

3.4 WETLANDS

3.4.1 Introduction

This section discusses wetland resources in the proposed Project area. The description of wetland resources is based on information provided in the 2011 Final Environmental Impact Statement (Final EIS) as well as new circumstances or information relevant to environmental concerns that have become available since the publication of the Final EIS, including the proposed reroute in Nebraska. The information provided here builds on the information provided in the Final EIS as well as the 2013 Draft Supplemental EIS and, in many instances replicates that information with relatively minor changes and updates; other information is entirely new or substantially altered.

Specifically, the following information, data, methods, and/or analyses have been substantially updated in this section from the 2011 document:

- An expanded description of the wetland resources encountered within the proposed Project area is provided and includes figures to illustrate the proposed pipeline route relative to regional ecosystems and wetlands within Montana, South Dakota, and Nebraska. The description of wetland resources is based on information from field surveys, including additional field surveys conducted by TransCanada Keystone Pipeline, LP (Keystone) along the Nebraska portion of the proposed pipeline route, and on information and data provided by government agencies;
- An expanded description of wetland resources of special concern that are known or have potential to occur within the proposed Project area is included; and
- A new section (Section 3.4.4, Federal and State Regulatory Setting) has been added to describe applicable federal and state wetland regulations that may apply to the proposed Project.

The following information, data, methods, and/or analyses have been substantially updated from the 2013 Draft Supplemental EIS:

- Section 3.4.3.2, Protected Wetlands, has been updated with newly available conservation easement information.
- Text has been added to Section 3.4.4, Federal and State Regulatory Setting, to further define and explain the regulatory setting and processes as they relate proposed Project area wetlands.
- In response to public and agency comments, text has been revised throughout the section where necessary.

Summary

The proposed Project route would cross various wetland types in Montana, South Dakota, and Nebraska, including herbaceous wetland meadows, depressions (potholes), marshes, scrub-shrub wetlands, forested wetlands, riparian wetlands associated with rivers and streams, and open-water habitats such as ponds. Wetlands of special concern that may be crossed by the proposed Project include wetlands within the Prairie Pothole Region and Rainwater Basin Region as well as wetlands that are similar to those found in the Nebraska Department of Environmental Quality

(NDEQ)-identified Nebraska Sand Hills Region. Other sensitive wetland types include those that are protected by various easements and wetlands that provide important habitat for wildlife and threatened and endangered species. Wetlands are primarily regulated at the federal level by the U.S. Army Corps of Engineers (USACE) and at the state level by the Montana Department of Environmental Quality (MDEQ), South Dakota Department of Environment and Natural Resources (SDDENR), and NDEQ offices per Section 401 and 404 of the Clean Water Act (CWA). The potential for wetland impacts often triggers the involvement of other agencies at the federal, state, local, and tribal level to ensure applicable laws and regulations under their jurisdiction are upheld. Some wetland types such as geographically isolated wetlands or wetlands that have no hydrological connection to a regulated waterbody (e.g., depression pothole wetlands), are often not regulated by federal or state agencies.

There are several connected actions associated with the proposed Project, including the Bakken Marketlink Project, the Big Bend to Witten 230-kilovolt (kV) Transmission Line, and electrical distribution lines and substations. These connected actions would be constructed in areas similar to the proposed Project route; therefore, wetland conditions that are similar to those discussed for the proposed Project route would apply to the connected actions.

3.4.2 Environmental Setting

Wetlands are areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of wetland vegetation typically adapted for life in saturated soil conditions (Cowardin et al. 1979). Wetland ecosystems are dynamic and often have fluctuating levels of water and saturation and a variety of wetland vegetation that includes floating, submerged, and/or emergent (erect, rooted, and herbaceous plants) (Cowardin et al. 1979). Being a dynamic system, not all wetlands are wet year round, and, conversely, not all wet areas qualify as wetlands.

Wetlands provide numerous important functions. They supply habitat for foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. Wetlands help maintain natural drainage patterns and reduce erosion by stabilizing soil and substrate with rooted vegetation. Wetlands also act as storage areas for stormwater and flood waters, and can provide groundwater discharge and recharge functions as well. Wetland vegetation is important for maintaining water quality because plants trap sediments, nutrients, and pollutants and can transform chemical compounds. Wetland vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, sequester carbon, and retain some nutrients and other chemical compounds, reducing the amounts of these substances in the water (USACE 2012a). The degree to which a given wetland performs these functions depends on a number of factors including wetland type (e.g., wet meadows versus forested), landscape position (association with rivers versus wet meadows), and level of impairment or impact (e.g. degradation from pollution or physical impacts to vegetation and soils from heavy equipment or vehicles). The U.S. Environmental Protection Agency (USEPA) uses a definition of impaired waterbodies based on the CWA. The CWA mandates that states and Indian tribes report on the quality of their waters, including wetlands. Through ambient water quality monitoring, states determine if a waterbody satisfies the water quality criteria associated with each of the state's designated uses. Waterbodies that satisfy the criteria are deemed to attain water quality standards, while those that do not satisfy the criteria are deemed impaired (Section 303, CWA). Evaluation of impairments extends to wetlands and their

designated uses. Waterbodies are deemed impaired when a state-defined designated use is not met or supported by the waterbody. These designated uses are defined on a state-by-state basis and documented according to CWA sections 303 and 305 reporting requirements. Many of the wetlands throughout the proposed Project area have been extensively altered by historical and current agricultural practices. Wetland alterations as a result of farming practices may limit the capacity for individual wetlands to perform certain wetland functions; however, wetlands of significant value do exist throughout the proposed Project area (see Section 3.4.3, Wetlands of Special Concern or Value).

Wetlands are classified according to shared environmental factors, such as vegetation, soils, and hydrology (Cowardin et al. 1979). Wetland systems within the proposed Project area are defined in Table 3.4-1 and are classified as palustrine or riverine/open water, based on vegetation and/or surface water cover. These types of wetlands are characterized by a dominance of trees, shrubs, persistent emergent herbaceous vegetation, or open water. Palustrine wetland types occur in various locations in the landscape, including along streams or rivers, adjacent to open water ponds or lakes, on slopes, or within depressions. Subsystems of the palustrine wetland types within the proposed Project area include palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO). Surface water dominated wetland types in the Cowardin et al. (1979) classification system include riverine wetlands (R) (the scoured areas within river or stream bed systems) and open water wetlands (OW) (open water associated with ponds or lake systems [lacustrine]) (Table 3.4-1).

