where other potential federal nexuses occur, the Service's practice is to conduct one overarching section 7 consultation for all federal agencies. This avoids duplication of effort and can reduce potential for delays. We believe the consultation materials provided by the Corps and the Applicant are sufficient to allow the Service to evaluate impacts to listed species along the entire pipeline route and therefore allow federal agencies to tier to this consultation to assist in their ESA compliance efforts as needed. Although we believe all the potential effects to listed species have been addressed in the information we have at this time, if the efforts of any other federal agency uncovers new information that may have an effect that is not yet considered in our consultation, additional analysis may be warranted and consultation initiated with the appropriate agency.

The potential impacts, species-specific or critical habitat avoidance and minimization measures, and the rationale for our concurrence or non-concurrence with your determinations for listed species as summarized in Table 1, are discussed in the sections that follow.

Invertebrates

Dakota Skipper

Dakota skippers are small butterflies that are considered prairie obligates of good to high quality native prairie. The species was listed in October 2014 as threatened and critical habitat was designated in October 2015. The pipeline route in North Dakota is proposed to cross some areas where high quality native prairie is present within the Dakota skipper's present distribution. At the Service's request, the Applicant conducted occupancy surveys during the adult flight period (late June through mid-July) to determine whether suitable areas were occupied. Thirteen locations were determined to be occupied by the species all in Dunn County, North Dakota. These areas are distributed along a 20-mile segment of the pipeline. Occupied sites occurred only in North Dakota and were found to contain the appropriate grass and forb species required for the species life cycle. The confirmed presence of the species and the presence of the needed vegetation indicates that either eggs, larvae and/or caterpillars likely occur within the pipeline right of way at various time periods throughout the year.

The consultation materials indicate the Applicant will undertake a number of conservation measures (Section 4.2, Appendix C) while installing the pipeline through these areas. These include:

1. Biological Monitors will be retained to ensure there is no impact to adult individuals of this species.
2. Typical construction workspace will be reduced from 150 feet wide to 125 feet wide in an effort to minimize impacts to native grassland habitat.
3. Fugitive dust abatement measures will be utilized to minimize disturbing adjacent habitats.
4. Restrict the use of insecticides during construction or operation within verified habitats.
5. The Applicant will continue to work with the USFWS on acceptable mitigation/conservation measures relative to this species.

Appendix C of the BA provides a "may affect, not likely to adversely affect" determination for the Dakota skipper. The Service does not concur with that determination. Though these conservation measures are valuable and will reduce many impacts, they will not reduce the degree of impacts to an insignificant level or reduce the likelihood of adverse effects to a point that is discountable. The Service has determined that the DAPL Project and associated conservation measures will result in the destruction and/or degradation of approximately 32 to 63 acres of occupied quality native prairie due to construction activities that are interdependent to the proposed federal action.

In addition to the anticipated destruction and/or degradation of occupied habitat, individuals (eggs, larvae and/or caterpillars) are likely to be exposed to Project-induced stressors that would likely cause adverse effects, possibly even the injury or death of individuals. Thus, it would be inappropriate for the Service to concur with the above-mentioned determination. Because the Service anticipates adverse effects to occur to Dakota skippers, formal consultation is required.

As of the date of this letter, formal consultation is being initiated in accordance with 50 CFR 402.14(a) on the Dakota skipper. We will submit the draft biological opinion to the Corps for review prior to finalization. While we recognize the Applicant's urgency, we will work on completing the formal consultation after we have undertaken the appropriate analysis and coordination with all the parties and stakeholders in accordance with our regulatory provisions, procedures and policy.

Fish

Pallid Sturgeon

Pallid sturgeon prefer benthic environments associated with swift waters of large turbid, free-flowing rivers with braided channels, dynamic flow patterns, periodic flooding of terrestrial habitats, and extensive microhabitat diversity. Pallid sturgeon populations are fragmented by

dams on the Missouri River and are very scarce in the Lake Oahe portion of the Missouri River. Potentially suitable habitat for the pallid sturgeon is only present where the DAPL Project crosses the Missouri River and Lake Oahe in North Dakota and the Big Sioux River in South Dakota.

The Applicant has minimized the potential for pallid sturgeon to be indirectly affected by the HDD installation across the Missouri River and Lake Oahe. Although it is possible for inadvertent release of non-toxic bentonite mud (used for lubricating the drill path) into the waterbody, the Applicant's geotechnical analyses at each of the proposed HDD crossings will be used to design the HDD procedures ensuring the likelihood of drilling mud being released into any waterways is discountable.

