

Energy Gateway South Transmission Project

Draft Special Status Wildlife Report

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Prepared for:

Ashley National Forest (Duchesne Ranger District)
Manti-La Sal National Forest (Ferron, Price, and Sanpete Ranger Districts)
Uinta National Forest (Heber-Kamas and Spanish Fork Ranger Districts)

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Acronyms

Applicant	PacifiCorp (doing business as Rocky Mountain Power)
BBS	North American Bird Breeding Surveys
BLM	Bureau of Land Management
C	Candidate
CIAA	Cumulative impact analysis area
COUT	Colorado to Utah – U.S. Highway 40 to Central Utah to Clover alternative routes
COUT BAX	Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover alternative routes
EIS	Environmental impact statement
ESA	Endangered Species Act
FWS	U.S. Fish and Wildlife Service
GAP	Gap Analysis Project (National Land Cover)
GIS	Geographic information systems
IUCN	International Union for Conservation of Nature
kV	Kilovolt
LRMP	Land and resource management plan
MIG	Migratory birds of conservation concern
MIS	Management indicator species
NWI	National Wetlands Inventory
PFA	Post-fledgling area
Project	Energy Gateway South Transmission Project
POD	Plan of development
RFFAs	Reasonably foreseeable future actions
SS	Sensitive species
UDWR	Utah Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

Introduction

In December 2008, PacifiCorp (doing business as Rocky Mountain Power, the Applicant) submitted an Application for Transportation and Utility Systems and Facilities on Federal Lands (Standard Form 299) to the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) for constructing, operating, and maintaining the Energy Gateway South Transmission Project (Project). In response, the BLM, as the lead agency, in coordination with the USFS and other cooperating agencies, are preparing an environmental impact statement (EIS) and land-use plan amendments to evaluate and disclose the potential Project-related environmental impacts that could result from the action proposed by the Applicant (Proposed Action) and alternative routes of the Proposed Action. The Applicant's interests and objectives, the purpose of the federal action, and a description of the Project are provided in more detail in Chapters 1 and 2 of the Project Draft EIS (BLM 2014).

Approximately 1,425 miles of alternative routes, through 16 counties in the states of Wyoming, Colorado, and Utah are being evaluated for the transmission line and associated facilities (e.g., access roads, series compensation stations, and temporary construction workspaces). Portions of the alternative routes cross three national forests—the Ashley, Uinta-Wasatch-Cache¹, and Manti-La Sal National Forests.

This document evaluates the potential direct, indirect, and cumulative effects of the Project on USFS Region 4 sensitive species, national forest management indicator species (MIS), and selected migratory bird species known or suspected to occur on USFS-administered lands affected by the Project. The purpose of this document is to provide analysis, determination, and rationale for the likely effects of the alternative routes on these species.

Overview of Issues Addressed

MIS species lists were obtained from the land resource management plans (LRMP) for the Ashley, Manti-La Sal, and Uinta National Forests (USFS 1986a, b 2003). Sensitive species with potential to occur on national forests crossed by the alternative routes were identified on the USFS Intermountain Region sensitive species lists (USFS 2013).

On August 1, 2007, the national forests in Utah formalized an updated state-wide strategy for addressing migratory birds in USFS planning and project documents (USFS 2008). Species selected for this analysis were chosen based on the process identified in this strategy. Bird species were selected from species included in the Utah Partners in Flight Conservation Strategy (Parrish et al. 2002), the Utah Comprehensive Wildlife Conservation Strategy (Utah Division of Wildlife Resources [UDWR] 2005), and the U.S. Fish and Wildlife Service (FWS) Birds of Conservation Concern bird lists (FWS 2008). Birds included in these publications include those at higher risk due to habitat loss or degradation, with highest-risk species given priority status in the Utah Partners in Flight Conservation Strategy listing (Parrish et al. 2002).

For this analysis, black rose-finch, black-throated gray warbler, grasshopper sparrow, sage sparrow and Virginia's warbler were selected as representative species to analyze the effects of transmission line impacts on potentially suitable habitats. Effects on all other habitat types were analyzed using migratory birds that were also sensitive and/or MIS species.

¹In March 2008, the Uinta National Forest and Wasatch-Cache National Forest were combined into one administrative unit. Each of these National Forests is still operating under individual Forest Plans approved in 2003. When the term Uinta is used in context with the USFS, it refers to the Uinta Planning Area of the Uinta-Wasatch-Cache National Forest.

Affected Environment

Information concerning monitoring results, life histories, suitable habitats, threats, population trends, and ecology for special status species that are known or suspected to occur in the Project area (Table 1) can be found in the *Life Histories and Population Analysis for Management Indicator Species of the Ashley National Forest* (USFS 2006a); *Life History and Analysis of Endangered, Threatened, Candidate, and Sensitive Species of the Ashley National Forest* (USFS 2006b); *Terrestrial Wildlife Monitoring Report on the Roosevelt/Duchesne Ranger District, Ashley National Forest* (2012a); Uinta National Forest monitoring reports (USFS 2010a,b; 2011f); *Ashley National Forest Species Diversity Index* (USFS 2009); and the *State of the Forest Reports for the Uinta National Forest* (USFS 1999, 2002, 2005 and 2012b). Estimated effects and potential determinations are based in part upon the information presented in these documents. These documents are hereby incorporated by reference. Information on big game species in Utah were obtained from Statewide Management Plans (UDWR 2008, 2010), and Herd Unit Management Plans (UDWR 2006a, b, c; 2012a, b, c).

In addition to these data, agency personnel were consulted to identify specific species' ranges on USFS-administered land, and relevant scientific literature, agency publications, and online databases (e.g., NatureServe 2013; Birds of North America Online 2013; World Wildlife Fund WildFinder 2006), and International Union for Conservation of Nature Redlist (IUCN 2012) were reviewed.

Using the information collected, the full list of special status species was refined to include only species likely to occur on USFS-administered land. Table 1 identifies federally listed candidate species, USFS-sensitive, MIS, and migratory bird species that may be present in areas affected by the Project that are analyzed in this document.

TABLE 1 SPECIAL STATUS WILDLIFE SPECIES KNOWN TO OCCUR OR WITH POTENTIAL TO OCCUR IN ALTERNATIVE ROUTE STUDY CORRIDORS					
Common Name	Scientific Name	National Forest			Rationale
		Ashley	Manti-La Sal	Uinta	
U.S. Forest Service Sensitive Species and Management Indicator Species					
American beaver	<i>Castor canadensis</i>			MIS	Potentially suitable habitat exists in the Project area on the Uinta National Forest.
Bald eagle	<i>Haliaeetus leucocephalus</i>	SS	SS	SS	Potentially suitable nesting, wintering and roosting areas, and foraging habitat occur on the three national forests.
Elk	<i>Cervus elaphus</i>	MIS	MIS		The Project area is in Utah Division of Wildlife Resources (UDWR) designated habitats on the Ashley and Manti-La Sal National Forests (UDWR 2007a).

**TABLE 1
SPECIAL STATUS WILDLIFE SPECIES KNOWN TO OCCUR
OR WITH POTENTIAL TO OCCUR IN ALTERNATIVE ROUTE STUDY CORRIDORS**

Common Name	Scientific Name	National Forest			Rationale
		Ashley	Manti-La Sal	Uinta	
Flammulated owl	<i>Otus flammeolus</i>	SS/MIG	SS/MIG	SS/MIG	Potentially suitable nesting and foraging habitat occurs in the Project area on the three national forests.
Golden eagle	<i>Aquila chrysaetos</i>	MIS/MIG	MIS/MIG	MIG	Indicator species for cliff and rock habitat on forests. Known to nest in Utah; known nest locations on the Ashley and Manti-La Sal National Forests (U.S. Forest Service [USFS] 2006b). Potentially suitable nesting and foraging habitat occurs in the Project area on the three national forests.
Greater sage-grouse	<i>Centrocercus urophasianus</i>	C/SS/MIS	C/SS	C/SS	Occupied, winter, and brood-rearing habitats are crossed by the Project on the Manti-La Sal National Forest (UDWR 2011a,b,c; 2013)
Lincoln's sparrow	<i>Melospiza lincolni</i>	MIS/MIG	MIG	MIG	Potentially suitable nesting and foraging habitat occurs in the Project area on the Ashley National Forest (USFS 2006b).
Mule deer	<i>Odocoileus hemionus</i>	MIS	MIS		The Project area is in UDWR-designated habitats on the Ashley and Manti-La Sal National Forests (UDWR 2007b).
Northern goshawk	<i>Accipiter gentilis</i>	SS/MIS/MIG	SS/MIS/MIG	SS/MIS/MIG	Potentially suitable nesting and foraging habitat occurs in the Project area on the three national forests.
Peregrine falcon	<i>Falco peregrinus anatum</i>	SS	SS	SS	Potentially suitable nesting and foraging habitat occurs in the Project area on the three national forests.

**TABLE 1
SPECIAL STATUS WILDLIFE SPECIES KNOWN TO OCCUR
OR WITH POTENTIAL TO OCCUR IN ALTERNATIVE ROUTE STUDY CORRIDORS**

Common Name	Scientific Name	National Forest			Rationale
		Ashley	Manti-La Sal	Uinta	
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	MIS			Potentially suitable nesting and foraging habitat occurs in the Project area on the Ashley National Forest (USFS 2006b).
Song sparrow	<i>Melospiza melodia</i>	MIS			Potentially suitable nesting and foraging habitat occurs in the Project area on the Ashley National Forest (USFS 2006b).
Spotted bat	<i>Euderma maculatum</i>	SS	SS	SS	Potentially suitable roosting and foraging habitat occurs in the Project area on the three national forests.
Three-toed woodpecker	<i>Picoides dorsalis</i>	SS	SS	SS/MIS	Potentially suitable nesting and foraging habitat occurs in the Project area on the three national forests.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SS	SS	SS	Potentially suitable roosting and foraging habitat occurs in the Project area on the three national forests.
Warbling vireo	<i>Vireo gilvus</i>	MIS			Potentially suitable mapped nesting and foraging habitat occurs in the Project area on the Ashley National Forest.
Other Species of Concern: Migratory Birds					
Black rosey-finch	<i>Leucosticte atrata</i>	MIG	MIG	MIG	Potentially suitable alpine breeding habitat above 8,600 feet is very limited in the Project area on the Manti-La Sal and Uinta National Forests.
Black-throated gray warbler	<i>Setophaga nigrescens</i>	MIG	MIG	MIG	Potentially suitable breeding habitat occurs in pinyon-juniper and mountain shrub habitats in the Project area on the three national forests.

TABLE 1 SPECIAL STATUS WILDLIFE SPECIES KNOWN TO OCCUR OR WITH POTENTIAL TO OCCUR IN ALTERNATIVE ROUTE STUDY CORRIDORS					
Common Name	Scientific Name	National Forest			Rationale
		Ashley	Manti-La Sal	Uinta	
Grasshopper sparrow	<i>Ammodramus savannarum</i>	MIG	MIG	MIG	Potentially suitable breeding habitat occurs in grassland habitat in the Project area on the three national forests.
Sage sparrow	<i>Artemisiospiza belli</i>	MIG	MIG	MIG	Potentially suitable breeding habitat occurs in sagebrush communities in the Project area on the three national forests.
Virginia's warbler	<i>Oreothlypis virginiae</i>	MIG	MIG	MIG	Potentially suitable habitat occurs in montane and mountain shrub habitat in the Project area on the three national forests.

NOTES:
Nomenclature follows U.S. Fish and Wildlife Service (2012a) for federally listed candidate species and NatureServe (2013) for all others.
Federally Listed (U.S. Fish and Wildlife Service)
C = Candidate
USFS Status
MIS = Management indicator species
SS = Sensitive species
Other Species of Concern
MIG = Migratory birds of conservation concern

Table 2 identifies species included on lists described above that do not occur or for which suitable habitat does not occur in areas affected by the Project on USFS-administered lands. Impacts on these species would not be anticipated due to implementation of the Project; therefore, they have not been carried forward for a detailed analysis.

**TABLE 2
SPECIAL STATUS WILDLIFE SPECIES THAT DO NOT OCCUR
IN ALTERNATIVE ROUTE STUDY CORRIDORS**

Common Name	Scientific Name	National Forest			Rationale
		Ashley	Manti-La Sal	Uinta	
U.S. Forest Service Sensitive Species and Management Indicator Species					
Abert's squirrel	<i>Sciurus aberti</i>		MIS		Abert's squirrel occurs only on the Monticello Ranger District of the Manti-La Sal National Forest, which would not be affected by the Project.
Boreal owl	<i>Aegolius funereus</i>	SS			Suitable continuous coniferous forest habitat does not occur in the Project area on the Ashley National Forest.
California bighorn sheep	<i>O.canadensis californiana</i>			SS	Species has been translocated to Utah (Antelope Island, Oak Creek, and Newfoundland Mountain Range), but translocation areas are outside the Project area.
Desert bighorn sheep	<i>Ovis c.nelsoni</i>		SS		No mapped habitat exists on areas of the Manti-La Sal National Forest crossed by Project alternative routes.
Fisher	<i>Martes pennanti</i>			SS	Predicted range for the species is outside the Project area. The species is not known to occur in the Project area (Utah Natural Heritage Program 2011).
Great gray owl	<i>Strix nebulosa</i>	SS			Predicted range for the species is outside the Project area. The species is not known to occur in the Project area (Utah Natural Heritage Program 2011).
North American wolverine	<i>Gulo gulo luscus</i>	C/SS			Suitable tundra or boreal forest habitat does not occur in the Project area on the Ashley National Forest.
Rocky mountain bighorn sheep	<i>Ovis canadensis canadensis</i>	SS		SS	Suitable habitat as designated by the Utah Division of Wildlife Resources does not occur in the Project area on any national forest.
White-tailed ptarmigan	<i>Lagopus leucura</i>		MIS		Suitable alpine meadow habitat does not occur in the Project area on the Ashley National Forest.