Table 3.4-1 Description of Wetland Types in Proposed Project Area

Wetland Type	Wetland Code	Description
Palustrine emergent wetland	PEM	Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. All water regimes are included except those irregularly exposed. In areas with relatively stable climatic conditions, emergent wetlands maintain the same appearance year after year. In other areas, such as the prairies of the central United States, climatic fluctuations cause them to revert to an open water phase in some years. Emergent wetlands are known by many names, including marsh, wet meadow, fen, prairie pothole, and slough.
Palustrine forested wetland	PFO	Forested wetlands are characterized by woody vegetation that is 6 meters tall or taller. Forested wetlands are most common in the eastern United States and in those sections of the West where moisture is relatively abundant, particularly along rivers and in the mountains. Forested wetlands normally possess an overstory of trees, an understory of young trees or shrubs, and an herbaceous layer. Forested wetlands are most often associated with riparian areas within the proposed Project area.
Palustrine scrub-shrub wetland	PSS	Scrub-shrub wetlands include areas dominated by woody vegetation less than 6 meters tall. Vegetation forms found in this wetland type include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. Scrub-shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable communities. Scrub-shrub wetlands are often associated with riparian areas within the proposed Project area, but occur in non-riparian areas as well.

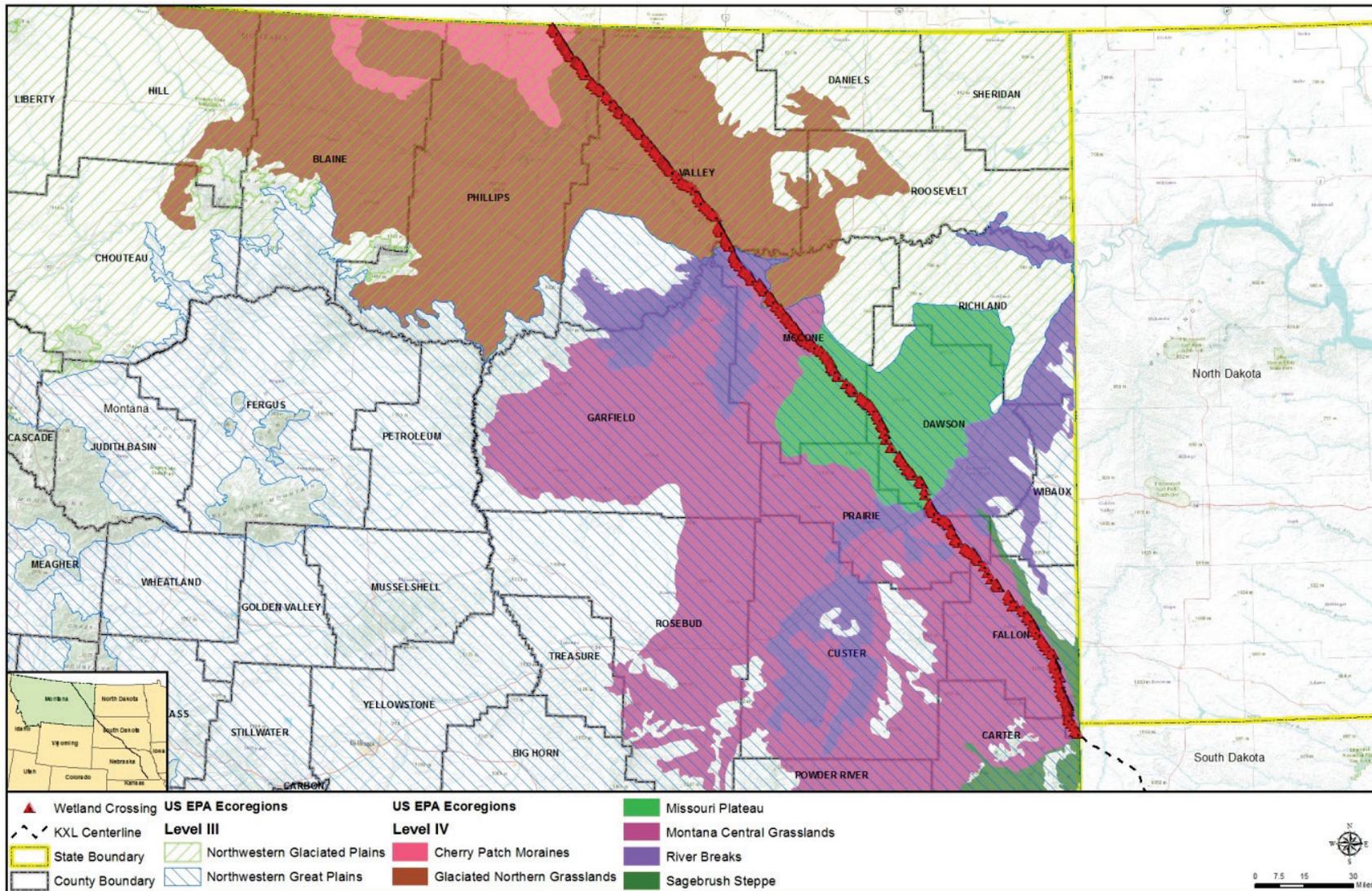
Wetland Type	Wetland Code	Description
Riverine perennial water	R2	Riverine perennial waters include lower perennial and upper perennial waterbodies. The lower perennial subsystem includes low-gradient rivers and streams (riverine system) where some water flows throughout the year and water velocity is slow. The upper perennial subsystem includes high-gradient rivers and streams where some water flows throughout the year, water velocity is high, and there is little floodplain development. Perennial streams have flowing water year-round during a typical year, the water table is located above the stream bed for most of the year, groundwater is the primary source of water, and runoff is a supplemental source of water.
Riverine-intermittent water, ephemeral water	R4	The intermittent subsystem includes channels where the water flows for only part of the year, when groundwater provides water for stream flow. When water is not flowing, it may remain in isolated pools or surface water may be absent. Runoff is a supplemental source of water. Ephemeral streams have flowing water only during, and for a short duration after, precipitation events in a typical year. Groundwater is not a source of water for the stream.
Open water	OW	Open water habitats are rivers, streams, lakes, and ponds (riverine, lacustrine, and palustrine systems, respectively) where, during a year with normal precipitation, standing or flowing water occurs for a sufficient duration to establish an ordinary high-water mark. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered as open waters.

Source: Cowardin et al. 1979.

The following subsections present a general description of the wetland types encountered along the proposed pipeline route through each state. While the primary area of analysis for the proposed Project is Montana, South Dakota, and Nebraska (where the pipeline would be located), Project-related facilities located in North Dakota and Kansas are also evaluated.

3.4.2.1 *Montana*

The proposed pipeline route crosses the eastern plains of Montana, characterized by saline/alkaline wetlands, prairie pothole wetlands, and wetlands associated with rivers and streams (Montana Watercourse 2008). The distribution of wetlands identified in Montana is illustrated by ecoregion in Figure 3.4.2-1. “Ecoregion” is defined by the USEPA as “areas of similarity regarding patterns in the mosaic of abiotic and biotic, aquatic and terrestrial ecosystem components, including geology, physiography, vegetation, climate, soils, hydrology, land use, and wildlife, with humans being considered as part of the biota” (Omernik 1995). USEPA ecoregions are subdivided into four levels. The level of generalization of delineated ecosystems reflect different levels of planning and reporting needs while still linking habitats based on their similarities (Commission for Environmental Cooperation 1997). The two most locally defined ecoregion levels, Level III and Level IV, are illustrated in Figure 3.4.2-1, with Level IV being a more detailed subset of Level III. Wetlands are described at the Level III Ecoregion below. See Table 3.5-2 for a description of the Level IV Ecoregions associated with the Level III Ecoregions described below.