The Applicant proposes to withdraw water from the Missouri and Big Sioux Rivers for HDD activities, hydrostatic testing of the HDD segment for the Missouri River, and mainline testing activities. However, potential impacts on the pallid sturgeon or suitable habitat present within the Missouri River would be avoided by implementing the conditions for permitted intake structures outlined in the Corps' Regional Conditions for North Dakota applicable to Nationwide Permit 12 Utility Line Activities (Corps, 2012) and as described in the USFWS Recovery Plan for the Pallid Sturgeon. No water withdrawal from or access to Lake Oahe is required to complete the Lake Oahe crossing.

Maintenance activities will not occur within the Missouri River, Lake Oahe, or the Big Sioux River; therefore, no impacts on pallid sturgeon would occur. The depth of the pipeline below the respective rivers (36 feet at DAPL mile post 94.5 to 95.0, Missouri River mile 1577; DAPL mile post 166 to 167.5, Lake Oahe; and the Big Sioux River) and the design and operation measures that meet or exceed the respective Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations make a release into either waterbody very unlikely to occur.

The Applicant and Corps have indicated the following conservation measures will be implemented.

1. The DAPL Project will cross three waterbodies with potential suitable habitat for pallid sturgeon (Missouri River and Lake Oahe in North Dakota and the Big Sioux River in South Dakota) using a HDD construction method, thus avoiding direct impacts to potential habitat for the pallid sturgeon.
2. The Applicant will implement the HDD Contingency Plan at these crossings to avoid potential indirect impacts.
3. The Applicant would implement the conditions on permitted intake structures outlined in the Corps Regional Conditions for North Dakota applicable to NWP 12 (Utility Line Activities) (Corps, 2012) and as described in the Service's Recovery Plan for the Pallid Sturgeon at the temporary water withdrawal at the Missouri River and Big Sioux River.

Based on the implementation of the above conservation measures, we concur with the determination that the construction of the DAPL project may affect but is not likely to adversely affect the pallid sturgeon.

Topeka Shiner

The Topeka shiner may be present in 12 streams within the Action Area in Iowa (North Raccoon River, Cedar Creek, West Fork Camp Creek, Camp Creek, Lake Creek, Purgatory Creek, West Cedar Creek, East Cedar Creek, Hardin Creek, West Buttrick Creek, a tributary to East Buttrick Creek, and East Buttrick Creek) (Table 4-1; Figure A-6, Appendix A). In Iowa, critical habitat for the Topeka shiner has been designated along stream segments in Lyon, Sac, Calhoun, Webster, and Boone Counties; however, no construction is within designated critical habitat segments or stream segments with the Primary Constituent Elements identified for critical habitat.

Two of the 12 streams, the North Raccoon River and Cedar Creek, would be crossed using horizontal directional drill (HDD) construction methods. The remaining 10 streams segments would be crossed using dry open-cut construction methods and were assessed for the presence of Topeka shiner habitat. No stream segments contained suitable spawning/rearing habitat for the Topeka shiner. With the exception of the East Cedar Creek crossing, the crossing locations appear to be highly channelized with stream characteristics or habitats not suitable for Topeka shiners to occupy. East Cedar Creek (at the location of the DAPL crossing) contains habitat that could support transient individuals in search of suitable habitat. For that reason, additional conservation measures have been identified and will be implemented for this stream segment and are listed below.

<u>East Cedar Creek</u>

The supplemental conservation measures transmitted to the Service by the Corps (email April 28th, 2016) provided additional conservation measures which the Corps will include as 'special conditions' of the CWA 404 permit would avoid any incidental impacts to transient individuals at that location.

The following avoidance measures will be implemented on the East Cedar creek crossing in Iowa per the Corps:

1. A DAPL contractor will install an upstream work area barrier.
2. The entire work area will be seined using a 9.5 mm (0.37 inch) stretched nylon mesh fish seine with a lead line bottom from the upstream work area in a 'down-stream' direction past the location of the downstream barrier location by a qualified biologist. The seine will then be staked in place until the downstream barrier is constructed. The seine will not leave the water and fish will not be handled. This step is intended to flush fish (cause them to freely swim) out of the work area. The seine is then staked in place and serves as

a downstream barrier to the work area to keep aquatic vertebrates from moving upstream into work area.