TABLE 2 SPECIAL STATUS WILDLIFE SPECIES THAT DO NOT OCCUR IN ALTERNATIVE ROUTE STUDY CORRIDORS					
Common Name	Scientific Name	National Forest			Rationale
		Ashley	Manti-La Sal	Uinta	
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	C/SS	C/SS	C/SS	Potentially suitable riparian habitat does not occur in the Project area on any of the national forests.
NOTES: Nomenclature follows U.S. Fish and Wildlife Service (2012a) for federally listed threatened and endangered species and NatureServe (2013) for all others. Federally Listed (U.S. Fish and Wildlife Service) C = Candidate U.S. Forest Service Status MIS = Management indicator species SS = Sensitive species					

Existing Condition

Ashley National Forest

Alternative COUT-B and route variations as well as Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 cross the Ashley National Forest. These alternative routes cross wildlife habitats in the vicinity of Sowers Canyon, Reservation Ridge, or both areas.

Alternative COUT-B and Route Variations COUT-B-1, COUT-B-2, COUT-B-4 cross the Ashley National Forest through Sowers Canyon. Habitats in the 2-mile-wide study corridor in Sowers Canyon have been largely unmodified and unaffected by anthropogenic events. The alternative routes parallel existing linear facilities, including a lower-voltage transmission line and Forest Road 152 (Sowers Canyon Road). Sower Canyon Road is used for recreational access to the Ashley National Forest, though its distance from major population centers and lack of major recreational draws in Sowers Canyon results in only minor use. The existing transmission line results in occasional disturbance associated with vegetation maintenance and line inspections; however, the right-of-way is narrow and has only resulted in minor habitat modification. Habitats north of the Ashley National Forest have been affected by substantial oil and gas development. Oil and gas development is known to negatively affect habitat functionality and may have displaced wildlife into the similar but unaffected areas of the Ashley National Forest. Overall, habitats in the study corridor through Sowers Canyon on the Ashley National Forest maintain high levels of functionality for wildlife and are largely unaffected by past actions that would fragment, modify, and reduce the quality of wildlife habitats.

Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 would cross portions of the Ashley National Forest in the vicinity of Reservation Ridge. Habitats in the 2-mile-wide study corridor in the vicinity of Reservation Ridge are on the very southern edge of the Ashley National Forest and also have been largely unmodified and unaffected by anthropogenic events. The alternative routes follow an existing ungraded forest road (the Reservation Ridge Road). The Reservation Ridge Road is rough and only suitable for low-speed vehicle use, is located far from major population centers, and receives only minor public use. Additionally, Reservation Ridge is located approximately 4 miles north of a major highway, railroad, and other human activity in the Emma Park area. The duration and intensity of human activity in the Emma Park area may displace wildlife resulting in more intensive wildlife use of the Reservation Ridge area than would otherwise be expected. Overall, habitats in the study corridor in the vicinity of Reservation Ridge maintain high levels of functionality for wildlife and

are largely unaffected by past actions that would fragment, modify, and reduce the quality of wildlife habitats.

Manti-La Sal National Forest

All alternative routes cross the Manti-La Sal National Forest. Alternatives COUT-A, COUT-B, and COUT-C and route variations cross the edge of the Manti-La Sal National Forest in the vicinity of Spanish Fork and Thistle Creek Canyons. Alternatives COUT BAX-E and COUT-H cross the Manti-La Sal National Forest between Price and Fairview. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I cross the Manti-La Sal National Forest between Huntington and Mount Pleasant.

Alternatives COUT-A, COUT-B, and COUT-C and route variations cross the edge of the Manti-La Sal National Forest in the vicinity of Spanish Fork and Thistle Creek Canyons. Habitats in the 2-mile-wide study corridor in Spanish Fork and Thistle Creek Canyons have been heavily modified by anthropogenic and natural events. The corridor parallels existing linear facilities including a steel-lattice 345 Kilovolt (kV) transmission line, U.S. Highways 6 and 89, and the Rio Grande Western Railroad. In addition to these linear facilities, habitats on the forest in Spanish Fork and Thistle Creek Canyons have been affected by nearby residential and agricultural developments, livestock grazing, and frequent off-highway-vehicle and recreational use. These events have fragmented, modified, and reduced the quality of habitats present in the study corridor in Spanish Fork and Thistle Creek Canyons. Native vegetation has been cleared and non-native invasive plants have become established in many areas of disturbance. The development of high-voltage transmission lines, residential and agricultural developments, major highways, and the railroad has resulted in increased levels of human activity, noise, and construction of significant barriers to terrestrial wildlife movement (e.g., U.S. Highways 6 and 89).

Habitats in the 2-mile-wide study corridor for Alternatives COUT BAX-E and COUT-H have been largely unmodified and unaffected by anthropogenic events. The alternative routes parallel existing linear facilities for portions of the crossing of the Manti-La Sal National Forest including a buried pipeline, paved county roads, and graded and unimproved forest roads. Localized areas in the 2-mile-wide study corridor have been affected by wildfires (e.g., the 2012 Seeley Fire), development of cabins and residential developments on private land adjacent to the national forest, and high levels of recreational use. Wildfires have resulted in substantial, though natural, changes in the composition and structure of vegetation that provides habitat for wildlife. Human presence, vehicle use and noise, and modification of vegetation associated with roadways and residential developments have fragmented, modified, and reduced the quality of habitats adjacent to the roads and developments. However, the mountainous, forested nature of habitats in this area has limited developmental impacts on the majority of wildlife habitat on the national forest. Overall, habitats in the study corridor between Price and Fairview maintain functionality for wildlife and are largely unaffected by past anthropogenic actions that would fragment, modify, and reduce the quality of wildlife habitats.

For Alternatives COUT BAX-B, COUT BAX-C, and COUT-I, habitats in the 2-mile-wide study corridor have been largely unmodified and unaffected by anthropogenic events. The alternative routes parallel existing linear facilities for the crossing of the Manti-La Sal National Forest, including a 345kV wood-framed transmission line, paved county roads, and graded and unimproved forest roads. Localized areas in the 2-mile-wide study corridor have been affected by surface facilities associated with underground coal mining, oil and gas development, and high levels of recreational use. Human presence, vehicle use and noise, and modification of vegetation associated with roadways and industrial developments have fragmented, modified, and reduced the quality of habitats adjacent to the roads and developments. However, the mountainous, forested nature of habitats in this area has limited developmental impacts on the majority of wildlife habitats on the national forest. Overall, habitats in the study corridor between

Huntington and Mount Pleasant maintain functionality for wildlife and are largely unaffected by past anthropogenic actions that would fragment, modify, and reduce the quality of wildlife habitats.

Uinta National Forest

Alternative COUT-A and Route Variation COUT-A-1 cross the Uinta National Forest through the Sheep Creek, Upper Tie Fork, and Willow Creek drainages. Habitats in the 2-mile-wide study corridor in these areas have been largely unmodified and unaffected by anthropogenic events. The alternative routes parallel existing linear facilities, including the Bonanza-Mona 345kV transmission line as well as graded and unimproved forest roads. The existing Bonanza-Mona transmission line was constructed in the 1980s and wildlife that use habitats adjacent to the transmission line have likely adapted to the modification of vegetation in the right-of-way and occasional disturbance associated with human presence and equipment use during transmission line inspection and maintenance activities. The Sheep Creek and Strawberry Ridge roads are located in the 2-mile-wide study corridor in this area and are graded forest roads that receive moderate-to-heavy use. Several ungraded forest roads also occur in the 2-mile-wide study corridor. Human presence, vehicle use and noise, and modification of vegetation associated with these roadways have fragmented, modified, and reduced the quality of habitats adjacent the roads. However, the mountainous, forested nature of habitats in this area limits the effects of these features on the effectiveness of the habitats and the wildlife that depend on them.

Alternatives COUT-A, COUT-B, and COUT-C and route variations cross the Uinta National Forest through Spanish Fork Canyon. Habitats in the 2-mile-wide study corridor in Spanish Fork Canyon have been heavily modified by anthropogenic and natural events. The corridor parallels existing linear facilities, including two steel-lattice 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, and the Rio Grande Western Railroad. In addition to these linear facilities, habitats on the Forest in Spanish Fork Canyon have been affected by nearby residential developments, livestock grazing, and frequent off-highway-vehicle and recreational use.

These events have fragmented, modified, and reduced the quality of habitats present in the study corridor in Spanish Fork Canyon. Native vegetation has been cleared and non-native invasive plants have become established in many areas of disturbance. The development of multiple high-voltage transmission lines, major highways, and the railroad has resulted in increased levels of human activity, noise, and construction of significant barriers to terrestrial wildlife movement (i.e., U.S. Highway 6).

U.S. Forest Service Sensitive Species and Management Indicator Species

American Beaver (*Castor canadensis*) – MIS: Uinta

Potentially suitable habitat for beaver is typically found within 100 meters of intermittent and perennial streams with less than 15 percent slope (Boyle and Owens 2007). This habitat type is very limited in the Project area on the Uinta National Forest.

Bald Eagle (*Haliaeetus leucocephalus*) – USFS Sensitive: Ashley, Manti-La Sal, and Uinta

Potentially suitable bald eagle nesting, wintering and roosting habitats associated with riparian, wetland, montane, agriculture, and cliff types occur throughout the Project area on the Ashley, Manti-La Sal, and Uinta National Forests. Potential foraging habitat could occur in any of the vegetation communities in the Project area. One known nest is located within 0.5 mile of the Project on the southeastern edge of Strawberry Reservoir on the Uinta National Forest (Bosworth 2003).

Elk (*Cervus elaphus*) – MIS: Ashley and Manti-La Sal

UDWR has designated crucial and substantial elk habitat throughout the Project area, and elk occur throughout the Project area. The Project centerline crosses designated elk habitat on the Ashley and Manti-La Sal National Forests (Table 3).

TABLE 3 SUMMARY OF ESTIMATED LINEAR DISTANCE (IN MILES) OF ELK HABITAT CROSSED ON THE ASHLEY AND MANTI-LA SAL NATIONAL FORESTS			
Alternative Route	Crucial Summer Range	Crucial Winter Range	Substantial Habitat
Ashley National Forest			
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)			
COUT-B	8	2	–
COUT-B-1	8	2	1
COUT-B-2	8	2	–
COUT-B-3	8	2	–
COUT-B-4	8	2	–
COUT-B-5	8	2	–
COUT-C-1	–	–	1
Manti-La Sal National Forest			
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)			
COUT BAX-B	14	–	3
COUT BAX-C	14	–	3
COUT BAX-E	7	–	1
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)			
COUT-A and route variation	–	2	–
COUT-B and route variations	–	2	–
COUT-C route variations only	–	2	–
COUT-H	7	–	1
COUT-I	14	–	3
NOTE: Miles are approximate and have been rounded to the nearest mile.			

Flammulated Owl (*Otus flammeolus*) – USFS Sensitive and Migratory Birds of Conservation Concern (MIG): Ashley, Manti-La Sal, and Uinta

Potentially suitable mature forested habitat is interspersed throughout the Project area, but is limited on the portions that cross the Ashley National Forest and the Uinta National Forest.

Golden Eagle (*Aquila chrysaetos*) – MIS: Ashley and Manti-La Sal; MIG: Ashley, Uinta, and Manti-La Sal

The Ashley National Forest provides 23,655 acres of suitable golden eagle habitat and recorded sightings on the national forest have increased. Three known nest locations have been recorded on the Ashley National Forest, with one nest active in 2002 and one in 2005. The Manti-La Sal National Forest has potential nesting and foraging habitat and known golden eagle nest locations.

**Greater Sage-grouse (*Centrocercus urophasianus*) – Endangered Species Act (ESA):
Candidate; USFS Sensitive: Ashley, Manti-La Sal, and Uinta; MIS: Ashley)**

The Project would not cross within 4 miles of active leks on any of the three national forests and does not cross occupied, crucial brood-rearing, or crucial winter habitat on the Ashley or Uinta National Forests. The Project centerline does cross occupied, crucial brood-rearing, and crucial winter habitat used by the Horn Mountain sage-grouse population on the Manti-La Sal National Forest (Table 4) east of Highway 31 and occupied, crucial brood-rearing, and crucial winter habitat not associated with a specific population. The Horn Mountain sage-grouse population is described further in Section 3.2.8.5 of the Project Draft EIS (BLM 2014).

TABLE 4 SUMMARY OF ESTIMATED LINEAR DISTANCE (IN MILES) OF GREATER SAGE-GROUSE HABITAT CROSSED ON THE MANTI-LA SAL NATIONAL FOREST			
Alternative Route	Brood-rearing habitat	Occupied habitat	Winter habitat
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)			
COUT BAX-B	6	6	4
COUT BAX-C	6	6	4
COUT BAX-E	2	2	–
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)			
COUT-H	2	2	–
COUT-I	6	6	4

NOTE: Miles are approximate and have been rounded to the nearest mile.