Source: exp Energy Services Inc. 2012a; U.S. Fish and Wildlife Service (USFWS) 2012; Fry 2011; USGS 2011; USEPA 2011a,b; Esri 2013

Figure 3.4.2-1 Montana Wetland Crossings and USEPA Ecoregions

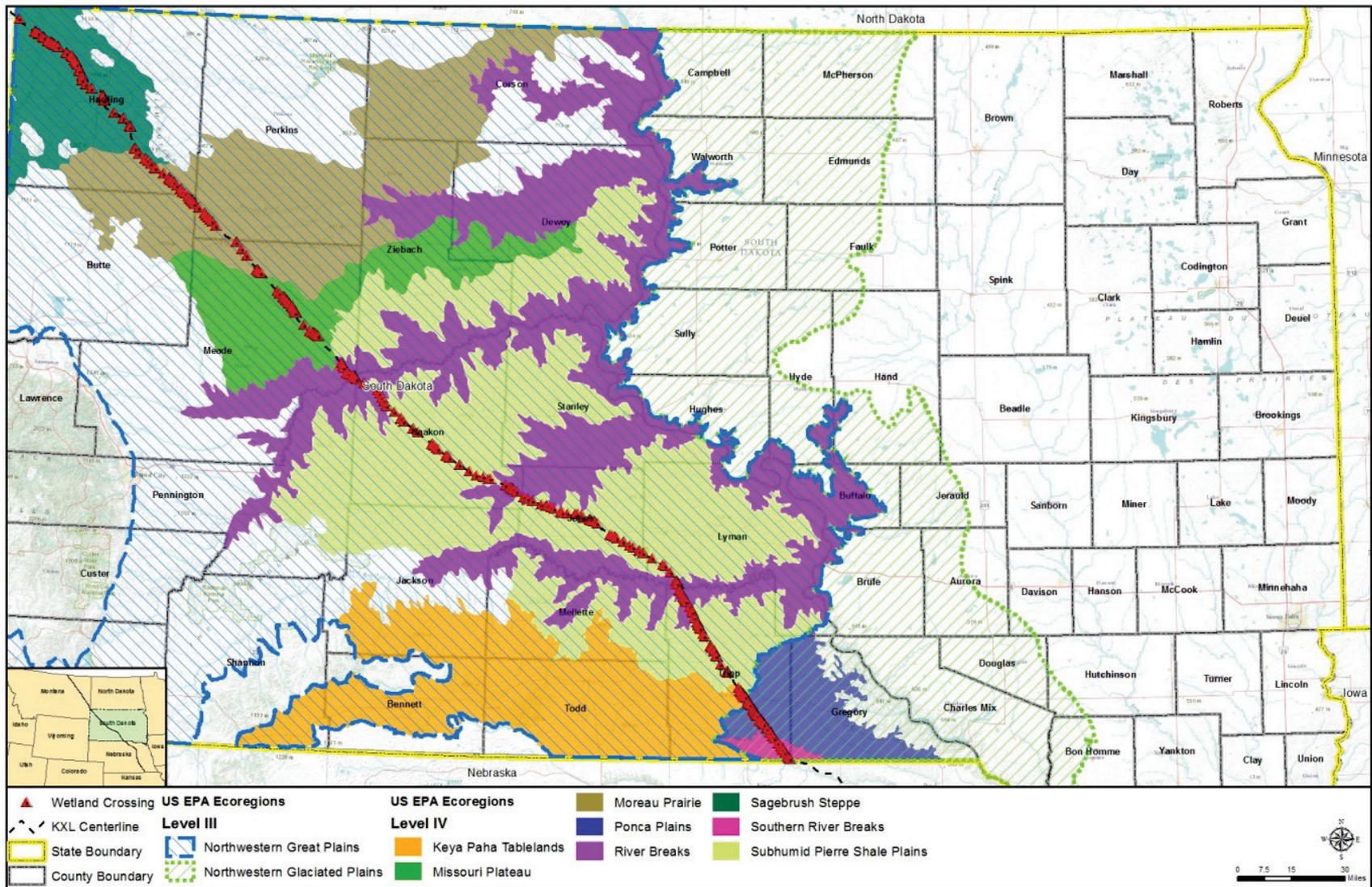
The pipeline would pass through two USEPA Level III Ecoregions (USEPA 2010, 2011a, b): Northwestern Glaciated Plains and the Northwestern Great Plains. The Northwestern Glaciated Plains Ecoregion roughly corresponds to a similar U.S. Geological Survey (USGS) region known as the Prairie Pothole Region (USGS 2006a, b). The Prairie Pothole Region is characterized by emergent wetlands, small lakes, and saline/alkaline wetlands that occur within a landscape of glacial debris, rolling hills, depressions, and scars caused by glacial activity (USGS 2006a, b). The Northwestern Great Plains Ecoregion is characterized by pothole-like wetlands, herbaceous wet meadow wetlands, saline/alkaline wetlands, and riparian wetlands associated with streams and rivers.

3.4.2.2 North Dakota

The only proposed Project-related facility in North Dakota would be a pipe yard and rail siding located in Bowman County, North Dakota, which is in the Northwestern Glaciated Plains USEPA Level III Ecoregion (USEPA 2010, 2011a, b). See Table 3.5-2 for a description of the Level IV Ecoregions associated with the Northwestern Glaciated Plains Ecoregion. The pipe yard and rail siding are existing facilities that were previously built for other users and would be used by the proposed Project for the purpose of equipment and materials storage. The footprint for the pipe yard and rail siding would remain the same and no wetlands are located within the existing boundary of these sites.

3.4.2.3 South Dakota

The distribution of wetlands identified in South Dakota is illustrated by ecoregion in Figure 3.4.2-2. The proposed Project would pass through the same USEPA Level III Ecoregions as described for Montana. The majority of the wetlands along the South Dakota portion of the proposed route are associated with the Northwestern Great Plains Level III Ecoregion (e.g., herbaceous wet meadows, saline/alkaline wetlands, riparian wetlands, and pothole-like wetlands). Moving south, the route would pass through the Northwestern Glaciated Plains Level III Ecoregion. Again, this ecoregion roughly coincides with the Prairie Pothole Region of South Dakota and includes emergent wetlands, small lakes, and saline/alkaline wetlands that occur within a landscape of glacial debris, rolling hills, depressions, and scars caused by glacial activity (USGS 2006a, b). Where the proposed route would pass through the very southern portion of the state (e.g., Tripp County), shallow water table and near-surface aquifer conditions support wetlands associated with surface water features, such as ponds, lakes, streams, and rivers. See Table 3.5-2 for a description of the unique Level IV Ecoregions associated with the proposed route through South Dakota.