3. The contractor will then install a downstream work area barrier upstream of blocking net.
4. The entire work area will be seined a minimum of three times by a qualified biologist, using a 9.5 mm (.37 inch) stretched nylon mesh seine with a lead line bottom and any remaining fish will be immediately relocated outside the work area.
5. The dewatering pumps used to temporarily dewater the work area, will have the pumps' intake fitted with smaller mesh screens (9.5mm) or put in a slotted bucket to prevent aquatic life from entering the hose.
6. Once the dewatering has occurred, isolated pools will be dip-netted using non-abrasive 9.5mm netting and any fish immediately relocated out of the work area. This should remove any remaining fish.
7. Any netted fish shall be handled with extreme care and kept in water at all times during the transfer procedures. A healthy environment for the stressed fish will be provided. The transfer of fish will be conducted using shaded or dark large buckets (five gallon minimum to prevent overcrowding) and minimal handling of fish. There will be no overcrowding in the buckets and holding time will be minimized. Large fish will be kept separated from smaller prey-sized fish to avoid predation during containment. The water temperature in the transfer buckets will not exceed the temperature of pool water in the subject stream. The fish will be retained the minimum time possible to ensure that stress is minimized, temperatures do not rise, and dissolved oxygen levels remain suitable. Supplemental oxygen (aeration) will be considered in designing fish handling operations.
8. Any netted fish will be released to a location upstream of the work activity. They will be released into an area that provides equivalent or better habitat than the location from which they were removed. The fish will be released downstream of the crossing barrier only if this placement provides better protection and there is no other practical alternative.

Following construction activities:

9. Downstream work area barrier will be removed.
10. Upstream work area barrier will be removed.
11. Silt netting will be installed for bank stabilization to the maximum extent practicable.

Note: The contractor overseeing the fish removal operation will be a qualified biologist permitted by the Service for the handling of this endangered species.

With the implementation of HDD construction methods at the North Raccoon River and Cedar Creek, the implementation of additional conservation measures/special conditions at East Cedar Creek and the lack of suitable habitat at the other locations, impacts to the Topeka shiner in Iowa would be either be completely avoided or reduced to such a low level that any impact would be insignificant or reduced to a point that is discountable.

Critical habitat for the Topeka shiner has not been designated in any of the South Dakota counties crossed by the DAPL Project. The Topeka shiner is known to occur in nine waterbodies crossed by the DAPL Project in South Dakota (James River, Shue Creek, Pearl Creek, Middle Pearl Creek, Redstone Creek, Rock Creek, West Fork Vermillion River, East Fork Vermillion River, and Big Sioux River). Four waterbodies (James River, Pearl Creek, East Fork Vermillion River, and Big Sioux River) would be crossed using HDD construction methods, thus avoiding direct adverse effects to the Topeka shiner at these locations. Field surveys of the remaining five waterbodies identified that one of these waterbodies, the West Fork Vermillion, would be crossed at the headwaters of the stream where it is an emergent wetland with no perennial flow. Therefore, the West Fork Vermillion River crossing is not suitable habitat for the species. The four remaining streams (Shue Creek, Redstone Creek, Middle Pearl Creek, and Rock Creek) include known occurrences and potential suitable spawning habitat.

The Corps and the Applicant have agreed to implement the conservation measures outlined below at each stream crossing that has been identified as potentially containing suitable habitat for the Topeka shiner in Iowa (measures 1-12) and South Dakota (measure 13) to avoid adverse effects to the Topeka shiner.

1. The preliminary routing analysis included consideration of critical habitats and avoided these locations through alignment selection.
2. In Iowa, two streams, the North Raccoon River and Cedar Creek, will be crossed using HDD construction methods, thus, avoiding impacts to these streams and any potential habitat to the Topeka shiner at these crossing locations.
3. All temporary storage facilities for petroleum products, other fuels, and chemicals shall be located and protected to prevent accidental spills from entering the stream or its tributaries within the DAPL Project area. In the event of an accidental spill, The Applicant will follow established reporting procedures.
4. Temporary stream crossings will not contain fine sediment particles that may enter the stream channel and impair water quality. In addition, temporary stream crossings should be removed during final restoration, and the area of impact will be restored to pre-construction conditions.
5. There will be no side casting of trench spoil material into waterbodies. Temporary stockpiles will be stored above the top-of-bank and properly protected with BMPs (e.g., silt fencing) to avoid and minimize erosion and sedimentation into the stream.
6. Temporary culverts for equipment crossings will be installed in a manner that does not impede the natural stream flow and prevent the formation of fish barriers.
7. Temporary BMPs will be utilized to minimize erosion and sedimentation into the waterbody. Appropriate temporary erosion control measures and/or temporary grass seeding should be in place within one week of land disturbance adjacent to each stream crossing. Additional site-specific BMPs will be implemented at each stream crossing as necessary to prevent sediment loading into the stream.
8. In East Cedar Creek and West Buttrick Creek, turbidity curtains will be utilized during construction to prevent sediment from traveling downstream.