Lincoln’s Sparrow (*Melospiza lincolni*) – MIS: Ashley; MIG: Ashley, Uinta, and Manti-La Sal

Potentially suitable riparian habitat is limited in the Project area on the Ashley National Forest.

Mule Deer (*Odocoileus hemionus*) – MIS: Ashley and Manti-La Sal

UDWR has designated crucial and substantial mule deer habitat throughout the Project area, and mule deer occur throughout the Project area. The Project would cross designated mule deer habitat on the Ashley and Manti-La Sal National Forests (Table 5).

TABLE 5 SUMMARY OF ESTIMATED LINEAR DISTANCE (IN MILES) OF MULE DEER HABITAT CROSSED ON THE ASHLEY AND MANTI-LA SAL NATIONAL FORESTS					
Alternative Route	Crucial Spring/Fall Habitat	Crucial Summer Range	Crucial Winter Range	Crucial Winter/Spring Habitat	Substantial Habitat
Ashley National Forest					
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)					
COUT-B and route variations	–	2	1	–	7
COUT-C-1	–	1	–	–	–
Manti-La Sal National Forest					
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)					
COUT BAX-B	2	13	2	–	–
COUT BAX-C	2	13	2	–	–
COUT BAX-E	2	6	–	–	–

TABLE 5 SUMMARY OF ESTIMATED LINEAR DISTANCE (IN MILES) OF MULE DEER HABITAT CROSSED ON THE ASHLEY AND MANTI-LA SAL NATIONAL FORESTS					
Alternative Route	Crucial Spring/Fall Habitat	Crucial Summer Range	Crucial Winter Range	Crucial Winter/Spring Habitat	Substantial Habitat
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)					
COUT-A and route variation	–	–	–	2	–
COUT-B and route variations	–	–	–	2	–
COUT-C route variations only	–	–	–	2	–
COUT-H	2	6	–	–	–
COUT-I	2	13	2	–	–
NOTE: Miles are approximate and have been rounded to the nearest mile.					

Northern Goshawk (*Accipter gentilis*) – USFS Sensitive/MIS and MIG: Ashley, Manti-La Sal, and Uinta

Suitable nesting and foraging habitat occurs throughout the Project area on each of the national forests. The Project crosses one known post-fledgling area (PFA) on the Ashley National Forest (Sowers Canyon). On the Manti-La Sal National Forest, Alternatives COUT-H and COUT BAX-E cross the Upper Huntington Creek PFA and are within 200 feet of the North Fork of Burnout Canyon PFA. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I cross the north end of the Trail Mountain PFA, and would be within 1 mile of three other PFAs (Browns Canyon, Right Fork of Rilda, and East Mountain). One known PFA on the Uinta National Forest (Streep Creek) is within 0.25 mile of Alternative COUT-A and Route Variation COUT-A-1; however, the Project would not affect the nest area or PFA habitat of this territory.

Peregrine Falcon (*Falco peregrinus anatum*) – USFS Sensitive: Ashley, Manti-La Sal, and Uinta

Potentially suitable cliff nesting habitat associated with barren and sparsely vegetated areas is limited in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests. Potentially suitable foraging habitat associated with grassland and riparian habitats also is limited on the three national forests.

Red-naped Sapsucker (*Sphyrapicus nuchalis*) – MIS: Ashley

Potentially suitable deciduous woodland habitat is limited in the Project area on the Ashley National Forest.

Song Sparrow (*Melospiza melodia*) – MIS: Ashley

Potentially suitable riparian habitat is very limited in the Project area on the Ashley National Forest.

Spotted Bat (*Euderma maculatum*) and Townsend’s Big-eared Bat (*Corynorhinus townsendii*) – USFS Sensitive: Ashley, Manti-La Sal, and Uinta

Potentially suitable breeding and roosting cliff habitat is very limited in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests. Potentially suitable foraging habitat includes areas within 6 miles of roosting habitat may occur in any of the vegetation communities in the Project area. Five spotted bats have been recorded on the Ashley National Forest, including on the Duchesne Ranger District on the South Unit. One Townsend’s big-eared bat has been recorded on the Ashley National Forest outside of the Project area.

Three-toed Woodpecker (*Picoides dorsalis*) – USFS Sensitive: Ashley, Manti-La Sal, and Uinta; MIS: Uinta

Potentially suitable montane coniferous forest habitat occurs on Ashley, Manti-La Sal, and Uinta National Forests, but is limited in the Project area. Three-toed woodpeckers occur on the Uinta and Ashley National Forests, although no individuals have been recorded on the South Unit of the Ashley National Forest. No observations have been recorded on the Manti-La Sal National Forest.

Warbling Vireo (*Vireo gilvus*) – MIS: Ashley

Potentially suitable aspen and riparian habitat is limited in the Project area on the Ashley National Forest. Warbling vireos have been recorded on the Ashley National Forest.

Other Species of Concern – Migratory Birds

Black Rosey-finch (*Leucosticte atrata*)

Potentially suitable alpine habitat does not occur in the Project area on the Ashley National Forest and is very limited in the Project area on the Manti-La Sal and Uinta National Forests.

Black-throated Gray Warbler (*Setophaga nigrescens*)

Potentially suitable pinyon-juniper habitat occurs in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests. Black-throated gray warblers were identified in UDWR surveys on the Roosevelt/Duchesne Ranger Districts of the Ashley National Forest in 2009.

Grasshopper Sparrow (*Ammodramus savannarum*)

Potentially suitable grassland is limited in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests.

Sage Sparrow (*Artemisiospiza belli*)

Potentially suitable sagebrush/ shrub-steppe habitat occurs in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests.

Virginia's Warbler (*Oreothlypis virginiae*)

Potentially suitable mountain shrubland and oak woodland habitat is limited in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests. Virginia's warbler has been documented in the Roosevelt and Duchesne Ranger Districts of the Ashley National Forest in 2011.

Environmental Consequences

Methodology

Effects on USFS-sensitive, MIS, and other species of concern were evaluated by quantitatively assessing the Project's potential effects on habitat and known occurrences of each species using geographic information systems (GIS). Habitat for each species analyzed was identified using the best available information regarding individual species' life history characteristics and habitat requirements (Table 6). Where possible, existing data maintained by UDWR or USFS (e.g., nest locations, mapped or modeled

habitat) were obtained and used to analyze effects on individual species. For species without pre-existing habitat data on USFS-administered land, potentially suitable habitat was identified using GIS methods and available data. GIS data representing land cover (U.S. Geological Survey [USGS] 2012), elevation and slope (USGS 1999), and locations of waterways (USGS 2009) were collected from publicly available sources. Landcover data were reclassified using methods described in the Project Draft EIS Section 3.2.5.4 (BLM 2014). These data were manipulated using methods described in Table 6 to identify areas of potentially suitable habitat for each species based on their life history requirements. In general, habitat modeling methods used were conservative and are likely to overestimate the amount of habitat available for each species on the landscape as the models do not take into account species-specific selection of habitat features in a given vegetation community.

TABLE 6 METHODS USED TO QUANTIFY SPECIAL STATUS WILDLIFE POTENTIAL HABITATS	
U.S. Forest Service Sensitive Species and MIS	
American beaver	Potential habitat includes areas within 328 feet of intermittent and perennial streams (U.S. Geological Survey [USGS] 2009) with less than 15 percent slope (U.S. Forest Service [USFS] 2010a; USGS 1999; Boyle and Owens 2007).
Bald eagle	Potential nesting, wintering and roosting areas include areas associated with riparian, wetland, montane, agriculture, and cliff Gap Analysis Project (GAP) land-cover types (USGS 2012) within 1 mile of the Project right-of-way. Potential foraging habitat includes all land-cover types on national forest lands in the Project area.
Elk	Utah Division of Wildlife Resources (UDWR) designated elk seasonal range (UDWR 2012a)
Flammulated owl	Potential habitat was identified using GAP land-cover types associated with montane and aspen habitats (USGS 1999).
Golden eagle	Potential nesting habitat was identified using GAP land-cover types associated with alpine, barren/sparsely vegetated, montane, and pinyon-juniper with a greater than 40 percent slope (USGS 2012).
Greater sage-grouse	Lek locations (UDWR 2013); occupied, winter, and brood-rearing habitats (UDWR 2011a, b, c)
Lincoln's sparrow	Potential habitat was identified using GAP land-cover types and National Wetlands Inventory (NWI) data associated with riparian and wetland habitat (USGS 2012; U.S. Fish and Wildlife Service [FWS] 2012b).
Mule deer	UDWR-designated mule deer seasonal range (UDWR 2007b)
Northern goshawk	Known nest locations, nest areas and post-fledgling areas (USFS 2011a, b, c, d) Potential nesting habitat was identified using GAP land-cover types associated with aspen, montane, ponderosa pine and riparian habitats and NWI data (USGS 2012; FWS 2012b). Potential foraging habitat was identified using GAP land-cover types and NWI data associated with aspen, big sagebrush, disturbed, mountain shrub, pinyon-juniper, riparian, and shrub-steppe (USGS 2012; FWS 2012b).
Peregrine falcon	Potential nesting habitat was identified using GAP land-cover types associated with barren/sparsely vegetated cover (cliff) (USGS 2012). Potential foraging habitat within 2 miles of nesting cliff habitat was identified using GAP land-cover types and NWI data associated with riparian and grassland (USGS 2012; FWS 2012b).
Red-naped sapsucker	Potential habitat was identified using GAP land-cover types and NWI data associated with aspen below 9,514 feet; and riparian habitat (USGS 1999, 2012; FWS 2012b).
Song sparrow	Potential habitat was identified using GAP land-cover types and NWI data associated with riparian and wetland habitat (USGS 2012; FWS 2012b).

TABLE 6 METHODS USED TO QUANTIFY SPECIAL STATUS WILDLIFE POTENTIAL HABITATS	
Spotted bat and Townsend's big-eared bat	Potential roosting habitat was identified using GAP land-cover types associated with barren/sparsely vegetated cover (cliff) (USGS 2012) within 1.5 miles of the Project area. Potential foraging habitat was identified using all GAP land-cover types (USGS 2012) within 6 miles of potential roosting habitat in the Project area.
Three-toed woodpecker	Potential habitat was identified using GAP land-cover types associated with montane habitat above elevation 8,000 feet (USGS 1999, 2012; Parrish et al. 2002).
Warbling vireo	Potential habitat was identified using GAP land-cover types and NWI data associated with aspen and riparian habitats below an elevation of 9,514 feet (USGS 1999, 2012; FWS 2012b).
Other Species of Concern: Migratory Birds	
Black rosey-finch	Potential habitat was identified using GAP land-cover types associated with alpine habitat above elevation 8,600 feet (Parrish et al. 2002; USGS 1999, 2012).
Black-throated gray warbler	Potential habitat was identified using GAP land-cover types associated with pinyon juniper habitat (Parrish et al. 2002; USGS 2012).
Grasshopper Sparrow	Potential habitat was identified using GAP land-cover types associated with grassland habitat (Vickery 1996; USGS 2012).
Sage sparrow	Potential habitat was identified using GAP land-cover types associated with sagebrush/shrub-steppe habitat (Martin and Carlson 1998; USGS 2012).
Virginia's Warbler	Potential habitat was identified using GAP land-cover types associated with mountain shrub; oak woodland habitat (Parrish et al. 2002; USGS 2012).

The extent of Project-related disturbance of potentially suitable or known habitat for each species was analyzed quantitatively using GIS. The length of habitat for each species crossed by the Project alternative routes on USFS-administered land was calculated by overlaying the modeled habitat for each species with the alternative route reference centerlines. To estimate the area (in acres) of impacts on this habitat, an average of the acres of disturbance per mile of transmission line was calculated for each alternative route using the total length of each alternative route and the total disturbance estimated for the alternative route presented in Table 2-11 of the Project Draft EIS (BLM 2014). The average extent of disturbance per mile for each alternative route and the total length of habitat crossed were used to calculate the area (in acres) of potential effects on each wildlife habitat. Calculation of the area of impacts on habitat using these methods is conservative as much of the disturbance would be temporary and reclaimed following construction of the Project.

The total area of modeled habitat in a cumulative impact analysis area (CIAA) was calculated to provide context for Project-related disturbance. CIAAs for each species were defined in consideration of the species' life history requirements and sensitivity to disturbance and are described below under Spatial and Temporal Context for Effects Analysis.

Types of Potential Effects

This section includes a description of types of potential effects that were considered in the assessment of potential effects for each species analyzed in this report.

Direct and Indirect Effects

Project-related activities on USFS-administered land could affect wildlife through loss, degradation, and fragmentation of foraging, nesting or breeding habitat, and suitable cover. Direct impacts on wildlife

resources could result from removal, alteration, and damage to vegetation during construction of Project access roads, transmission line towers, and associated facilities. Direct impacts also include loss of ground cover through a reduction in height and vigor of vegetation and through loss and damage of trees and shrubs. The magnitude of potential impacts on wildlife could be greater for habitat obligates, or species with limited range or mobility. However, impacts on wide-ranging species could include temporal or spatial shifts in activity from crucial range habitat and migration corridors. Direct impacts also include increased risk of mortality or injury of wildlife from collision with vehicles, Project structures, or equipment. The probability of mortality or injury of wildlife is a function of specie's life history and physiological traits and individual response to disturbance.