Source: exp Energy Services Inc. 2012a; USFWS 2012; Fry 2011; USGS 2011; USEPA 2011a,b, Esri 2013

Figure 3.4.2-2 South Dakota Wetland Crossings and USEPA Ecoregions

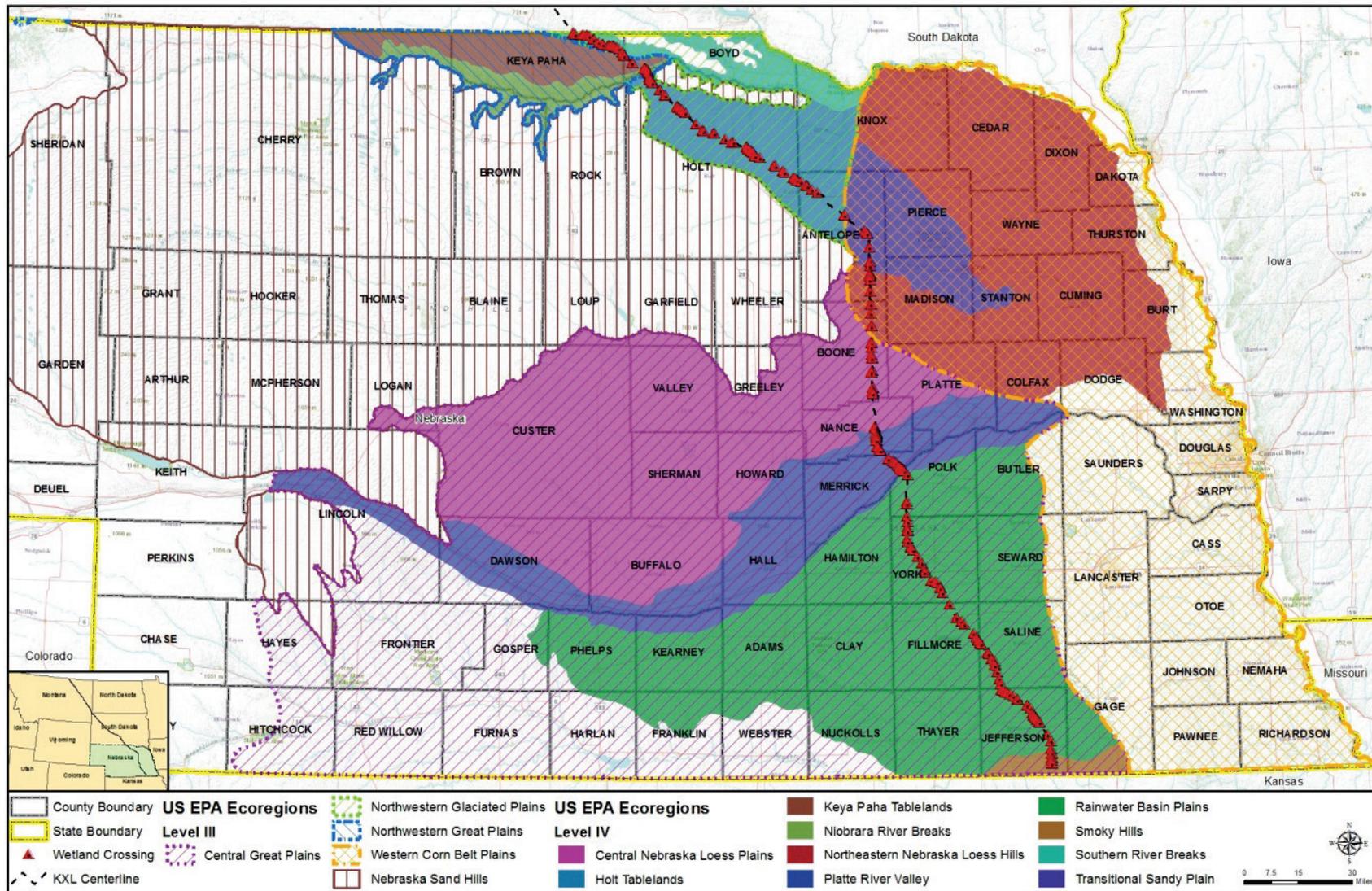
3.4.2.4 Nebraska

The distribution of wetlands identified in Nebraska is illustrated by ecoregion in Figure 3.4.2-3. The following USEPA Level III Ecoregions (USEPA 2010, 2011a, b) would be crossed by the proposed Project: Northwestern Great Plains, Northwestern Glaciated Plains (e.g., Prairie Pothole Region), Western Corn Belt Plains, and Central Great Plains. Within these broad ecoregions are several smaller regional complexes that have been referred to in previous Project reports. These smaller regional complexes include the NDEQ-identified Sand Hills Region, the Central Table Playas, and the Rainwater Basin (Chapman et al. 2001 and Nebraska Game and Parks Commission [NGPC] 2005) (Figure 3.4.2-3). The NEDQ-identified Sand Hills Region includes the areas that NDEQ considers to be Nebraska Sand Hills based on a 2001 map published by the USEPA titled “Ecoregions of Nebraska and Kansas” (Chapman et al. 2001). This map was completed in 2001 as a 7-year collaboration of multiple state and federal agencies. These wetlands and wetlands adjacent to this region have similar characteristics and include saturated wet meadows, shallow marshes, and lakes supported by shallow or near-surface aquifer conditions. Central Table Playa wetlands, located in the central portion of Nebraska, are associated with loess (wind-deposited silt) deposits and are typically small, seasonally flooded wetlands. Wetlands in the Rainwater Basin of south-central Nebraska include wetlands associated with gently rolling loess-covered plains. See Table 3.5-2 for a description of the Level IV Ecoregions associated with the ecoregions described above for Nebraska.

3.4.2.5 Kansas

The proposed Project would require two new pump stations, one in Clay County, Kansas, and another in Butler County, Kansas, in order to maintain the pressure required to transport crude oil at the desired throughput volumes. USEPA Level III Ecoregions (USEPA 2010, 2011a, b) for Clay and Butler Counties are the Central Great Plains and Flint Hills, respectively. Based on National Wetland Inventory mapping (U.S. Fish and Wildlife Service [USFWS] 2012), there are no wetlands within the footprint or immediate vicinity of either pump station.

Given that there are no known wetlands associated with proposed facilities located in North Dakota and Kansas, the remainder of this section will focus the wetland discussion on Montana, South Dakota, and Nebraska.



Source: Chapman et al. 2001; exp Energy Services Inc. 2012a, b; NGPC 2011; Fry 2011; USFWS 2012; USGS 2011; USEPA 2011a,b, Esri 2013

Figure 3.4.2-3 Nebraska Wetland Crossings and USEPA Ecoregions

3.4.3 Wetlands of Special Concern or Value

The following are wetlands of special concern or value that are located within the proposed Project area.