9. In-stream construction will be expedited to the extent practical and typically be limited to 72 hours or less, with a goal to cross all in 24 to 48 hours.
10. All areas denuded of vegetation as a result of the permitted action, including the pipeline ROW adjacent to each stream, shall be reseeded within one month following completion of construction. U.S. Department of Agriculture, NRCS-approved native grasses, in addition to any other native "quick" rooting grasses, will be utilized as the permanent seeding mix in non-agricultural areas.
11. Special attention will be taken to protect any off-channel wetland complexes, such as old oxbow meanders that are present near any of the stream crossings. Appropriate BMPs and construction practices as required under NWP 12 and General Conditions will be followed for construction through each of these areas to protect these habitats. Following construction, the ROW and each waterbody crossing will be restored to pre-construction contours and elevations.
12. The Applicant will inform all contractors of the construction practices and BMPs required to protect these sensitive habitats and complete installation of the pipeline in compliance with permit conditions.
13. In South Dakota, four streams (James River, Pearl Creek, East Fork Vermillion River, and Big Sioux River) would be crossed using HDD construction methods and, thus, would avoid impacts to the Topeka shiner or its potential habitat at these locations. For the other streams in South Dakota that contain potential habitat (Shue Creek, Redstone Creek, Middle Pearl Creek, and Rock Creek) for the Topeka shiner and would be crossed by dry open-trench construction methods, The Applicant would implement the RPMs outlined in the *Programmatic Biological Opinion for the Issuance of Selected Nationwide Permits Impacting the Topeka Shiner in South Dakota*, issued by the South Dakota Ecological Field Services on October 6, 2014.

As described in Table 1, construction of the DAPL project is likely to adversely affect the Topeka shiner in South Dakota. The Corps proposes to use the *Programmatic Biological Opinion for the Issuance of Selected Nationwide Permits Impacting the Topeka Shiner in South Dakota* issued by the Service on October 6, 2014 to issue verifications under Nationwide Permit 12 for the stream crossings in South Dakota affecting Topeka shiners.

We concur that the project is likely to adversely affect Topeka shiners in South Dakota, and that these effects will be covered by the Programmatic Biological Opinion. Although construction of the DAPL Project is likely to adversely affect the Topeka shiner in South Dakota, there will be no adverse effects to the species in Iowa based on the implementation of the above conservation measures.

Birds

Interior Least Tern

The interior least tern nests on sparsely vegetated sandbars and beaches of large rivers. Based on the results of the habitat assessment field surveys, the DAPL Project crosses potential interior least tern habitat at the Missouri River and Lake Oahe crossings in North Dakota within Williams, McKenzie, Morton, and Emmons Counties. The Missouri River and Lake Oahe would be crossed by the Project using a HDD construction method to avoid potential interior least tern habitat.

Potential sources for indirect impacts on interior least terns include the inadvertent release of non-toxic bentonite mud (used for lubricating the drill path) into the waterbody or nesting habitat and noise associated with the drilling equipment. Operation of the HDD equipment will result in a temporary increase in noise in the immediate vicinity of the HDD activities. Although the HDD entry and exit sites are located more than 960 feet from any suitable interior least tern habitat, it is possible that the activities would be audible if interior least terns are nesting in the area. However, Atwood et al. (1977) found that noise associated with human activities (an airfield in the case of the referenced study) did not affect site fidelity or nesting success of least terns. Similarly, Hillman et al. (2015) found that noise from military and civilian overflights did not impact nest success and that restricting human disturbance to greater than 50 meters (164 feet) from colony boundaries mitigated adverse impacts to nesting birds. Noise associated with aircraft overflights at low altitudes in the Hillman et al. (2015) study were a minimum of 67.7 decibels (A-weighted) (dBA), greater than the anticipated sound levels generated by HDD equipment. Noise studies conducted at the proposed HDD entry and exit locations indicate that sound levels would be less than 60 dBA at approximately 600 feet from the equipment.

The Applicant plans to withdrawal water from the Missouri River, which is required for activities associated with the installation of the HDD and the hydrostatic testing of the HDD segment. A temporary waterline would be installed at the Missouri River between the shoreline and the HDD workspace on the flowage easements within the permanent ROW. The temporary waterline would be laid by hand on top of the surface, and no tracked or wheeled equipment would be necessary for installation or removal of the temporary aboveground waterline. No disturbance of the river banks is anticipated. Additionally, installation and removal of the waterline are anticipated to be complete prior to nesting season; therefore, no impacts on the interior least tern are anticipated to occur at the Missouri River. If the water withdrawal activities are not able to be completed prior to nesting season, the Applicant would conduct surveys prior to placement of the waterline to confirm the presence/absence of interior least terns within the pipeline ROW. If interior least terns are nesting within the pipeline ROW, the Applicant would postpone water withdrawal activities and contact the Service and Corps. Work would only resume when the Service has given permission following a survey to ensure interior least terns would no longer be affected. No water withdrawal from or access to Lake Oahe is required to complete the Lake Oahe crossing.