Indirect impacts on wildlife include increased disturbance and physiological stress from human presence, noise and activity during construction in the short-term, or from increased recreational access to occupied or potentially suitable habitat over the long-term (Knick et al. 2003). Construction of new access roads that facilitate increased public access to previously inaccessible locations could increase potential hunting or poaching pressure (Bromley 1985). Prey species also could experience an increase in predation risk due to an increase in perch availability for raptors along transmission line rights-of-way (Knight and Kawashima 1993). Habitat alteration, fragmentation, and degradation could affect sensitive habitat quality and function indirectly through changes in natural fire regimes or microclimate; animal and plant community composition; and alterations to predator-prey dynamics, parasitism, resource competition, and rates of herbivory (Willyard et al. 2004), which could affect reproductive success, population size, survival and fitness of special status species (Riffell et al. 1996, Leung and Marion 2000).

Cumulative Effects

Project-related loss, fragmentation, and modification of habitat could contribute to existing and ongoing loss, fragmentation, and modification of vegetation and terrain that provide habitat for wildlife on USFS-administered land from past and present actions and RFFAs. Construction of the Project could follow, and potentially overlap construction and reclamation efforts of the TransWest Express Transmission Project. Overlapping construction and reclamation periods for the two projects could result in prolonged displacement or increase the extent of displacement of wildlife from important habitats and could extend the potential recovery time of wildlife from the direct and indirect effects of the Project.

The quality and quantity of specific habitat types associated with wildlife (such as riparian corridors that support obligate bird species and contiguous sagebrush habitats that support sage-grouse) are necessary for maintaining viable populations of special status wildlife species on the national forests. Impacts from any one past and present action or RFFA could affect special status wildlife species or their habitat. The incremental cumulative effects of all past and present actions and RFFAs could increase the intensity or magnitude of impacts on some wildlife populations. Disturbance that occurs during multiple breeding seasons in or in proximity to important nesting, breeding, or foraging habitat could have greater or long-term impacts on sensitive species. Individual or population sensitivity to or recovery from cumulative disturbance is a function of species-specific life history characteristics and behavior.

Design Features and Selective Mitigation Measures

USFS LRMPs (and other) land-use plans relevant to the Project were reviewed to identify best-management practices and other measures that mitigate potential impacts and were compiled and condensed into a comprehensive list. The measures comprise (a) design features for environmental protection that the Applicant would implement as standard practice of construction, operation, and/or maintenance (refer to Table 2-8 in the Project Draft EIS [BLM 2014]) and (b) selective mitigation measures the Applicant agrees to apply through the impact assessment and mitigation planning process

(refer to Table 2-13 in Project Draft EIS) to avoid, reduce, or minimize moderate and high impacts of the Project.

If an action alternative is selected, the Project mitigation measures will be carried forward for the alternative route selected into the plan of development (POD) (refer to Project Draft EIS Section 2.4). In the case of some resources (e.g., biological resources, water resources), post-EIS, pedestrian, agency-approved surveys would be required to refine the environmental protection requirements and further develop the detail of the POD and POD mapping. Implementation plans that would be included in the POD include a Plant and Wildlife Species Conservation Plan.

Design features of the Proposed Action and selective mitigation measures would be used under all alternative routes to reduce effects of the Project on wildlife and to meet standards and guidelines in applicable LRMPs. A description of the design features and selective mitigation measures that would be used to reduce effects on wildlife resources analyzed in this report and a description of how these measures would be effective at reducing Project effects is included in the Project Draft EIS, Sections 3.2.7.4 and 3.2.8.4 (BLM 2014). The design features of the Proposed Action and selective mitigation measures were considered in all effects analyses conducted for this report. Additional mitigation measures would be developed and applied to reduce effects in the event that the analysis indicates the measures described in this section do not provide adequate environmental protection for USFS to grant a special-use authorization for an alternative route in compliance with relevant laws, regulations, and agency policies.

Incomplete and Unavailable Information

Determinations of potential impacts on national forest-wide population trends and population viability were evaluated using the best available information. However, information or data on many sensitive species distribution, abundance, and population trends, both in the state of Utah and on USFS-administered land, are not comprehensive or complete.

Spatial and Temporal Context for Effects Analysis

The analysis for each species was conducted in a relevant CIAA. CIAAs for wildlife resources were based on the best available information for species-specific territory or home range, known locations, and biologically relevant buffers for each species (Table 7).

The temporal scope for the Project is the direct, indirect, and cumulative effects that include both short-term and long-term impacts. Short-term impacts are defined as impacts that are anticipated to begin during construction and dissipate in 5 years because of Project reclamation activities. The Applicant's proposal does not include plans for decommissioning the Project; therefore, long-term impacts associated with the presence of the transmission line (e.g., tower foundations) may be permanent and would persist through the life of the Project.

**TABLE 7
METHODS USED TO QUANTIFY SPECIAL STATUS WILDLIFE CUMULATIVE IMPACTS
ANALYSIS AREA**

Common Name	Cumulative Impacts Analysis Area Distance on Either Side of the Proposed Right-of-way	Rationale¹
U.S. Forest Service Sensitive Species and MIS		
American beaver	5,249 feet	2 times the species year-round range (up to 2,625 feet) from den (NatureServe 2013)
Bald eagle	1 mile	2 times the recommended 0.5 mile buffer for the species (U.S. Fish and Wildlife Service 2007)
Elk	Contiguous designated elk seasonal range in wildlife management units crossed by national forest boundaries and crossed by Project alternative routes	Designated seasonal range is essential for the survival of local elk populations. Wildlife management units provide quantifiable measures of current population size and trends and range area and condition.
Flammulated owl	0.5 mile	2 times the recommended 0.25 mile buffer for the species (Romin and Muck 2002)
Golden eagle	1 mile	2 times the recommended 0.5 mile buffer for the species (Romin and Muck 2002)
Greater sage-grouse	11 miles	Sage-grouse that attend leks up to 11 miles from the Project may be indirectly affected by the loss of habitat functionality during other seasons of the year (Connelly et al. 2000).
Lincoln's sparrow	328 feet	Diameter of occupied territory in low-density populations (Ammon 1995)
Mule deer	Contiguous designated mule deer seasonal range in wildlife management units crossed by national forest boundaries and crossed by the proposed right-of-way	Designated seasonal range is essential for the survival of local mule deer populations. Wildlife management units provide quantifiable measures of current population size and trends; range area and condition.
Northern goshawk	1 mile for known nest locations	Average hunting range from nest (Squires and Kennedy 2006)
	6 miles for potentially suitable nesting and foraging habitat	Farthest recorded breeding range from nest (Squires and Kennedy 2006)
Peregrine falcon	2 miles for foraging and nesting habitat	Nest buffer: average hunting range of up to 2 miles from nesting cliff sites (U.S. Fish and Wildlife Service 1984).
Red-naped sapsucker	686 feet	Diameter of defended territory (NatureServe 2013)
Song sparrow	299 feet	Diameter of occupied territory (Arcese et al. 2002)

**TABLE 7
METHODS USED TO QUANTIFY SPECIAL STATUS WILDLIFE CUMULATIVE IMPACTS
ANALYSIS AREA**

Common Name	Cumulative Impacts Analysis Area Distance on Either Side of the Proposed Right-of-way	Rationale¹
Spotted bat and Townsend's big-eared bat	3 miles for roosting habitat	2 times known 1.5 mile roosting habitat distance from roost (Gruver and Keinath 2006, Luce and Keinath 2007)
	6 miles from potentially suitable foraging habitat	Known foraging distance from day roost (Wackenhut and McGraw 1998)
Three-toed woodpecker	2,026 feet	Diameter of occupied territory (NatureServe 2013). Active nests identified through surveys require a 30-acre buffer (U.S. Forest Service 2010b).
Warbling vireo	1,048 feet	Diameter of species territory (NatureServe 2013)
Other Species of Concern: Migratory Birds		
Black rosey-finch	4.98 miles	2 times the foraging distance of 2.49 miles from the nest reported for breeding pairs (Johnson 2002)
Black-throated gray warbler	3,200 feet	Territory size data for black-throated gray warbler are not available (Guzy and Lowther 2012; Parrish et al. 2002). The black-throated gray warbler shares the same genus (<i>Setophaga</i>), and similar natural history traits with the yellow warbler. A 3,200-foot buffer was used based on the territory size of the yellow warbler (NatureServe 2013).
Grasshopper sparrow	524 feet	Diameter of species territory (Vickery 1996)
Sage sparrow	453 feet	Diameter of species largest recorded territory (Wiens et al. 1985)
Virginia's warbler	557 feet	Diameter of species largest recorded territory (Parrish et al. 2002)
NOTE: ¹ Home ranges/territories were assumed to be circular; cumulative impact analysis areas include the 250-foot right-of-way for each alternative route and the adjacent potentially suitable habitat within a distance equal to one home range/territory diameter on either side of the right-of-way.		

Cumulative Effects Analysis

Cumulative disturbance from all past, present, and reasonably foreseeable future actions (RFFAs) on species' habitat in the CIAAs was calculated using shapefiles of specific projects received from agencies and local governments. The extent of all impacts from past and present actions and RFFAs including Project-related disturbance was then determined for all lands, regardless of jurisdiction, in the CIAAs for each wildlife resource. Variations in actual degrees of disturbance from past and present actions and RFFAs are disregarded to provide a consistent and conservative estimate of cumulative effects; all areas of RFFAs identified in shapefiles provided for activities are considered to be equally disturbed for the purposes of this analysis.

Results

U.S. Forest Service Sensitive Species and Management Indicator Species

American Beaver (MIS: Uinta)

Environmental Consequences

Impacts on potentially suitable American beaver habitat on the Uinta National Forest are presented in Tables 8.

TABLE 8 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR AMERICAN BEAVER HABITAT ON THE UINTA NATIONAL FOREST								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	8	372	2.1	45	17	0	63	309
COUT-A-1	8	338	2.4	45	17	0	63	275
NOTES:								
¹ Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. The beaver is a management indicator species for riparian habitat on the Uinta National Forest only.								
Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

The Project would affect less than 2.4 percent of potentially suitable beaver habitat in the CIAA on the Uinta National Forest (Tables 8). Alternative COUT-A and Route Variation COUT-A-1 follow an existing 345kV transmission line through the Uinta National Forest, although areas in the 2-mile-wide study corridor have been largely unaffected by anthropogenic events. Due to the linear nature of beaver habitat along streams on the Uinta National Forest, and anticipated span distances between transmission line structures (refer to Section 2.3 of the Project Draft EIS), construction of permanent transmission line structures and work areas in riparian areas and beaver habitat would likely be avoided and is not anticipated to diminish habitat effectiveness for beaver on the Uinta National Forest. Disturbance to individual beaver could occur as a result of the proposed activities but is unlikely as beavers tend to be crepuscular or nocturnal (NatureServe 2013) and thus active outside of likely construction and maintenance activities schedules.

Project-related impacts on riparian areas and beaver habitat would include minor tree clearing in the right-of-way to allow for safe operation of the transmission line. These effects would be minor and localized and would not prevent the habitat from supporting current or future beaver populations. Preconstruction surveys would be conducted to identify riparian areas and beaver habitat crossed by the Project (Design Feature 3), and in areas where riparian areas or beaver habitats are identified, Selective Mitigation Measures 2 and 7 (avoidance of sensitive resources and spanning or avoiding sensitive features) would be implemented to avoid or reduce impacts on beaver habitat. Access roads have been previously developed to the existing transmission line, and development of new access roads across beaver habitat for construction likely would not be necessary. If necessary, construction of new Project-related access roads

would use existing crossings of riparian areas and beaver habitat (Selective Mitigation Measure 2); therefore, habitat effectiveness for beaver would not be diminished on USFS-administered lands.

Cumulative Effects

Though, unlikely, Project-related loss, fragmentation and modification of potentially suitable American beaver habitat could occur under Alternative COUT-A and Route Variation COUT-A-1. If beaver habitat is affected by the Project, the effects of the Project could contribute to the cumulative loss, fragmentation, and modification of beaver habitat in the CIAA (Table 8). Past and present actions that have affected beaver on the Uinta National Forest include the construction of an existing 345kV steel-lattice transmission line and construction of forest roads. RFFAs include (a) TransWest Express Transmission Project, which would follow the same route through the Uinta National Forest as Alternative COUT-A and Route Variation COUT-A-1 and (b) recreational development (Sheep Creek Trail), which could result in localized increases in human disturbance and noise in potentially suitable beaver habitat on the Uinta National Forest.

Findings

Alternative COUT-A and Route Variation COUT-A-1 could result in local losses or modifications of potentially suitable habitat for beaver on the Uinta National Forest. Any effects on riparian areas or beaver habitat on the Uinta National Forest are anticipated to be minor and localized and would not prevent the habitat from supporting current or future beaver populations. Furthermore, the majority of potentially suitable American beaver habitat on the Uinta National Forest would remain unaffected by the Project and other cumulative actions in the CIAA. Overall, the Project would not adversely affect the current decreasing trend of beaver populations on the Uinta National Forest.

Bald Eagle (USFS Sensitive: Ashley, Manti-La Sal, and Uinta)

Environmental Consequences

Impacts on potentially suitable bald eagle foraging habitat and impacts on nesting, wintering, and roosting habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Tables 9 and 10.