3.4.3.1 *Sensitive Wetland Areas*

For the purpose of this analysis, sensitive wetland areas are regional wetlands that have been identified as being important natural resources including the Prairie Pothole Region in Montana, South Dakota, and northern Nebraska; wetlands that are in the vicinity of and with similar characteristics to the NDEQ-identified Sand Hills Region; and the Rainwater Basin Region in Nebraska.

Prairie Potholes Region

The Prairie Pothole Region of North America roughly coincides with the Northwestern Glaciated Plains (Level 3 USEPA Ecoregion; USEPA 2010, 2011a), as mapped in Figures 3.4.2-1, 3.4.2-2, and 3.4.2-3. It extends from Canada southeast to Iowa, and also occurs in northern Montana, the eastern half of South Dakota, and the northern portion of Nebraska (USEPA 2010, 2011a, 2012a). This ecoregion is discussed further in Section 3.5, Terrestrial Vegetation.

The landscape of the Prairie Pothole Region is largely the result of glaciation events during the Pleistocene Epoch (about 11,000 to 1.6 million years ago). When the last glaciers retreated, they left a landscape scattered with small depressional wetlands called potholes or sloughs. Prairie potholes receive most of their water through rain and snowmelt. These pothole wetlands are important hydrologic features because of their importance in water movement. Water in these wetlands can move in three ways: from the wetland to the groundwater table (recharge), from groundwater table into wetland (discharge), and through the wetland at the surface of exposed water table (flow-through) (USGS 2006a, b). The USFWS has negotiated wetland easements with private landowners for some prairie potholes in Montana and South Dakota, including some that may be crossed by the proposed Project corridor. Private wetland easements may also potentially exist along the pipeline.

The Prairie Pothole Region is considered to have wetlands of special concern because it contains critical waterfowl breeding habitat that accounts for approximately 10 percent of the waterfowl breeding habitat on the continent (Young 1992). In addition, due to agricultural and commercial conversion, only an estimated 40 to 50 percent of prairie pothole wetlands remain undrained today (USEPA 2012a).

The proposed Project area passes through the Prairie Pothole Region in the following locations:

- Phillips, Valley, and McCone counties in eastern Montana, from Milepost (MP) 0 to MP 90 and MP 110 to MP 117 (Figure 3.4.2-1);
- Tripp County in southern South Dakota, from MP 580 to MP 600 (Figure 3.4.2-2); and
- Keya Paha, Boyd, Holt, and Antelope counties in Nebraska, from MP 601 to MP 618 (Figure 3.4.2-3).

Pothole wetlands are concentrated in these proposed Project area locations, but other depressional wetlands with pothole characteristics are located throughout the Project area.

Sand Hills and Sand Hills-Like Wetland Regions

The Sand Hills Region is an NDEQ-identified region in the northern portion of Nebraska (Chapman et al. 2001) that has been avoided by the proposed Project route (Figure 3.4.2-3). Certain portions of the proposed Project corridor, however, may cross through areas with Sand Hills-like characteristics such as near surface aquifer conditions, sandy soils, and poor revegetation potential (NDEQ 2012a). Wetlands may be present where the proposed Project corridor would pass northeast of the NDEQ-identified Sand Hills Region (Chapman et al. 2001 and NGPC 2011) (Figure 3.4.2-3). These wetlands may have similar characteristics to those located within the NDEQ-identified Sand Hills Region and may be traversed by the proposed Project in Holt and Antelope counties (MP 619 to MP 627, and MP 698 to MP 715). In addition, the NGPC has identified the “Loup/Platte River Sandhills Complex” (not part of the NDEQ-identified Sand Hills Region), near the Platte River in central-eastern Nebraska (NGPC 2005). This region has fragile soils and wetland characteristics and has a similar geographic footprint as the Platte River Valley Ecoregion illustrated on Figure 3.4.2-3. A portion of the proposed Project corridor in Nebraska would cross through this complex in Nance and Merrick counties (MP 762 to MP 776). Due to public and agency concerns about the pipeline route affecting sensitive Sand Hills wetlands, Keystone has made numerous revisions to the route alignment to reduce impacts to Sand Hills and Sand Hills-like wetlands characterized by fragile and sandy soils.

Rainwater Basin Region

The Rainwater Basin Region in south-central Nebraska (Level 4 USEPA Ecoregion; USEPA 2010) was named for the abundant natural wetlands that formed where clay-bottomed playa depressions occur (Figure 3.4.2-3). These depressions flood quickly during heavy rainstorms and snow melt. The topography within the Rainwater Basin Region is relatively flat, with a poorly developed surface water drainage system. The Rainwater Basin Wetland Management District contains approximately 60 wetland easements in south-central Nebraska, and these are managed by the USFWS and the NGPC. There are approximately 34,103 acres of wetlands remaining in the Rainwater Basin, which is only about 10 percent of what historically occurred; the largest threat to these wetlands has been and continues to be habitat loss due to cropland conversion (NGPC 2005). The NGPC considers these wetlands to be endangered and the USFWS identified the Rainwater Basin wetlands as one of nine areas in the United States of critical concern for wetland losses (NGPC 2005). In addition, the Rainwater Basin Region provides important wildlife habitat for millions of birds, including the federally listed whooping crane (see discussion on the wildlife that inhabits the Rainwater Basin Region in Section 3.6.2.4, Non-Game Animals, and a discussion on whooping cranes in Section 3.8.3, Federally Protected and Candidate Species). The southern third of the proposed Project corridor in Nebraska, from approximately MP 777 to MP 872, would cross through the Rainwater Basin Plains Ecoregion illustrated in Figure 3.4.2-3.

3.4.3.2 Protected Wetlands

For the purpose of this analysis, wetlands that are protected under easements or agreements through voluntary government programs and resource conservation groups, or wetlands that may be associated with National Historic Landmarks or the National Trails System, are considered sensitive. Easement-protected wetlands that may occur within the proposed Project area include: USFWS wetland easements, Natural Resources Conservation Service (NRCS) Wetland Reserve

Program (WRP) agreements, Farm Service Agency Conservation Reserve Program (CRP) agreements, Farm Service Agency Farmable Wetland Program (FWP) agreements, and various easements managed by natural resource conservation groups such as state land trusts, The Nature Conservancy, Ducks Unlimited, Pheasants Forever, and the Audubon Society to name a few.

The USFWS provides compensation to landowners to permanently protect wetlands under USFWS wetland easements (Title 16 of the United States Code Section 668dd[c]). These wetlands cannot be drained, filled, leveled, or burned. There are several USFWS wetland easements in the Prairie Potholes Region in Montana and South Dakota that may be crossed by the proposed Project, including one USFWS easement refuge containing protected wetlands in the vicinity of MP 4 and 5. In addition, there are several USFWS wetland easements within the Rainwater Basin Wetland Management District in Nebraska, some of which may be within the proposed Project area.