The 30 to 50-foot-wide permanent easement would be routinely maintained, including periodic mowing and removal of woody vegetation. Because suitable interior least tern nesting habitat is on unvegetated flats within the Missouri River and Lake Oahe, routine maintenance activities would not occur within suitable habitat.

Based on the information above, we concur that construction of the DAPL project may affect but is not likely to adversely affect the least tern.

Piping Plover

Piping plovers (*Charadrius melodus*) are shore birds that inhabit areas near water, preferring river sandbars and alkali wetlands in the Great Plains for nesting, foraging, sheltering, brood-rearing, and dispersal. Piping plovers winter along large coastal sand or mudflats near a sandy beaches throughout the southeastern U.S. Critical habitat for the piping plover is designated along the Missouri River system throughout North and South Dakota and certain alkali wetlands in North Dakota.

Field assessments for suitable habitat for the piping plover resulted in the identification of alkali wetlands that are not within the Corps' jurisdiction. A total of three alkali wetlands (two within Williams County and one within Morton County, North Dakota) were identified through habitat evaluations but these wetlands are not designated as piping plover critical habitat.

Potentially suitable habitat may also exist at the Missouri River and at the Lake Oahe crossing, depending on precipitation and seasonal flow variations. These areas are also designated as critical habitat for this species under the ESA. The Corps and the Applicant have agreed to implement the following conservation measures to avoid adverse effects to the piping plover and piping plover critical habitat:

1. Avoidance of impacts to designated critical habitat at the Missouri River and Lake Oahe through the implementation of HDDs to install the proposed pipeline at these locations.
2. The Applicant will implement the HDD Contingency Plan at these crossings to avoid potential indirect impacts.
3. Impacts associated with installation of the temporary waterline along the pipeline ROW at the Missouri River required for activities associated with the installation of the HDD and the hydrostatic testing of the HDD segment will be avoided, as installation and removal of the waterline are anticipated to be complete prior to nesting season.
4. Installation and removal of the temporary water line at the Missouri River are anticipated to be complete prior to nesting season; however, if this does not occur prior to nesting season, the Applicant will conduct preconstruction nest surveys to confirm that no active nests are within the area for the pump or waterline.

5. If piping plovers are nesting within the pipeline ROW, The Applicant will postpone water withdrawal activities at the Missouri River until the piping plovers have left the area. No water access is required to complete the Lake Oahe crossing.
6. For construction within the three identified alkali wetlands that could provide suitable nesting habitat for the piping plover in North Dakota, the Applicant will conduct preconstruction nest surveys to confirm that no active nests are at or adjacent to the area to be disturbed. If nests are observed, the Applicant will skip the area until the species has vacated the site and then resume construction.
7. Following construction, alkali wetland areas would be restored to preconstruction contours and elevations and allowed to re-vegetate naturally. No long-term adverse effects to these habitats are would occur.

Based on the implementation of the above conservation measures, we concur that construction of the DAPL project may affect but is not likely to adversely affect the piping plover or its designated critical habitat.

Rufa Red Knot

The rufa red knot is a large sandpiper noted for its long-distance migration between summer breeding grounds in the Arctic and wintering areas at high latitudes in the Southern Hemisphere. Some rufa red knots wintering in the northwestern Gulf of Mexico migrate through interior North America during both spring and fall and use stopover sites in the Northern Great Plains. During spring and fall migrations, rufa red knots are typically found in marine habitats along the Pacific and Atlantic coasts of North America, generally preferring sandy coastal habitats at or near tidal inlets or the mouths of bays and estuaries. However, some migrating rufa red knots use sandbars and sandy shore and beach habitats along large rivers and reservoirs of the interior of North America. This area contains the Atlantic, Mississippi, and Central Flyways. The species also heavily relies on exposed substrate at wetland edges for stopover habitat, and the suitability of a wetland for rufa red knots depends on water levels and may vary annually. During spring and fall migrations, the rufa red knot has the potential to occur in North Dakota and South Dakota counties that are crossed by the DAPL Project. Migrating rufa red knot would likely only occur at migratory stopover habitat (suitable shoreline and sandy beach habitat along major rivers, streams, waterbodies, and wetlands) for a brief amount of time (24 hours or less).