TABLE 9 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR BALD EAGLE FORAGING HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	180	17,778	1.0	1,083	335	0	1,418	16,359
COUT-B-1	198	32,447	0.6	1,195	711	35	1,941	30,506
COUT-B-2	190	25,292	0.7	1,117	528	35	1,680	23,612
COUT-B-3	181	17,778	1.0	1,083	335	0	1,418	16,359
COUT-B-4	189	25,292	0.7	1,117	528	35	1,680	23,612
COUT-B-5	186	17,778	1.0	1,083	335	0	1,418	16,359

**TABLE 9
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR BALD EAGLE FORAGING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COU-C-1	17	14,669	0.1	111	376	37	525	14,145
COU-C-2	9	7,514	0.1	34	193	36	263	7,251
COU-C-4	9	7,514	0.1	34	193	37	264	7,251
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COU BAX)								
COU BAX-B	291	28,275	1.0	14,175	344	174	14,694	13,581
COU BAX-C	286	28,275	1.0	14,175	344	171	14,691	13,584
COU BAX-E	127	16,623	0.8	4,582	1,731	62	6,375	10,248
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COU)								
COU-A	30	6,920	0.4	744	424	91	1,259	5,661
COU-A-1	30	6,920	0.4	744	424	91	1,259	5,661
COU-B	30	6,920	0.4	744	424	90	1,258	5,662
COU-B-1	30	6,920	0.4	744	424	91	1,259	5,661
COU-B-2	30	6,920	0.4	744	424	91	1,259	5,661
COU-B-3	30	6,920	0.4	744	424	91	1,259	5,661
COU-B-4	30	6,920	0.4	744	424	91	1,259	5,661
COU-B-5	31	6,920	0.4	744	424	93	1,261	5,659
COU-C	31	6,920	0.5	744	424	95	1,263	5,657
COU-C-1	32	6,920	0.5	744	424	95	1,263	5,656
COU-C-2	31	6,920	0.5	744	424	95	1,263	5,657
COU-C-3	32	6,920	0.5	744	424	96	1,264	5,656
COU-C-4	32	6,920	0.5	744	424	96	1,264	5,656
COU-C-5	31	6,920	0.4	744	424	93	1,261	5,659
COU-H	142	16,623	0.9	4,582	1,731	70	6,383	10,241
COU-I	307	28,275	1.1	14,175	344	183	14,703	13,572
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COU)								
COU-A	339	29,150	1.2	3,578	2,189	237	6,004	23,146
COU-A-1	331	28,588	1.2	3,568	2,189	241	5,998	22,590
COU-B	138	17,982	0.8	4,335	371	74	4,780	13,201
COU-B-1	156	21,583	0.7	4,354	510	126	4,990	16,593
COU-B-2	156	21,583	0.7	4,354	510	126	4,990	16,593
COU-B-3	139	17,982	0.8	4,335	371	74	4,781	13,201
COU-B-4	155	21,583	0.7	4,354	510	126	4,990	16,593
COU-B-5	142	17,982	0.8	4,335	371	76	4,782	13,199
COU-C	145	17,982	0.8	4,335	371	78	4,784	13,198
COU-C-1	164	21,583	0.8	4,354	510	132	4,996	16,587
COU-C-2	163	21,583	0.8	4,354	510	132	4,996	16,587
COU-C-3	147	17,982	0.8	4,335	371	79	4,785	13,197
COU-C-4	165	21,583	0.8	4,354	510	133	4,997	16,586
COU-C-5	142	17,982	0.8	4,335	371	76	4,782	13,199

NOTES:
¹Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction.
 Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

**TABLE 10
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR BALD EAGLE NESTING, WINTERING, AND ROOSTING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	24	4,746	0.5	317	71	0	388	4,358
COUT-B-1	33	10,263	0.3	352	169	10	530	9,732
COUT-B-2	29	7,239	0.4	323	118	7	448	6,791
COUT-B-3	24	4,746	0.5	317	71	0	388	4,358
COUT-B-4	29	7,239	0.4	323	118	7	448	6,791
COUT-B-5	25	4,746	0.5	317	71	0	388	4,358
COUT-C-1	9	5,517	0.2	34	98	11	143	5,374
COUT-C-2	5	2,492	0.2	6	47	7	59	2,433
COUT-C-4	5	2,492	0.2	6	47	7	60	2,433
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	83	8,746	1.0	4,209	117	49	4,374	4,372
COUT BAX-C	82	8,746	0.9	4,209	117	48	4,373	4,372
COUT BAX-E	21	3,610	0.6	1,259	728	4	1,991	1,619
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	23	3,610	0.6	1,259	728	4	1,992	1,618
COUT-I	88	8,746	1.0	4,209	117	52	4,377	4,369
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	59	4,524	1.3	151	375	55	581	3,943
COUT-A-1	74	4,632	1.6	150	375	71	596	4,036
COUT-B	2	748	0.3	168	12	1	181	567
COUT-B-1	7	1,367	0.5	170	24	3	197	1,170
COUT-B-2	7	1,367	0.5	170	24	3	197	1,170
COUT-B-3	2	748	0.3	168	12	1	181	567
COUT-B-4	7	1,367	0.5	170	24	3	197	1,170
COUT-B-5	2	748	0.3	168	12	1	181	567
COUT-C	3	748	0.3	168	12	1	181	567
COUT-C-1	8	1,367	0.6	170	24	4	198	1,170
COUT-C-2	8	1,367	0.6	170	24	4	198	1,170
COUT-C-3	3	748	0.3	168	12	1	181	567
COUT-C-4	8	1,367	0.6	170	24	4	198	1,170
COUT-C-5	2	748	0.3	168	12	1	181	567

NOTES:

¹Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

The analysis of bald eagle foraging habitat incorporated all possible vegetation types that occur in the CIAA. Bald eagles are most likely to be found foraging near water bodies or sources of carrion (e.g., roads); therefore, this analysis is a conservative estimation of foraging habitat used by bald eagles. The

analysis of bald eagle nesting, wintering, and roosting habitat included riparian, wetland, montane, cliff, and agricultural lands. The analysis of nesting, wintering, and roosting habitat also is conservative because breeding habitat and winter roost areas are generally concentrated close to water bodies and primary food sources (fish, waterfowl and seabirds) or in upland areas where carrion (mammals and birds) is readily available (NatureServe 2013). Preferential roost areas typically include large and accessible conifers close to food sources.

Disturbance to foraging, nesting, wintering, and roosting bald eagles could occur on USFS-administered lands as a result of the proposed activities but is unlikely as bald eagles generally avoid areas of anthropogenic disturbance (NatureServe 2013). Right-of-way clearing would have little impact on bald eagle foraging habitat, while an increase in roads could result in beneficial impacts through increased road kill for foraging eagles. Preconstruction nest and winter roost surveys would be conducted in suitable bald eagle habitat (Design Feature 3), and seasonal and spatial restrictions would be implemented during construction and maintenance to reduce disturbance to roosting or wintering bald eagles (Selective Mitigation Measure 12 and Design Feature 8). In the event that bald eagle winter roosts or nests are located during preconstruction surveys, access roads constructed for the Project would be closed following construction (Selective Mitigation Measure 15) to reduce disturbance to roosting or nesting bald eagles. Potential for mortality to bald eagles from collision with transmission structures would be reduced by implementing avian-safe transmission line design standards (Design Feature 4). Furthermore, due to the phase-to-phase, and phase-to-ground separation of components of 500kV transmission lines, electrocution of bald eagles would not be possible on the transmission line. After application of design features and selective mitigation measures, impacts on bald eagle habitat effectiveness on all three national forests from all alternative routes would be limited to localized loss and modification of potentially suitable bald eagle foraging, nesting, wintering, and roosting habitat. The majority of potentially suitable habitat would remain undisturbed in the CIAA on all three national forests (Tables 9 and 10), and habitat effectiveness for bald eagles on USFS-administered lands would remain largely unaffected by the Project.

The Project would make up less than 1 percent of the total available bald eagle foraging habitat and less than 0.5 percent of potentially suitable nesting, wintering, and roosting habitat in the CIAA on the Ashley National Forest (Tables 9 and 10). Alternative COUT-B and route variations would affect comparatively more bald eagle habitat than Route Variations COUT-C-1, COUT-2, and COUT-C-4 on the Ashley National Forest. Alternative COUT-B and route variations follow linear developments (lower-voltage transmission lines and forest roads) that have resulted in only minor habitat modification, and potentially suitable foraging, nesting, wintering, and roosting habitat in the study corridor maintains high levels of functionality for bald eagles. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 are located in the vicinity of Reservation Ridge on the southern edge of the national forest. This area has largely remained unmodified by anthropogenic developments; therefore, habitat effectiveness for bald eagles would likely be high.

The Project would affect between 0.4 and 1.1 percent of total available bald eagle foraging habitat and between 0.6 and 1.0 percent of potentially suitable nesting, wintering, and roosting habitat in the CIAA on the Manti-La Sal National Forest (Tables 9 and 10). Alternatives COUT-A, COUT-B, and COUT-C and route variations would affect the least potential bald eagle habitats and follow linear developments (i.e., existing transmission lines, U.S. Highways 6 and 89, and the Rio Grande Western Railroad, and forest roads) on the Manti-La Sal National Forest. These developments have decreased the quality and effectiveness of bald eagle habitats that would be crossed by these alternative routes. Additionally, bald eagles that use these habitats are likely habituated to frequent noise and human presence associated with operation of the transportation infrastructure. Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I would affect comparatively more bald eagle habitat than Alternatives COUT-A, COUT-B, and COUT-C and route variations on the Manti-La Sal National Forest.

While the habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, wildfires, and recreation although potentially suitable foraging, nesting, wintering, and roosting habitat in the study corridor for these alternative routes maintain high levels of functionality for bald eagles.

The Project would affect between 0.7 and 1.2 percent of the total available bald eagle foraging habitat and between 0.3 and 1.6 percent of potentially suitable nesting, wintering, and roosting habitat in the CIAA on the Uinta National Forest (Tables 9 and 10). Alternative COUT-A and Route Variation COUT-A-1 would affect comparatively more bald eagle habitat than Alternatives COUT-B and COUT-C and route variations on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat in the 1980s and is subject to occasional human disturbance during transmission line maintenance or inspection. Bald eagles in the area have likely adapted to the modification of habitat in the right-of way and occasional disturbance, and potentially suitable bald eagle foraging, nesting, wintering, and roosting habitats in the study corridor for these alternative routes maintain high levels of functionality. Habitat under Alternatives COUT-B and COUT-C and route variations have been heavily modified by previous development from two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. Bald eagle habitat quality is likely to be diminished in these areas, and bald eagles have likely habituated to frequent noise and human presence from previous development.

Cumulative Effects

Project-related loss and modification of potentially suitable bald eagle foraging, nesting, wintering, and roosting habitat under all alternative routes could contribute to the cumulative loss, fragmentation, and modification of potentially suitable bald eagle foraging, nesting, wintering, and roosting habitats in relevant CIAAs and reduce habitat effectiveness for bald eagles. The majority of disturbance from past and present actions reported in Tables 9 and 10 results from past oil and gas leasing for which minimal development is anticipated and underground coal mining and leasing with minimal ground disturbance. Past and present actions also include vegetation management on all national forests and a reservoir development on the Manti-La Sal National Forest, which provide long-term benefits on bald eagle populations by improving fishing opportunities and availability of primary food resources but also increase disturbance of bald eagles from increased recreational use (i.e., boating, fishing and camping). RFFAs that include the TransWest Express Transmission Project, a pipeline, sand and gravel mining, a tunnel, and recreational development could further reduce habitat effectiveness for bald eagles on USFS-administered lands and potentially increase disturbance on bald eagle populations. RFFAs that include riparian, forest and rangeland restoration management actions would improve bald eagle habitat quality over the long-term and offset loss of habitat effectiveness to development on USFS-administered lands.

Findings

All alternative routes that cross USFS-administered lands could result in local losses or modifications of potential bald eagle foraging, nesting, wintering, and roosting habitat and may locally reduce habitat effectiveness for bald eagles. The magnitude of effects would be greater under Alternatives COUT BAX-B; COUT BAX-C; COUT-A and COUT-B and route variations; and COUT-I on USFS-administered lands, as these alternative routes affect a greater amount of potentially suitable bald eagle habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of potential bald eagle foraging, nesting, wintering, and roosting habitat would remain undisturbed by the Project and cumulative actions in the CIAA, and habitat effectiveness for bald eagles on the national forests would remain largely unaffected by the Project. Construction, operation, and

maintenance of the Project are not likely to cause a trend to federal listing or loss of bald eagle viability on the Ashley, Manti-La Sal, or Uinta National Forests.

Elk (MIS: Ashley and Manti-La Sal)

Environmental Consequences

Potential impacts on crucial and substantial elk habitats are summarized in Tables 11 through 13.