The WRP is a voluntary program administered by the NRCS. Under this program, NRCS provides technical and financial support to help landowners with their wetland restoration efforts, and in return the wetlands are placed under long-term or permanent protective agreements. No WRP wetlands are known to occur within the proposed Project area; however, because NRCS maintains WRP records that may be confidential and require landowner permission for access, the proposed Project has the potential to affect a number of NRCS financial assistance conservation agreements.

The CRP is a voluntary program for agricultural landowners administered by the U.S. Department of Agriculture (USDA) Farm Service Agency. Landowners receive funds to establish long-term, resource-conserving vegetation cover to help prevent topsoil erosion and safeguard the nation's natural resources, including wetland resources. The proposed Project area crosses approximately 39 CRP agreements in Montana, 39 in South Dakota, and 36 in Nebraska (see CRP miles crossed in Table 3.9-4 of the Land Use, Recreation, and Visual Resources section); some of these CRP agreements may include wetlands.

The USDA Farm Service Agency also manages the FWP, which is a voluntary program to restore farmable wetlands and associated buffers. Under the FWP, farmed lands that were once wetlands, or lands that are currently constructed wetlands designed to receive flow for a row-crop agricultural drainage system, would have their hydrology restored to establish vegetative cover. FWP lands are enrolled through the CRP (described above). See Section 3.9.2.3, Conservation Programs, in the Land Use, Recreation, and Visual Resources section for more information on the CRP.

Natural resource groups such as state land trusts, The Nature Conservancy, Ducks Unlimited, Pheasants Forever, and the Audubon Society may also manage wetland conservation easements or lands that contain important wetland habitat within the proposed Project area. According to the National Conservation Easement Database, a national electronic repository of government and privately held conservation easements, there is one known wetland-related conservation easement held by The Nature Conservancy that includes a small (0.18 acre) open waterbody that intersects the proposed Project right-of-way between MP 367 and MP 368 (National Conservation Easement Database 2013). Other easements may occur within the proposed Project area if their locations were not publically available or not available in a geospatial format that allows for reasonable comparisons with the proposed Project area footprint.

3.4.3.3 Important Habitat for Wildlife and Threatened/Endangered Species

Wetlands that are of particular importance to wildlife include wetlands associated with migrating and nesting waterfowl; federal threatened, endangered, proposed and candidate species, Bureau of Land Management sensitive species, state threatened and endangered species, or species of conservation concern including, but not limited to, whooping crane (*Grus americana*), western prairie (white-) fringed orchid (*Platanthera praeclara*), and piping plover (*Charadrius melodus*); or wetlands that otherwise provide a limited resource for sensitive flora (vegetation) and fauna (animals). Details regarding important habitat for wildlife and federal threatened, endangered, proposed and candidate species, Bureau of Land Management sensitive species, state threatened and endangered species, and species of conservation concern are included in Section 3.6, Wildlife, and Section 3.8, Threatened and Endangered Species and Species of Conservation Concern.

3.4.4 Federal and State Regulatory Setting

Permits are required for the discharge of dredge and fill material into waters of the United States under the authority of Section 404 of the CWA. Under the authority of Section 10 of the Rivers and Harbors Act, USACE permits are required for structures or work in, over, under, or affecting navigable waters of the United States. These permits would be obtained prior to construction in wetlands and navigable waterbodies. Waters of the United States include the area below the ordinary high water mark of stream channels and lakes or ponds connected to the tributary system, including wetlands adjacent to or wetlands with a *significant nexus* to these waters. “Waters have the requisite significant nexus if they, either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters or interstate waters” (USEPA 2011c, 2012c). The Section 10 and Section 404 permitting process for Montana, South Dakota, and Nebraska is under the jurisdiction of the Omaha District of the USACE.

Waterbodies and wetlands that are not considered waters of the United States are often referred to as federally “non-jurisdictional” wetlands, meaning they do not fall under the jurisdiction or regulatory oversight of the USACE. Similarly, waterbodies or wetlands that do not meet the definition of a water of the State for Montana, South Dakota, and Nebraska are considered non-jurisdictional from the state’s regulatory perspective. The decision on whether a given wetland is jurisdictional or non-jurisdictional must be made by the agency that would have the regulatory responsibility for that wetland, which in this case would be the USACE, MDEQ, SDDENR, and NDEQ office. Wetlands that are non-jurisdictional at the federal and state level have limited to no regulatory protections and are thus more vulnerable to impacts. In some instances, other agencies such as the USFWS have regulatory authority to require protection of non-jurisdictional wetlands if, for example, those wetlands provide critical habitat for a federally listed threatened and endangered species. Wetlands within the proposed Project area that may be considered non-jurisdictional at the federal and state level could include wetlands located in the more arid portions of the proposed route that do not have a clear hydrologic connection to a stream, and isolated depressional wetlands (e.g. some prairie pothole wetlands) throughout the length of the route. It is beyond the scope of this Final Supplemental EIS to identify which wetlands within the proposed Project area are jurisdictional versus non-jurisdictional because this determination has to be made by the USACE and state agencies involved in regulatory wetland oversight

during the permitting process. However, potential impacts to all wetlands, regardless of jurisdictional status, are discussed in Section 4.4, Wetlands.

All wetlands and waterways crossed by the proposed Project would be evaluated under the USACE preliminary jurisdictional determination process. Under this process, all wetlands are tentatively considered jurisdictional until an approved determination is made by USACE (Regulatory Guidance Letter No. 08-02). An approved jurisdictional determination conducted by the USACE identifies which wetlands are jurisdictional and which wetlands are non-jurisdictional. An applicant can proceed with the Section 404 application process using the preliminary jurisdictional process or can specifically request the USACE to complete an approved jurisdictional determination. Unless an approved jurisdictional determination is specifically requested by Keystone, preliminary jurisdictional determinations would be utilized. Where required by USACE, compensatory wetland mitigation (e.g., creating wetlands to offset the proposed loss of wetlands) would be provided by Keystone for permanent losses of jurisdictional wetlands and water resources. Compensatory Mitigation Plans would be developed and carried out in accordance with Title 33 of the Code of Federal Regulations Part 332 (Compensatory Mitigation for Losses of Aquatic Resources). These plans would be developed during the permitting phase when more site specific details are available and incorporated into the Section 404/Section 401 permit applications for review by coordinating agencies prior to approval. Functional assessments for all jurisdictional wetlands would likely be required by the USACE during the Section 404 permitting process. Local and state agencies may require pre- and post-construction functional assessments depending on their agreed-upon mitigation and compensation plans with Keystone. These data would be used to determine restoration, mitigation, and monitoring requirements. Based on the agreed upon restoration, mitigation and monitoring requirements, wetland monitoring plans would be developed to ensure all impacted jurisdictional wetlands are restored or compensated for to acceptable level.