Rufa red knots do not nest in the Project Area and only occur as an occasional migrant. During spring and fall migrations, the rufa red knot has the potential to occur in North Dakota. The results of the habitat assessment field surveys indicate that potentially suitable stopover habitat (sandbar and beach habitats) for migrating rufa red knots is present at the Lake Oahe crossing. Lake Oahe would be crossed using the HDD construction method, and thus would avoid direct impacts on potentially suitable rufa red knot stopover habitat. While direct impacts to the rufa red knot migratory habitat would be avoided through the HDD construction method at Lake Oahe, indirect impacts could occur due to potential disturbance during construction (i.e., noise or an inadvertent release of non-toxic drilling mud).

During construction, noise associated with the HDD may act as deterrent to rufa red knots potentially migrating through the area. These individuals may have to travel to other suitable stopover habitat in the area (e.g., upstream or downstream of the Proposed Action area). Similarly, if an inadvertent release of non-toxic drilling mud were to occur when rufa red knots were present, it could cause individuals to relocate to nearby habitat.

During operations, the Applicant has committed to routinely maintain its 30 to 50-foot-wide permanent easement, including periodic mowing and removal of woody vegetation. As rufa red knots utilize suitable shoreline and sandy beach habitat along major rivers, streams, waterbodies, and wetlands for stopover habitat, effects from maintenance activities would be negligible and would be similar to those described above during construction activities. If rufa red knots were present in the area during maintenance activities, they would likely relocate to nearby suitable habitat. Similarly, if maintenance activities are ongoing at the time of migration, rufa red knots would likely avoid the disturbance area.

Although it is possible for inadvertent release of non-toxic bentonite mud (used for lubricating the drill path) into the waterbody, the Applicant's geotechnical analyses at each of the proposed HDD crossings will be used to design the HDD procedures greatly reducing the likelihood of drilling mud being released into any waterways and impacting any rufa red knot utilizing the area.

Based on the information above, we concur that the construction of the DAPL project may affect but is not likely to adversely affect the rufa red knot.

Whooping Crane

In North Dakota and South Dakota, whooping cranes are only present during the twice-yearly migration between winter grounds and summer nesting sites. As the whooping crane is a migrant and does not breed in North Dakota or South Dakota, the species cannot be confirmed as present in or absent from the Project area. The results of the habitat assessment field surveys indicate that the Project area may contain suitable stopover habitat (i.e., agricultural fields). It is anticipated that whooping cranes would avoid the Project area during active construction, as they tend to avoid areas with human disturbance. The noise and land disturbance from construction activities during the migration periods would likely cause birds to choose more suitable landing and overnight roosting locations away from construction activities given the abundance of similar habitat throughout the migration corridor in North Dakota and South Dakota and in the general vicinity of the Project.

While there is potential for individuals to land in the Project area during construction, the Applicant has committed to stop work if a whooping crane is observed within the Project Area and would not resume until the bird leaves the area. Additionally, the Applicant would notify the Corps and Service of the observation. The presence of construction activities within potentially

suitable stopover habitat during migration could disturb whooping cranes in the area or cause flying whooping cranes to avoid the area and select other suitable stopover habitat. Due to the abundance of available stopover habitat along the North Dakota and South Dakota migration corridor and in the vicinity of the Project area, impacts would be negligible.

The Applicant has committed to routinely maintain its 30 to 50-foot-wide permanent easement, including periodic mowing and removal of woody vegetation. As whooping cranes utilize open fields and emergent wetlands for stopover habitat, affects from maintenance activities would be minimal and would be similar to those described above during construction activities. If whooping cranes were observed in the area during maintenance activities, maintenance personnel would suspend activities until the cranes leave the area. Similarly, if maintenance activities are ongoing at the time of migration, whooping cranes would likely avoid the disturbance area.

Although it is possible for inadvertent release of non-toxic bentonite mud (used for lubricating the drill path) into waterbodies, the Applicant's geotechnical analyses at each of the proposed HDD crossings will be used to design the HDD procedures greatly reducing the likelihood of drilling mud being released into any waterways.

Based on the information above, we concur that the construction of the DAPL project may affect but is not likely to adversely affect the whooping crane.

Mammals

Indiana Bat and Northern Long-eared Bat

The Indiana bat is known or likely to occur within 10 Iowa counties (Boone, Story, Polk, Jasper, Mahaska, Keokuk, Wapello, Jefferson, Van Buren, and Lee Counties) and all 12 Illinois counties (Hancock, Adams, Schuyler, Brown, Pike, Morgan, Scott, Macoupin, Montgomery, Fayette, Marion and Bond Counties) that are crossed by the DAPL. No known maternity roosts or hibernacula used by Indiana or northern long-eared bats have been previously recorded within the Action Areas in Iowa or Illinois. Critical habitat for either bat species has not been designated in any of the counties that are crossed by the pipeline.