TABLE 11 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR ELK CRUCIAL SUMMER RANGE HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	150	59,905	0.25	8,399	217	0	8,616	51,289
COUT-B-1	153	187,673	0.08	16,796	951	0	17,748	169,925
COUT-B-2	153	187,673	0.08	16,796	951	0	17,748	169,925
COUT-B-3	150	59,905	0.25	8,399	217	0	8,616	51,289
COUT-B-4	153	187,673	0.08	16,796	951	0	17,748	169,925
COUT-B-5	154	59,905	0.26	8,399	217	0	8,616	51,289
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	235	322,822	0.07	104,232	9,028	128	61,201	261,621
COUT BAX-C	231	322,822	0.07	104,232	9,028	126	61,200	261,622
COUT BAX-E	113	322,822	0.04	104,232	9,028	49	61,242	261,580
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	127	322,822	0.04	104,232	9,028	55	61,206	261,616
COUT-I	248	322,822	0.08	104,232	9,028	135	61,269	261,553
NOTES:								
¹ Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

**TABLE 12
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR CRUCIAL ELK WINTER RANGE HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	31	90,942	0.03	6,808	285	0	7,093	83,849
COUT-B-1	31	428,161	0.01	43,953	1,420	63	45,435	382,726
COUT-B-2	31	428,161	0.01	43,953	1,420	128	45,501	382,661
COUT-B-3	31	90,942	0.03	6,808	285	0	7,093	83,849
COUT-B-4	31	428,161	0.01	43,953	1,420	128	45,501	382,661
COUT-B-5	32	90,942	0.04	6,808	285	0	7,093	83,849
COUT-C-1	3	337,220	<0.01	37,145	1,135	66	38,346	298,874
COUT-C-2	3	337,220	<0.01	37,145	1,135	134	38,414	298,805
COUT-C-4	3	337,220	<0.01	37,145	1,135	135	38,415	298,804
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	30	322,822	0.01	55,698	5,470	227	61,395	261,427
COUT-A-1	30	322,822	0.01	55,698	5,470	227	61,395	261,427
COUT-B	30	322,822	0.01	55,698	5,470	239	61,407	261,415
COUT-B-1	30	322,822	0.01	55,698	5,470	240	61,409	261,413
COUT-B-2	30	322,822	0.01	55,698	5,470	240	61,409	261,413
COUT-B-3	30	322,822	0.01	55,698	5,470	240	61,408	261,413
COUT-B-4	30	322,822	0.01	55,698	5,470	240	61,408	261,414
COUT-B-5	31	322,822	0.01	55,698	5,470	246	61,414	261,408
COUT-C	31	322,822	0.01	55,698	5,470	250	61,419	261,403
COUT-C-1	32	322,822	0.01	55,698	5,470	252	61,421	261,401
COUT-C-2	31	322,822	0.01	55,698	5,470	252	61,420	261,402
COUT-C-3	32	322,822	0.01	55,698	5,470	254	61,423	261,399
COUT-C-4	32	322,822	0.01	55,698	5,470	254	61,422	261,400
COUT-C-5	31	322,822	0.01	55,698	5,470	246	61,414	261,408

NOTES:
¹Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction.
Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

**TABLE 13
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR ELK SUBSTANTIAL HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B-1	13	214,568	0.01	31,571	1,970	56	33,598	180,971
COUT-B-2	6	214,568	<0.01	31,571	1,970	79	33,620	180,948
COUT-B-4	6	214,568	0.03	31,571	1,970	79	33,620	180,948
COUT-C-1	14	46,583	0.01	8,698	618	59	9,374	37,209
COUT-C-2	6	46,583	0.01	8,698	618	83	9,398	37,185
COUT-C-4	6	46,583	<0.01	8,698	618	83	9,399	37,185
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	54	470,284	0.01	34,299	927	80	35,306	434,978
COUT BAX-C	53	470,284	0.01	34,299	927	79	35,305	434,979
COUT BAX-E	14	470,284	<0.01	34,299	927	13	35,239	435,045
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	16	470,284	<0.01	34,299	927	14	35,240	435,044
COUT-I	57	470,284	0.01	34,299	927	78	35,304	434,980
NOTES:								
¹ Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

The majority of elk habitat that would be affected by alternative routes that cross the Ashley and Manti-La Sal National Forests is crucial summer range, which is not a limiting factor for elk. Crucial winter range would also be affected but is primarily located on the northern boundary of the Ashley National Forest, and on the eastern and western boundaries of the Manti-La Sal National Forests, with the majority of crucial winter range occurring off of USFS-administered lands. Elk calving grounds and crucial spring/fall or crucial year-long habitats would not be affected by the Project on the Ashley and Manti-La Sal National Forests.

Project-related impacts on elk could include temporary displacement from seasonal habitats that provide forage, cover, water, and space into less suitable habitats and minor loss of forage as a result of removal of native vegetation during Project construction. These effects are unlikely to adversely affect elk populations over the long-term as local elk populations have adapted to previous anthropogenic disturbance in designated ranges on the Ashley and Manti-La Sal National Forests. Project-related impacts could have beneficial effects on elk by altering optimum percentages of shrub classes and vegetation on the right-of-way and increasing forage availability (Willyard et al. 2004). Project-related impacts on designated elk habitat would be reduced through implementation of Design Features 26, 27, and 28 (vehicle and construction activity access restrictions and construction personnel instruction). Disturbance to local elk populations would be reduced by avoiding construction and maintenance operations during periods when elk are especially sensitive to disturbance from human activities (e.g., wintering and calving) through application of Selective Mitigation Measure 12. Access roads constructed for the Project would be closed following construction in the event that they are likely to facilitate

increased human use and disturbance of crucial elk habitats that could result in measurable adverse effects on elk (Selective Mitigation Measure 15). After application of design features and selective mitigation measures, impacts would be localized and are not anticipated to affect overall habitat effectiveness for elk on the national forests.

The Project would affect between less than 0.01 and 0.25 percent of designated elk crucial summer and winter range and substantial habitat in the CIAA on the Ashley National Forest (Tables 11 through 13). Alternative COUT-B and route variations would affect comparatively more elk habitat than Alternative COUT-C and route variations on the Ashley National Forest. Alternative COUT-B and route variations cross designated elk habitat in Sowers Canyon on the Ashley National Forest and follow an existing lower voltage transmission line. Elk populations continue to use seasonal habitat in the area and have likely adapted to some level of anthropogenic disturbance from development in the area. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 follow the natural boundary between elk crucial summer range and substantial habitat in the Reservation Ridge area, and impacts are likely to be minor as the Project is not likely to impede movement between the designated ranges.

The Project would affect between less than 0.01 and 0.08 percent of the available habitat in the CIAA on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I, would affect comparatively more elk habitat than Alternatives COUT-A, COUT-B, and COUT-C on the Manti-La Sal National Forest. The habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, recreation, and wildfires. Wildfire is a natural ecological process in elk habitats that may reduce the availability of forage and hiding cover in elk habitat in the short-term but promotes long-term forest health and forage regeneration in elk habitat. Designated elk habitat in the area maintains high levels of functionality. Alternatives COUT-A, COUT-B, and COUT-C and route variations parallel existing transmission lines, U.S. Highways 6 and 89, and the Rio Grande Western Railroad along the northern boundary of the Manti-La Sal National Forest. In addition, habitats have been affected by nearby residential and agricultural developments, livestock grazing, and frequent off-highway-vehicle and recreational use. These developments have decreased the quality and effectiveness of elk crucial winter range that would be crossed by the Project, although elk that use these habitats are likely habituated to frequent noise and human presence associated with operation of the transportation infrastructure.

Cumulative Effects

Project-related loss, fragmentation, and modification of elk crucial summer, crucial winter, and substantial habitat would contribute to the cumulative loss, fragmentation, and modification of elk crucial summer, crucial winter, and substantial habitat in relevant CIAAs and reduce habitat effectiveness for elk. A substantial portion of the cumulative impacts on the Manti-La Sal National Forest reported in Tables 11 through 13 results from recent large wildfires and coal mining. The majority of coal mining operations on the Manti-La Sal National Forest involve underground mining techniques that do not disturb or prevent elk from using habitat on the surface. RFFAs include the TransWest Express Transmission Project, oil and gas development, a coal mine, a reservoir, and residential development that are likely to be located in areas of previous disturbance; therefore, disturbance on local elk populations would be minimized. In addition previous vegetation management actions and proposed riparian, forest, and rangeland restoration management actions could increase habitat effectiveness for elk over the long-term.

Findings

No elk calving grounds or crucial spring/fall or crucial year-long habitats would be affected by any of the alternative routes on the Ashley or Manti-La Sal National Forests. All alternative routes that cross the Ashley and Manti-La Sal National Forests could result in localized modification or loss of forage and cover in designated elk crucial summer, crucial winter, and substantial habitat, but only slightly when considering the existing disturbance. The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-B and route variations, and COUT-I, as these alternative routes affect a greater amount of elk crucial and substantial habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of designated elk habitat would remain undisturbed in the CIAA, and habitat effectiveness for elk would remain largely unaffected by the Project. None of the alternative routes that cross the Ashley National Forest would adversely affect the current stable to increasing trend for elk populations on the Ashley National Forest. None of the alternative routes that cross the Manti-La Sal National Forest would adversely affect the current stable to increasing trend for elk populations on the Manti-La Sal National Forest.

Flammulated Owl (USFS Sensitive: Ashley, Manti-La Sal; MIG: Ashely, Uinta, and Manti-La Sal)

Environmental Consequences

Impacts on potentially suitable flammulated owl habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Table 14.

TABLE 14 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR FLAMMULATED OWL HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B-1	12	3,966	0.3	74	162	6	241	3,725
COUT-B-2	5	2,310	0.2	46	88	5	138	2,171
COUT-B-4	5	2,310	0.2	46	88	5	138	2,171
COUT-C-1	12	2,861	0.4	34	127	6	168	2,693
COUT-C-2	5	1,204	0.4	6	53	5	65	1,139
COUT-C-4	5	1,204	0.4	6	53	5	65	1,139
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	93	8,352	1.1	4,427	204	103	4,734	3,618
COUT BAX-C	91	8,352	1.1	4,427	204	101	4,732	3,620
COUT BAX-E	33	5,144	0.6	1,449	662	34	2,145	2,999
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	37	5,144	0.7	1,449	662	39	2,149	2,995
COUT-I	98	8,352	1.2	4,427	204	108	4,740	3,612

**TABLE 14
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR FLAMMULATED OWL HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	19	4,859	0.4	122	546	97	765	4,094
COUT-A-1	29	5,062	0.6	120	581	122	823	4,238
NOTES:								
¹ Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

Disturbance to potentially suitable flammulated owl habitat could occur on USFS-administered lands as a result of the proposed activities but is unlikely as potentially suitable old growth montane forest is limited in the Project area on the national forests, particularly on the Ashley and Uinta National Forests.

Direct effects on flammulated owl habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and all associated facilities. Displacement of individuals as a result of habitat loss or degradation also may occur. The magnitude of Project-related impacts would be minimized through the use of avian-safe transmission line design standards (Design Feature 4) that would reduce the potential for avian collisions with the transmission line. Due to the separation of components of 500kV transmission lines, and the small body size and wing span of the flammulated owl, electrocution would not be possible on the transmission line. In addition, preconstruction nest surveys would be conducted in potentially suitable flammulated owl habitat (Design Feature 3), and seasonal and spatial restrictions would be implemented during construction and maintenance to avoid disturbing flammulated owls during sensitive breeding periods (Selective Mitigation Measure 12 and Design Feature 8). Project access roads would be closed in the event that flammulated owl nests are located during preconstruction surveys and if new access roads are likely to facilitate increased human use and disturbance of these areas (Selective Mitigation Measure 15). After application of design features and selective mitigation measures, impacts on potentially suitable flammulated owl habitat on all three national forests from all alternative routes would be limited to localized loss and modification of potentially suitable flammulated owl habitat.

The Project would affect less than 0.4 percent of the total available potentially suitable flammulated owl habitat in the CIAA on the Ashley National Forest (Table 14). Route Variations COUT-B-1 and COUT-C-1 would affect comparatively more flammulated owl habitat than Route Variations COUT-B-2, COUT-B-4, COUT-C-2, and COUT-C-4 on the Ashley National Forest. All route variations are located in the vicinity of Reservation Ridge at the southern edge of the Ashley National Forest. Habitat in this area has largely been unaffected by development, and habitat effectiveness for flammulated owl is likely to be high due to the mountainous and forested terrain.

The Project would affect between 0.6 and 1.1 percent of potentially suitable habitat in the CIAA on the Manti-La Sal National Forest (Table 14). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect comparatively more flammulated owl habitat than Alternatives COUT BAX-E and COUT-H

on the Manti-La Sal National Forest. While the habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, wildfires, and recreation, potentially suitable flammulated owl habitat in the study corridor for these alternative routes maintain high levels of functionality due to the mountainous, forested nature of habitats in this area. Habitats along Alternatives COUT BAX-E and COUT-H have been affected by wildfires that could reduce habitat effectiveness for flammulated owl through a reduction in arthropod availability and removal of old-growth wood, snags, and dense old-growth vegetation that flammulated owl use for nesting and roosting (Linkhart and McCallum 2013).

The Project would affect less than 0.6 percent of potentially suitable habitat in the CIAA on the Uinta National Forest (Table 14). Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project and forest roads that previously fragmented and altered potentially suitable habitat for flammulated owl. Potentially suitable habitat is also subject to occasional human disturbance during transmission line maintenance or inspection. Flammulated owls in the area have likely adapted to the modification of habitat in the right-of-way and occasional disturbance, and habitat effectiveness for flammulated owl is likely to be high due to the mountainous and forested terrain in the area that limits the effects of noise and development.