Wetlands are regulated at the state level primarily by state environmental quality agencies. Under Section 401 and the CWA, USEPA has delegated authority to the states to administer clean water regulations. States generally have regulatory jurisdiction over a given wetland if it meets their definition of a *waters of the state*¹. County and municipal governments may also have wetland regulations, although for the purpose of this analysis, wetland regulations are only summarized at the federal and state level.

The MDEQ oversees all Section 401 Water Quality Certifications and reviews Section 404 permit applications for compliance with state water laws (Montana Legislative Services 2011). The MDEQ and Indian tribes with authority for administering water quality programs “can review, approve, condition, or deny all Federal permits or licenses that might result in a discharge to State or Tribal waters” (MDEQ 2010). A water of the state in Montana is defined as a “body of water, irrigation system, or drainage system either surface or underground.” Wetlands meeting this definition would be considered a *water of the state* and would therefore be regulated by MDEQ. This definition does not include wetlands associated with lagoons or waste treatment ponds used solely for treating, transporting or impounding pollutants. Nor would it include, for example, wetlands associated with diverted irrigation water that does not return to a water of the state (e.g., flow ends in a field or sprinkler system) (Montana Legislative Services 2011).

¹ Under CWA§401, any applicant for a federal license or permit that may discharge into navigable waters must provide the permitting authority with a certification from the state indicating that discharge will comply with the relevant sections of the CWA (Section 301, 302, 303, 306, and 307).

The SDDENR oversees all Section 401 Water Quality Certifications and reviews Section 404 permit applications for compliance with state water laws (SDDENR, 2012a and 2012b). The waters of the state definition for South Dakota is similar to that of Montana and Nebraska and include all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state (South Dakota Codified Laws 34A-2-2(12)). Wetlands meeting this definition would be considered a *water of the state* and would therefore be regulated by SDDENR. South Dakota also excludes wetlands associated with lagoons or waste treatment ponds from their state water definition.

The State of Nebraska regulates impacts on wetlands in accordance with the CWA and the Nebraska Environmental Protection Act (Nebraska Revised Statutes §§ 81-1501 to 81-1533). The NDEQ oversees all Section 401 Water Quality Certification and reviews Section 404 permit applications for compliance with state water laws (NDEQ 2012b). Through an anti-degradation policy, the NDEQ certifies 404 permits under Section 401 (Title 120) and has established water quality standards for *all* surface waters and wetlands, regardless of federal jurisdictional status (Title 117) (Association of State Water Managers 2011). Wetland mitigation for all wetland impacts is required prior to 401 Water Quality Certification. The definition of waters of the state in Nebraska is an extensive list that includes wetlands and “all other bodies or accumulations of water, surface or underground” (NDEQ 2012c). Wetlands meeting this definition would be considered a *water of the state* and would therefore be regulated by NDEQ. Impounded waters in this definition do not include areas designated by NDEQ as wastewater treatment or wastewater retention facilities or irrigation reuse pits.

Throughout the proposed Project development process, consultations have been made with the USACE Omaha district office and state resource agencies. These consultations were used to develop specific wetland and waters of the U.S. information required for permit applications. Consultations would continue with all appropriate agencies during the development of avoidance and minimization strategies for all temporary, short- and long-term, and permanent impacts to wetlands, as well as for the development of mitigation and monitoring requirements. Prior to any potential disturbance within the proposed Project area, all wetland and water resources of the state and U.S. would be delineated and surveyed as required by the USACE, under the review of the USEPA and any applicable tribal and state agencies. These detailed wetland and waters data would be used to complete notification and permitting requirements under Sections 401 and 404 of the CWA. Other federal, state, county, local, or tribal wetland regulatory oversight may be triggered if a particular wetland area provides critical or limited habitat for federal- or state-listed species or if the wetlands are of particular value or sensitivity.

Wetlands on farmed lands, often referred to as sub-irrigated areas, are common in some areas of the proposed Project area. These wetlands are managed under Section 404 of the CWA and a wetland conservation provision under the Swampbuster provision of the Food Security Act (USEPA 2012c). Fill activity in farmed wetlands is regulated under the Swampbuster provisions of the 1985 and 1990 farm bills to discourage the conversion of wetlands to agricultural use if they receive USDA farm benefits (USACE 2012b). Wetlands on farmed lands fall into two categories: 1) *Farmed wetlands*; and 2) *Prior converted wetlands*.

Farmed wetlands are wetlands that were manipulated before 1985 to support agriculture (e.g., by drainage or leveling), but continue to support wetland habitat (e.g., potholes and playas). *Farmed*

wetlands are also regulated by Section 404 of the CWA if they are jurisdictional, and in some cases at the state level if they meet the state's definition of a *water of the state* (USACE 2012b). In contrast, *Prior converted wetlands* are former wetland areas that were also manipulated before 1985, but no longer meet hydrologic criteria, and have not been abandoned (defined as inactive farming for five consecutive years). Activities in *Prior converted wetlands* are not subject to the CWA Section 404 or Swampbuster provision, unless production has been abandoned for 5 consecutive years and wetland conditions have returned (USACE 2012b).

Commodities planted in wetlands converted by drainage or leveling (or other conversion activities) after December 23, 1985, or where wetlands have been purposely converted to agricultural production, even if a crop is not planted, after November 28, 1990, would result in USDA benefit ineligibility. A Section 404 permit is required prior to beginning any non-exempt activity involving placement of dredged or fill materials into jurisdictional wetlands. Certain ongoing, normal farming practices (e.g., plowing and seeding) are exempt and do not require a Section 404 permit. However, to be exempt, the activities cannot be associated with bringing an existing wetland into agricultural production or converting an agricultural wetland to a non-wetland area (USACE 2012b). As a result of changes in vegetation species at the time of wetland conversion to farmland, wetland vegetation indicators are often absent and cannot be used for routine wetland determinations. Hydrologic and hydric soil criteria may also be absent or disturbed in converted wetlands.

The NRCS is the lead agency for conducting delineations for Swampbuster and CWA Section 404 on agricultural lands (USACE 2012b). The USACE is the lead agency for wetlands on non-agricultural lands or for non-agricultural activities on agricultural lands (e.g., pipeline construction). The NRCS maintains records of converted wetlands that receive USDA benefits; these records may be confidential and require landowner permission to access the environmental history of the land.

The National Park Service, acting for the Department of Interior, would also be included as a cooperating agency during the permitting process due to the proposed Project's proximity to the Missouri National Recreational River and the Niobrara National Scenic River. The proposed Project is located approximately 46 miles upstream of the Missouri National Recreational River, and approximately 12 miles downstream of the Niobrara National Scenic River segment. The Missouri National Recreational River and the Niobrara National Scenic River have regulatory authority over water resource projects within the bed and banks of designated segments, in accordance with Section 7(a) of the Wild and Scenic Rivers Act (16 United States Code § 1278). Water resources projects on designated segments that are determined to have a direct and adverse effect on the free-flowing condition, water quality, or the values for which the rivers were established are prohibited unless impacts can be avoided or eliminated. Additionally, water resources projects above and below designated segments or on tributaries to those segments that are determined to invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values of the rivers are also prohibited. The distance between the proposed pipeline location relative to the designated recreational and scenic river segments greatly reduces the potential for the proposed Project to have any direct or indirect impacts to these rivers. Section 4.13.2.9, Spill Propagation, discusses key factors, including modeled spill volumes, that influence the way spill plumes could impact surface waterbodies.