The range of the northern long-eared bat includes all portions of the Action Areas in North Dakota, South Dakota, Iowa, and Illinois. The Service has issued a 4(d) rule using the flexibilities under Section 4(d) of the Endangered Species Act to tailor protections to areas affected by white-nose syndrome during the bat's most sensitive life stages. The implementation of the 4(d) rule for the northern long-eared bat exempts certain activities within the white nose syndrome (WNS) buffer zone (those areas within 150 miles of WNS-positive counties) provided certain conservation measures are implemented. In areas outside of the 150-mile WNS buffer zone, incidental take from lawful activities is exempted. All of North Dakota, all of South Dakota except Lincoln County, and Lyon County in Iowa fall outside of the WNS 150-mile buffer zone. However, the remaining 17 Iowa counties (Sioux, O'Brien, Cherokee, Buena Vista, Sac, Calhoun,

Webster, Boone, Story, Polk, Jasper, Mahaska, Keokuk, Wapello, Jefferson, Van Buren, and Lee Counties), Lincoln County, South Dakota and all of the Illinois counties are included in the WNS buffer zone.

In accordance with the 2015 Indiana Bat Summer Survey Guidance (USFWS Guidance) biologists from Burns & McDonald Engineering Company, Inc. and Copperhead Environmental Consulting, working under USFWS Section 10(a)(1)(A) permits (TE30970B-0, TE98032A-0, and TE070584-11) assessed the wooded habitat being crossed by the DAPL project in order to identify suitable habitat occupied by the Indiana or northern long-eared bat (Indiana and Northern Long-eared Bat Summer 2015 Survey 8, 2015). The assessment included a desktop analysis followed by habitat assessment field surveys conducted in fall and winter 2014 and spring 2015. Evaluations for potential roost trees (live trees and dead or dying trees with loose bark, exfoliating bark, cracks, crevices, hollows, or cavities) were completed for the entire DAPL project area in Iowa and Illinois that was found to contain suitable habitat.

Based on the habitat assessments, acoustic and mist netting surveys were conducted in compliance with the USFWS Guidance during the summer of 2015. Acoustic detectors were deployed in 131 1-kilometer segments along the alignment with 258 detector nights recorded. All calls were analyzed using two programs, BCID 2.7c and Kaleidoscope Pro 3.0. Mist netting was conducted within the 84 1-kilometer segments with positive acoustic detections of Indiana bat and/or Northern long-eared bats. Telemetry surveys were implemented during mist net surveys to identify occupied roost trees for either species. During the mist netting surveys, 161 bats representing 8 species were captured. 14 northern long-eared bats and 32 Indiana bats were captured. A total of 23 (6 males, 17 females) Indiana bats and 11 northern long-eared bats (2 males, 9 females) were tracked with radio telemetry and 23 trees were identified as being occupied by either species. 5 trees occupied by only male bats were located within the right of way for the project or within 100 feet of the right of way. All female bats were tracked outside of the right of way of the project with individual roosts identified or approximate locations triangulated for locations that access attainable by surveyors.

The Applicant has implemented the following conservation measures in order to minimize potential impacts to Indiana and northern long-eared bats.

1. Acoustic and mist-netting surveys have been conducted to identify suitable habitat occupied by both species within the DAPL right of way.
2. The preliminary routing analysis included avoidance and minimization consideration of riparian and forested areas to select an alignment and associated workspace that avoids and minimizes impacts to forested areas. Additional avoidance and minimization was achieved during micro-routing along the alignment.
3. The Applicant has reduced the typical construction workspace corridor within forested areas to 85 feet wide.

We understand through conversations with the Applicant and the Corps that much of the wooded habitat within the construction right of way for the DAPL has already been felled. The Service cannot consult on actions that have already taken place. Therefore, felling of the trees prior to the conclusion of this consultation will not be taken into consideration as part of our analysis, and will not be part of our Section 7 consultation with the Corps. Based on information provided by the Applicant, all occupied northern long-eared bat roosts and suitable habitat within 150 feet of northern long-eared bat maternity trees were removed. All roosts identified as occupied by male Indiana bats (females were tracked outside the alignment) within the alignment have also been removed. According to the Applicant and the Corps, the remaining wooded habitat that contains suitable roosts for the Indiana bat will be removed with the following conservation measures.

1. All wooded habitat where negative mist netting results for Indiana bats indicate suitable habitat within the DAPL right of way is most likely to be used as foraging habitat can be removed in the summer if exit counts are executed by qualified biologists on **ALL** potential roosts prior to immediate removal (as defined by the 2016 Indiana Bat Summer Survey Guidance). If any bats are seen exiting from suitable roosts, trees will be removed after October 1 2016, and before March 31, 2017.
2. All potential roosts within areas with positive net captures for Indiana bats or within 2.5 miles of an occupied roost identified during the 2015 surveys will be removed after October 1, 2016 and before March 31, 2017. These areas are confined to a 50-foot permanent right of way that will be cleared to enable inspection to crossings spanned with HDD.