Cumulative Effects

Project-related loss and modification of potentially suitable flammulated owl habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable flammulated owl habitat in relevant CIAA and could reduce habitat effectiveness for flammulated owl. RFFAs include the TransWest Express Transmission Project, sand and gravel mining, a reservoir, a tunnel, transportation, and recreational developments that could further reduce habitat effectiveness and potentially increase disturbance on flammulated owl populations. However, current vegetation management actions, and RFFAs that include riparian, forest, and rangeland restoration could have long-term beneficial effects on habitat quality for flammulated owl and increase habitat effectiveness for the species on USFS-administered lands.

Findings

All alternative routes that cross potentially suitable flammulated owl habitat on USFS-administered lands could result in local losses or modifications of potentially suitable habitat and could reduce habitat effectiveness for flammulated owls. Potential impacts would be similar between Alternatives COUT-B and COUT-C route variations that cross flammulated owl habitat on the Ashley National Forest and between Alternative COUT-A and Route Variation COUT-A-1 on the Uinta National Forest. The magnitude of impacts would be greater under Alternatives COUT BAX-B, COUT BAX-C, and COUT-I on the Manti-La Sal National Forest as these alternative routes affect a greater amount of potentially suitable flammulated owl habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. For all alternative routes that affect potentially suitable habitat for flammulated owls, the majority of potentially suitable habitat on USFS-administered lands would remain unaffected by the Project and cumulative actions in the CIAA, and habitat effectiveness for flammulated owl would remain largely unaffected by the Project. Alternative routes that cross potentially suitable flammulated owl habitat may affect individuals but are not likely to cause a trend to federal listing or loss of viability on the Ashley, Uinta, or Manti-La Sal National Forests. When analyzed as a migratory bird species representing montane forest habitat, impacts resulting from any of the alternative routes are unlikely to affect regional flammulated owl population trends.

Golden Eagle (MIS: Ashley and Manti-La Sal; MIG: Ashely, Uinta, and Manti-La Sal)

Environmental Consequences

All alternative routes would affect potentially suitable golden eagle nesting habitat on the Ashley, Manti-La Sal, and Uinta National Forests (Table 15).

TABLE 15 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR GOLDEN EAGLE NESTING HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	7	6,833	0.1	283	21	0	304	6,529
COUT-B-1	7	7,717	0.1	285	21	0	305	7,411
COUT-B-2	7	7,132	0.1	283	21	0	304	6,827
COUT-B-3	7	6,833	0.1	283	21	0	304	6,529
COUT-B-4	7	7,132	0.1	283	21	0	304	6,827
COUT-B-5	7	6,833	0.1	283	21	0	304	6,529
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	65	5,432	1.2	2,278	78	43	2,399	3,033
COUT BAX-C	64	5,432	1.2	2,278	78	42	2,398	3,034
COUT BAX-E	3	1,117	0.3	52	171	4	227	890
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	2	923	0.2	152	31	7	190	733
COUT-A-1	2	923	0.2	152	31	7	190	733
COUT-B	2	923	0.2	152	31	7	190	733
COUT-B-1	2	923	0.2	152	31	7	190	733
COUT-B-2	2	923	0.2	152	31	7	190	733
COUT-B-3	2	923	0.2	152	31	7	190	733
COUT-B-4	2	923	0.2	152	31	7	190	733
COUT-B-5	2	923	0.2	152	31	7	190	733
COUT-C	3	923	0.3	152	31	7	190	733
COUT-C-1	2	923	0.2	152	31	7	190	733
COUT-C-2	2	923	0.2	152	31	7	190	733
COUT-C-3	2	923	0.2	152	31	7	190	732
COUT-C-4	2	923	0.2	152	31	7	190	732
COUT-C-5	2	923	0.2	152	31	7	190	733
COUT-H	4	1,117	0.4	52	171	4	228	890
COUT-I	69	5,432	1.3	2,278	78	45	2,401	3,031

**TABLE 15
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR GOLDEN EAGLE NESTING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	17	1,823	0.9	76	111	20	206	1,616
COUT-A1	18	1,758	1.0	76	111	21	208	1,550
COUT-B	12	1,308	0.9	127	44	6	176	1,132
COUT-B1	12	1,421	0.8	128	44	9	181	1,241
COUT-B2	12	1,421	0.8	128	44	9	181	1,241
COUT-B3	12	1,308	0.9	127	44	6	176	1,132
COUT-B4	12	1,421	0.8	128	44	9	181	1,241
COUT-B5	12	1,308	0.9	127	44	6	176	1,132
COUT-C	12	1,308	0.9	127	44	6	176	1,131
COUT-C1	12	1,421	0.8	128	44	9	181	1,240
COUT-C2	12	1,421	0.8	128	44	9	181	1,240
COUT-C3	12	1,308	0.9	127	44	6	176	1,131
COUT-C4	12	1,421	0.8	128	44	10	181	1,240
COUT-C5	12	1,308	0.9	127	44	6	176	1,132

NOTES:

¹Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. The golden eagle is a management indicator species for cliff and rock habitat on the Ashley and Manti-La Sal National Forests only but is analyzed as a migratory bird species on all three national forests. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

Disturbance to golden eagles could occur on USFS-administered lands as a result of the proposed activities but is unlikely as potentially suitable golden eagle nesting habitat is very limited in the Project area. Project-related impacts on golden eagle nesting habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and all associated facilities and the displacement of individuals as a result of habitat loss or degradation. Habitat effectiveness could be decreased but only slightly when considering the existing disturbance and habitat modification. Golden eagles will use coniferous habitat that has open space, including clear-cuts and firebreaks; and they will nest on transmission towers (Pagel 2010). Project-related structures also may provide indirect benefits for golden eagles by increasing perching and hunting potential. Risk of mortality and injury from collision or electrocution is unlikely due to the use of avian-safe transmission line design standards (Design Feature 4) to reduce the potential for avian collisions with the transmission line. Due to the separation of components of 500kV transmission lines, electrocution of golden eagles or any other bird would not be possible on the transmission line.

Disturbance to nesting golden eagles would be reduced by conducting preconstruction nest surveys in potentially suitable golden eagle habitat (Design Feature 3). Seasonal and spatial restrictions would be implemented during construction and maintenance to avoid disturbing golden eagles during sensitive breeding periods (Selective Mitigation Measure 12 and Design Features 6 and 8). Project access roads would be closed in the event that golden eagle nests are located during preconstruction surveys, and new

access roads are likely to facilitate increased human use and disturbance of these areas (Selective Mitigation Measure 15). After application of design features and selective mitigation measures, impacts on potentially suitable golden eagle habitat on all three national forests from all alternative routes would be limited to loss and modification of potentially suitable golden eagle habitat but is not anticipated to reduce habitat effectiveness for golden eagles on USFS-administered lands.

The Project would affect less than 0.1 percent of the total available golden eagle nesting habitat in the CIAA on the Ashley National Forest (Table 15). Alternative COUT-B and route variations follow an existing transmission line and forest roads through Sowers Canyon that has resulted in minor modification to existing habitats. Route Variations COUT-B-1, COUT-B-2, COUT-B-4 are also located in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest where habitat has largely remained unaffected by anthropogenic disturbance and potential habitat effectiveness for golden eagles is likely to be high due to lack of development and human use.

The Project would affect between 0.1 and 1.2 percent of the total available golden eagle nesting habitat in the CIAA on the Manti-La Sal National Forest (Table 15). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect comparatively more bald eagle habitat than Alternatives COUT BAX-E; COUT-A, COUT-B, and COUT-C and route variations; and COUT-H on the Manti-La Sal National Forest. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, recreation, and wildfires. Wildfire may affect habitat over the short-term, but could increase habitat understory and prey availability (Kochert et al. 2002). Potentially suitable nesting habitat in the study corridor is anticipated to maintain high levels of functionality for golden eagles. Five known golden eagle nests occur within 0.5 mile of the right-of-way under Alternatives COUT BAX-B, COUT BAX-C, and COUT-I on the Manti-La Sal National Forest (Utah Natural Heritage Program 2011); three nests are located on the south facing slope in the vicinity of Deer Creek Mine, one nest occurs in Meeting House Canyon adjacent to an existing transmission line, and one nest on the east of Upper Joes Canyon adjacent to a forest road. Due to the proximity of these nests to existing disturbances, the eagles that use them have likely habituated to some level of noise and human presence. The current status of the nests are unknown but would be identified during preconstruction nest surveys that would inform appropriate mitigation measures to reduce impacts on nesting golden eagles.

The Project would affect between 0.8 and 1 percent of the total available golden eagle nesting habitat in the CIAA on the Uinta National Forest (Table 15). Alternative COUT-A and Route Variation COUT-A-1 would affect more golden eagle habitat than Alternatives COUT-B and COUT-C and route variations on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 follow the Bonanza-Mona Transmission Project that was constructed in the 1980s and is subject to occasional human disturbance during transmission line maintenance or inspection. Golden eagles in the area have likely adapted to the modification of habitat in the right-of way and occasional disturbance and potentially suitable golden eagle nesting habitat in the study corridor for these alternative routes maintain high levels of functionality. Habitat crossed by Alternatives COUT-B and COUT-C and route variations have been heavily modified by previous development from two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. Golden eagle habitat quality is likely to be diminished in these areas, and individual golden eagles that use these habitats have likely habituated to frequent noise and human presence from previous development.

Cumulative Effects

Project-related loss, fragmentation and modification of potentially suitable golden eagle habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable golden eagle

habitat in the relevant CIAA and could contribute to reductions in habitat effectiveness for golden eagles. The majority of disturbance from past and present actions reported in Table 15 results from past oil and gas leasing for which minimal development is anticipated, and underground coal mining and leasing with minimal ground disturbance. RFFAs include the TransWest Express Transmission Project, a reservoir, a pipeline, and a coal mine, which could further reduce habitat effectiveness for the golden eagle on USFS-administered land, and potentially increase disturbance on golden eagle populations. However previous vegetation management actions as well as proposed riparian, forest, and rangeland restoration management actions could increase habitat effectiveness for the species over the long-term.

Findings

All alternative routes that cross USFS-administered lands could result in local losses or modifications of potential golden eagle nesting habitat and may locally reduce habitat effectiveness for golden eagles. Potential impacts would be the same among all alternative routes on the Ashley National Forest and similar among alternative routes on the Uinta National Forest. The magnitude of effects would be greater under Alternatives COUT BAX-B; COUT BAX-C; COUT-A and COUT-B and route variations; and COUT-I on the three national forests, as these alternative routes affect a greater amount of potentially suitable golden eagle habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of potentially suitable golden eagle nesting habitat on USFS-administered lands would remain unaffected by the Project and cumulative actions in the CIAA, and habitat effectiveness for golden eagles would remain largely unaffected by the Project. None of the alternative routes would affect the stable forest-wide golden eagle population trend for the Ashley and Manti-La Sal National Forests. When analyzed as a migratory bird species representing barren/sparsely vegetated habitat, impacts resulting along any of the alternative routes are unlikely to affect regional golden eagle population trends.

Greater Sage-grouse (ESA: candidate; USFS Sensitive: Ashley, Uinta, and Manti-La Sal; MIS: Ashley)

Environmental Consequences

None of the alternative routes are located in sage-grouse habitats within 4 miles of active sage-grouse leks on the Ashley, Manti-La Sal, or Uinta National Forests. None of the alternative routes would affect sage-grouse brood-rearing, occupied, or winter habitat on the Ashley or Uinta National Forests. Impacts on sage-grouse brood-rearing, occupied, or winter habitat on the Manti-La Sal National Forest are presented in Table 16.

**TABLE 16
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR GREATER SAGE-GROUSE HABITATS ON THE MANTI-LA SAL NATIONAL FOREST**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Brood-rearing Habitat								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	100	54,881	0.2	17,785	344	39	18,169	36,712
COUT BAX-C	98	54,881	0.2	17,785	344	39	18,168	36,713
COUT BAX-E	31	50,678	0.1	6,893	7,446	5	14,346	36,332
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	35	50,678	0.1	6,893	7,446	6	14,346	36,332
COUT-I	105	54,881	0.2	17,785	344	41	18,171	36,710
Occupied Habitat								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	100	61,699	0.2	19,414	351	39	19,804	41,895
COUT BAX-C	98	61,699	0.2	19,414	351	39	19,803	41,896
COUT BAX-E	31	90,015	0.03	17,988	7,760	36	25,783	64,231
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	35	90,015	0.04	17,988	7,760	40	25,788	64,227
COUT-I	105	61,699	0.2	19,414	351	41	19,806	41,893
Winter Habitat								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	71	41,729	0.2	8,510	80	38	8,627	33,101
COUT BAX-C	69	41,729	0.2	8,510	80	37	8,627	33,102
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	74	40,745	0.2	5,733	7,116	0	12,848	27,897
NOTES:								
¹ Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

None of the alternative routes would affect sage-grouse habitat on the Ashley National Forest, which supports the Anthro Mountain sage-grouse population. Similarly, none of the alternative routes cross sage-grouse habitats on the Uinta National Forest, which provides habitat for the Strawberry/Fruitland sage-grouse population. Disturbance to sage-grouse occupied, brood-rearing, and winter habitat could occur on the Manti-La Sal National Forest as a result of the proposed activities. Sage-grouse on the Manti-La Sal National Forest are a part of the Horn Mountain sage-grouse population, which is described further in Section 3.2.8.5 of the Project Draft EIS (BLM 2014). The Horn Mountain sage-grouse population is small, and population trends on the Manti-La Sal National Forest are undetermined. However, recent BLM analysis of population-specific lek counts for this area suggests a declining population (BLM 2013). However, no alternative routes would be located in sage-grouse habitats within 4 miles of active sage-grouse leks on the Ashley, Manti-La Sal, or Uinta National Forests. Habitats within 4 miles of sage-grouse leks are especially important sage-grouse nesting and brood-rearing habitat because the majority of sage-grouse hens nest within 4 miles of the lek at which they were bred.