In addition to the agency involvement noted above, the evaluation of a Section 404 permit considers compliance with each of the following laws, where applicable: Sections 401, 402, and

404 of the CWA; Section 307(c) of the Coastal Zone Management Act of 1972, as amended; Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended; the National Environmental Policy Act of 1969; the Fish and Wildlife Act of 1956; the Migratory Marine Game-Fish Act; the Fish and Wildlife Coordination Act; the Federal Power Act of 1920, as amended; the National Historic Preservation Act of 1966; the Interstate Land Sales Full Disclosure Act; the Endangered Species Act; the Deepwater Port Act of 1974; the Marine Mammal Protection Act of 1972; Section 7(a) of the Wild and Scenic Rivers Act; the Ocean Thermal Energy Act of 1980; the National Fishing Enhancement Act of 1984; the Magnuson-Stevens Fishery and Conservation and Management Act; the Bald and Golden Eagle Protection Act; and the Migratory Bird Treaty Act. In addition, compliance with other federal requirements, such as Executive Order 11990 and federal regulations addressing issues such as floodplains, essential fish habitat, and critical resource waters are also considered (USACE 2012a).

Other state, local, or tribal wetland regulations may apply to wetland fill activity. However, due to the large number of counties and potential municipalities adjacent to or within the proposed Project area, these regulations are not specifically addressed in this section. Local wetland regulations would be consulted during the permitting process. The Section 404 permitting process would address this issue by requesting a “list of all tribal, local, state, and federal permits” that have been “issued, waived, denied or [are] pending.” This process would also apply to the connected actions described in Section 3.4.5, Connected Actions, below. A summary of the federal and state regulatory setting described above is provided in Table 3.4-2.

Table 3.4-2 Wetland Permitting Summary

	Agency	Regulation/Permit Type	Description
Federal	USACE	Section 10 of Rivers and Harbors Act	Placement of structures or work in, over, under, or affecting navigable waters of the U.S.
	USACE	CWA Section 401 Certification (delegated to the states, see below)	Activities that may adversely affect state water quality standards for “waters of the state”. Managed by states.
	USACE	CWA Section 404	Discharge of dredged or fill material into jurisdictional wetlands
	USEPA	CWA Section 404(c) (USEPA "Veto Authority")	USEPA has authority to prohibit, restrict, or deny discharge of dredged or fill material to “waters of the US” (including wetlands) if it will have unacceptable adverse effects on municipal water supplies, fishery areas, wildlife, or recreational areas
	USEPA	Federal “Antidegradation” law (40 Code of Federal Regulations 131.12)	Each state must develop, adopt, and retain a statewide antidegradation policy regarding water quality standards and establish procedures for its implementation through the water quality management process.

	Agency	Regulation/Permit Type	Description
	USDA—NRCS	Swampbuster provision under the Food Security Act	The USDA-NRCS is the lead agency for wetlands associated with agricultural land. The USDA-NRCS manages <i>farmed</i> wetlands and <i>prior converted</i> wetlands under the wetland conservation provisions defined in the Swampbuster provisions of the Food Security Act.
Montana— State	MDEQ	Federal CWA Section 401 Certification	Activities that may adversely affect state water quality standards for "waters of the state" (including wetlands). Managed by states.
	MDEQ	Federal CWA Section 404	Reviews all Section 404 permit applications for compliance with state water laws
	MDEQ	Anti-degradation Policy and Implementation Procedure	Regulates water quality degradation beyond Section 401 (including in wetlands)
South Dakota— State	SDDENR	Federal CWA Section 401 Certification	Activities that may adversely affect state water quality standards for "waters of the state" (including wetlands). Managed by states.
	SDDENR	Federal CWA Section 404	Reviews all Section 404 permit applications for compliance with state water laws
	SDDENR	Anti-degradation Implementation Procedure	Regulates water quality degradation beyond Section 401 (including in wetlands)
Nebraska— State	Dept. of Environmental Quality	Federal CWA Section 401 Certification	Activities that may adversely affect state water quality standards for "waters of the state" (including wetlands). Managed by states.
	NDEQ	Federal CWA Section 404	Reviews all Section 404 permit applications for compliance with state water laws
	NDEQ	Anti-degradation Clause	Regulates water quality degradation beyond Section 401 (including in wetlands)

3.4.5 Connected Actions

There are three connected actions² of the Proposed Route:

- The Bakken Marketlink Project,
- The Big Bend to Witten 230-kV Transmission Project, and
- Electrical distribution lines and substations. Connected actions are more fully addressed in Section 4.4.5, Wetlands, Connected Actions, but are described briefly here.

² Connected actions are those that 1) automatically trigger other actions which may require environmental impact statements, 2) cannot or will not proceed unless other actions are taken previously or simultaneously, 3) are interdependent parts of a larger action and depend on the larger action for their justification.

3.4.5.1 Bakken Marketlink Project

Construction and operation of the Bakken Marketlink Project would consist of a 16-inch pipeline approximately 5 miles in length, additional piping, booster pumps, meter manifolds, and two 250,000-barrel tanks that would be used to store crude from connecting third-party pipelines and terminals. The Bakken Marketlink Project facilities would be located within private land currently used as pastureland and hayfields.

3.4.5.2 Big Bend to Witten 230-kV Transmission Project

The Big Bend to Witten 230-kV Transmission Project is located in Lyman and Tripp counties in south-central South Dakota. The project would consist of replacing the existing Big Bend-Fort Thompson No. 2 230-kV Transmission Line Turning Structure on the south side of the Big Bend Dam on Lake Sharpe; constructing a new double-circuit 230-kV transmission line for approximately 1 mile southwest of the dam; and constructing a new Lower Brule Substation south of the dam. The existing Witten Substation would be expanded immediately to the northeast to accommodate the new 230-kV connection.

3.4.5.3 Electrical Distribution Lines and Substations

The third connected action is associated with the electrical distribution lines and substations needed to support project related facilities. Multiple private power companies or cooperatives would construct distribution lines to deliver power to 20 pump stations located along the length of the pipeline in the United States. These distribution lines would range in length from approximately 0.1-mile to 62 miles, with the average being 13 miles long, and are estimated to extend about 377 miles, combined. The distribution lines would range in capacity from 69 kV to 240 kV, but the majority would have a capacity of 115 kV. The lines would be strung on a single-pole and/or on H-frame wood poles.

All three of the connected actions have potential to affect regional wetland types described in Sections 3.4.2 through 3.4.4 above. Additional wetlands-related information associated with the connected actions is provided in Section 4.4.5, Connected Actions.

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