All female Indiana bats were tracked (using telemetry) and the occupied maternity roosts identified were outside of the workspace for the DAPL right of way. Based on review of spatial data, the ground disturbing impacts that will be implemented during construction of the DAPL will not fragment available Indiana bat and northern long-eared bat habitat and will not diminish its use for breeding, feeding, and sheltering of returning maternity colonies. The remaining wooded habitat to be cleared contains few roosts suitable for Indiana bats. Through the integration of the above conservation measures, indirect take within remaining wooded habitat will be avoided.

Therefore, we concur that issuance of the permits and impacts from ground disturbance and removal of remaining wooded habitat is not likely to adversely affect the Indiana bat.

Although all identified roosts for the northern long-eared bat were previously cleared by the applicant prior to concluding this consultation, the few remaining wooded habitat areas may contain a few suitable roosts for this species. Adverse impacts to Indiana bats will be avoided by implementing the conservation measures above, but take of northern long-eared bats in these remaining wooded areas may occur if smaller snags are cleared that are not suitable for Indiana bats. Any take resulting from clearing in the summer is not prohibited by the final 4(d) rule for the northern long-eared bat (50 CFR §17.40(o) because no clearing will occur within 0.25 miles of a known hibernaculum or within 150 feet of known, occupied maternity roost trees in June or

July. This project is likely to adversely affect the northern long-eared bat, and we cannot concur with your determination. However, there are no effects beyond those previously disclosed in the Service's programmatic biological opinion for the final 4(d) rule dated January 5, 2016. This project is consistent with the description of the proposed action in the programmatic biological opinion, and the 4(d) rule does not prohibit incidental take of the northern long-eared bat that may occur as a result of this project. Therefore, the programmatic biological opinion satisfies the Corps responsibilities under ESA section 7(a)(2) relative to the northern long-eared bat for this project.

Summary

As described above, and with the exception of the Dakota skipper, the Service has concluded that the potential effects of the Project on the pallid sturgeon, interior least tern, piping plover and its designated critical habitat, rufa red knot, whooping crane, and Indiana bat are either insignificant or discountable. We therefore concur with your determinations that the project "may affect, but is not likely to adversely affect" these species. We consider section 7(a)(2) consultation to be completed for these species. The Topeka shiner is likely to be adversely affected by the DAPL project, but adverse effects have been avoided in Iowa, and effects in South Dakota are covered by the Programmatic Biological Opinion dated October 6, 2014. The northern long-eared bat is also likely to be adversely affected by the DAPL project, but this project will not result in prohibited incidental take, and its effects are covered by the Programmatic Biological Opinion dated January 5, 2016. No additional consultation is needed for the Topeka shiner or the northern long-eared bat. No further consultation for any of these species is necessary unless: (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or (3) a new species is listed or critical habitat is designated that may be affected by this project.

The Corps responsibilities under section 7(a)2 of the ESA for Dakota skippers have not been met: the action will adversely affect Dakota skipper. The Corps improperly delineated the action area for section 7 consultation based on an incorrect interpretation of interdependent activities. We do not concur with the "may affect, not likely to adversely affect" determination in Appendix C and believe that take of Dakota skippers is reasonably certain to occur. Therefore, formal consultation is required. The Service's South and North Dakota Field Office will issue a biological opinion within the timeframes provided in the section 7 regulations. As a reminder, section 7(d) of the ESA requires that the Corps not make any irreversible or irretrievable commitment of resources that limits future options for the Dakota skipper. This practice ensures agency actions do not preclude the formulation or implementation of reasonable or prudent alternatives that avoid jeopardizing the continued existence of the Dakota skipper or destroying or modifying its critical habitat. We also note, that until formal consultation for Dakota skipper is complete, it is important to avoid activities that may result in take of Dakota skipper to ensure that ESA section 9 violations do not occur.

The Service appreciates the Corps efforts to ensure the conservation of trust species as part of our joint responsibilities under the ESA. Because the remainder of the section 7 consultation involves only the Dakota skipper, the South and North Dakota Field Office will now be the lead field office for completion of the biological opinion. If further information is needed, please feel free to contact Scott Larson at the number below.

Sincerely,

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cc: CEMVR-OD-P (Lenz)
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CENWO-OD-RSD (Breckenridge)
CENWO-OD-RND (Renschler)
CENWO-OC (Grow)
CENWO-OD-TN (Cossette)
CENWO-PD-E (Shelman)
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