A detailed description of potential effects on sage-grouse that could occur as a result of the Project is included in Section 3.2.8.4 of the Project Draft EIS (BLM 2014). The magnitude of effects would be minimized through implementation of preconstruction sage-grouse lek surveys in all occupied sage-grouse habitat (Design Feature 3) and seasonal restrictions within 4 miles of active leks to reduce the effects of construction noise and human presence on nesting and brooding sage-grouse (Selective Mitigation Measure 12). Additionally, seasonal restrictions would be implemented in designated winter habitat to reduce the effects of construction noise and human presence on wintering sage-grouse (Selective Mitigation Measure 12). Tower design modification using tubular steel H-frame structures (Selective Mitigation Measure 6) and installation of raptor and corvid perch deterrents (Selective Mitigation Measure 14) would be implemented in sage-grouse habitats within 4 miles of leks to reduce raptor and corvid predation on breeding, nesting, and brooding sage-grouse. The Applicant has committed to develop a sage-grouse mitigation plan to compensate for unavoidable adverse effects of sage-grouse and sage-grouse habitat that could occur as a result of implementation of the Project (refer to Project Draft EIS, Appendix F [BLM 2014]). Biologists from the USFS, FWS, UDWR, and BLM are participating in the preparation of the sage-grouse mitigation plan. Mitigation provided by the Applicant in the sage-grouse mitigation plan, as described in Appendix F of the Project Draft EIS (BLM 2014), would help reduce effects on sage-grouse and sage-grouse habitat that could occur on USFS-administered land as a result of the Project.

The Project would affect between 0.1 and 0.2 percent of brood-rearing habitat, between 0.04 and 0.2 percent of occupied habitat, and less than 0.2 percent of winter habitat in the CIAA on the Manti-La Sal National Forest (Table 16). Habitats within 4 miles of known leks are not crossed by the alternative routes. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect more brood-rearing and occupied habitat than Alternatives COUT BAX-E and COUT-H on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, and COUT-H, would affect the same amount of winter habitat on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I are located directly adjacent to an existing 345kV wood-pole H-frame transmission line and cross sage-grouse occupied, brood-rearing, and wintering habitats on the Manti-La Sal National Forest that provides habitat for the Horn Mountain sage-grouse population. These habitats presumably have already incurred the negative effects of transmission line presence in sage-grouse habitats. Additionally, sage-grouse habitat crossed on the Manti-La Sal National Forest consists of a mosaic of wet meadows, sagebrush flats, and deciduous aspen forest. Where crossing wet meadows or sagebrush flats would be unavoidable, the transmission line would be micro-sited to locate the line along the edges of meadows and openings to avoid placing tall structures in contiguous open habitats that may be used by sage-grouse. Site-specific mitigation would be developed for the POD if one of these alternative routes were selected.

Alternatives COUT BAX-E and COUT-H cross habitats designated by UDWR as sage-grouse occupied and brood-rearing habitats on the Manti-La Sal National Forest. These habitats historically were considered part of the Emma Park sage-grouse population, though sage-grouse have not been documented using this area and are believed to be extirpated (BLM 2013). The sage-grouse habitat crossed is not included in a sage-grouse management area identified in the *Conservation Plan for Greater Sage-grouse in Utah* (State of Utah 2013), and sage-grouse are not anticipated to occupy these habitats in the future. Therefore, Alternatives COUT BAX-E and COUT-H would have no impact on individual sage-grouse on the Manti-La Sal National Forest.

Cumulative Effects

Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I on the Manti-La Sal National Forest would contribute to the cumulative loss, fragmentation, and modification of sage-grouse brood-rearing, occupied, and winter habitat in the CIAA. However, designated sage-grouse habitats crossed by Alternatives COUT BAX-E and COUT-H are not occupied by sage-grouse; therefore, impacts

on these habitats would not result in any cumulative effects on sage-grouse. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, and COUT-I have been affected previously by transmission-line development, which would reduce the incremental effects of the Project on sage-grouse using affected habitats. Past and present actions on sage-grouse brood-rearing, occupied, and winter habitat on the Manti-La Sal National Forest include oil and gas development and a coal mine. Coal mining in sage-grouse habitat is occurring using underground methods and disturbance of sage-grouse habitats is not anticipated. Portions of the sage-grouse habitats also have been leased for oil and gas development, though surface activity in sage-grouse habitats is not anticipated. Therefore, Table 16 likely provides a conservative overestimate of cumulative impacts on sage-grouse habitats on the Manti-La Sal National Forest. RFFAs include the TransWest Express Transmission Project, a reservoir, a tunnel, and transportation development. Past and ongoing habitat and rangeland management, as well as proposed vegetation management and rangeland restoration actions, could reduce the magnitude of effects from past and present actions and RFFAs and increase habitat effectiveness for the species over the long-term.

Findings

All alternative routes that cross brood-rearing, occupied, and winter habitat on USFS-administered lands could result in local losses or modifications to the habitat, and could reduce habitat effectiveness for sage-grouse. None of the alternative routes would be located in sage-grouse habitats within 4 miles of active sage-grouse leks on the Ashley, Manti-La Sal, or Uinta National Forests. None of the alternative routes would affect sage-grouse brood-rearing, occupied, or winter habitat on the Ashley or Uinta National Forests. The magnitude of impacts would be greater under Alternatives COUT BAX-B, COUT BAX-C, and COUT-I on the Manti-La Sal National Forest as these alternative routes affect a greater amount of brood-rearing and occupied habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of brood-rearing, occupied, and winter habitat on USFS-administered lands would remain unaffected by the Project and cumulative actions in the CIAA. Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I may affect individual sage-grouse but are not likely to cause a trend towards federal listing or a loss of viability on the Manti-La Sal National Forest. No other alternative routes would affect sage-grouse on USFS-administered lands.

Lincoln's Sparrow (MIS: Ashley; MIG: Ashley, Uinta, and Manti-La Sal)

Environmental Consequences

Impacts on potentially suitable Lincoln's sparrow habitat on the Ashley and Uinta National Forests are presented in Table 17. No potentially suitable riparian habitat occurs in the Project area on the Manti-La Sal National Forest.

**TABLE 17
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR LINCOLN'S SPARROW HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	4	77	5.2	8	21	0	29	47
COUT-B-1	4	77	5.2	8	21	0	29	47
COUT-B-2	4	77	5.2	8	21	0	29	47
COUT-B-3	4	77	5.2	8	21	0	29	47
COUT-B-4	4	77	5.2	8	21	0	29	47
COUT-B-5	4	77	5.2	8	21	0	29	47
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	25	134	18.7	0	8	22	31	103
COUT-A-1	31	169	18.3	0	9	30	39	130
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. The Lincoln's sparrow is a management indicator species for riparian habitat on the Ashley National Forest only but is analyzed as a migratory bird species on all three national forests. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

Disturbance to Lincoln's sparrow habitat could occur on USFS-administered lands as a result of the proposed activities but is unlikely as potentially suitable riparian habitat is extremely limited in the study corridor on the Ashley National Forest and patchy on the Uinta National Forest.

The only anticipated impacts on riparian areas and potentially suitable Lincoln's sparrow habitat associated with the Project would be minor tree clearing in the right-of-way to allow for safe operation of the transmission line and construction of new access roads to access the transmission line in the event that existing crossings of riparian areas are not sufficient. Temporary displacement of individuals as a result of habitat loss or degradation also may occur, but effects are anticipated to be minor and localized and would not prevent the habitat from supporting local Lincoln's sparrow populations. The magnitude of Project-related impacts would be minimized through the implementation of preconstruction surveys to identify riparian areas that may be used by Lincoln's sparrow (Design Feature 3). In areas where riparian areas are identified, avoidance of sensitive resources and spanning or avoiding sensitive features (Selective Mitigation Measures 2 and 7) and selective removal of trees more than 5-feet tall in riparian and tree nesting habitats (Selective Mitigation Measure 4) would be implemented to avoid or reduce impacts on riparian areas. Due to the anticipated span distances between transmission line structures (refer to Section 2.3 of the Project Draft EIS [BLM 2014]), construction of permanent transmission line structures and work areas in riparian areas and potentially suitable Lincoln's sparrow habitat likely would be avoided completely. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory birds nesting season, appropriate species-specific nest buffers would be implemented on identified active Lincoln's sparrow

nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect 5.5 percent of the total available Lincoln's sparrow potentially suitable habitat in the CIAA on the Ashley National Forest (Table 17). Alternative COUT-B and route variations follow linear development (lower-voltage transmission lines and forest roads) that have resulted in minor habitat modification; therefore, habitat effectiveness for Lincoln's sparrow along the alternative routes is expected to be high.

The Project would affect 18.7 percent of potentially suitable habitat in the CIAA on the Uinta National Forest (Table 17). Project-related effects are an overestimation as most if not all habitat would be spanned or avoided. Additionally, the small territory size and CIAA of this species suggests that large amounts of habitat would be lost. There is abundant potentially suitable habitat for Lincoln's sparrow outside of the CIAA on the national forest. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat in the 1980s and is subject to occasional human disturbance during transmission line maintenance or inspection. However, potentially suitable Lincoln's sparrow habitat, while patchy in the study corridor, likely maintains high levels of functionality due to the mountainous, forested nature of habitats in this area that have precluded excessive anthropogenic disturbance.

Cumulative Effects

Project-related loss and modification of potentially suitable Lincoln's sparrow habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable Lincoln's sparrow habitat in the CIAA and could locally reduce habitat effectiveness for Lincoln's sparrow. Past and present actions on potentially suitable Lincoln's sparrow habitat include oil and gas leasing. RFFAs include the TransWest Express Transmission Project. Incremental Project disturbance on potentially suitable Lincoln's sparrow habitat would occur in areas of pre-existing disturbance or areas of future disturbance (i.e., collocating the Project transmission line with the TransWest Express Transmission Project). RFFAs also would include riparian restoration management actions that could offset disturbance from proposed actions and improve riparian habitat quality and increase habitat effectiveness for Lincoln's sparrow over the long-term.

Findings

Alternatives COUT-A, Route Variation COUT-A-1 and COUT-B and route variations could result in local losses or modifications of potentially suitable riparian and wetland habitat and may reduce habitat effectiveness for Lincoln's sparrow on USFS-administered lands. The magnitude of impacts would be the same under Alternative COUT-B and route variations on the Ashley National Forest. The magnitude of effects would be greater under Alternative COUT-A and Route Variation COUT-A-1 on the Uinta National Forest as they would affect a greater amount of potentially suitable Lincoln's sparrow habitat and would be located in areas of high habitat effectiveness. Overall, the majority of potentially suitable Lincoln's sparrow habitat would remain unaffected by the Project and cumulative actions in the CIAA, and habitat effectiveness for Lincoln's sparrow on the Ashley and Uinta National Forests would remain largely unaffected by the Project. Any effects on riparian areas or Lincoln's sparrow habitat on the Ashley National Forest would be minor and localized and would not prevent the habitat from supporting current Lincoln's sparrow populations. The Project is unlikely to adversely affect the stable national forest-wide trend of Lincoln's sparrow. When analyzed as a migratory bird species representing riparian and wetland habitats, impacts resulting from any of the alternative routes are unlikely to affect regional Lincoln's sparrow population trends.

Mule deer (MIS: Ashley and Manti-La Sal)

Environmental Consequences

Impacts on crucial and substantial mule deer habitats are summarized in Tables 18 through 22.

TABLE 18 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR MULE DEER CRUCIAL SPRING/FALL HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	31	214,607	0.01	10,229	189	58	10,477	204,130
COUT BAX-C	30	214,607	0.01	10,229	189	57	10,476	204,131
COUT BAX-E	28	214,607	0.01	10,229	189	32	10,451	204,157
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	32	214,607	0.01	10,229	189	36	10,454	204,153
COUT-I	33	214,607	0.02	10,229	189	61	10,480	204,127
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

TABLE 19 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR MULE DEER CRUCIAL SUMMER RANGE HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	37	32,608	0.11	5,646	74	0	5,720	26,888
COUT-B-1	54	449,018	0.01	22,580	2,339	126	25,045	423,973
COUT-B-2	46	449,018	0.01	22,580	2,339	214	25,133	423,885
COUT-B-3	38	32,608	0.12	5,646	74	0	5,720	26,888
COUT-B-4	46	449,018	0.01	22,580	2,339	214	25,133	423,885
COUT-B-5	38	32,608	0.12	5,646	74	0	5,720	26,888
COUT-C-1	17	416,410	<0.01	16,933	2,266	132	19,332	397,079
COUT-C-2	9	416,410	<0.01	16,933	2,266	224	19,423	396,987
COUT-C-4	9	416,410	<0.01	16,933	2,266	226	19,425	396,985

TABLE 19 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR MULE DEER CRUCIAL SUMMER RANGE HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	228	518,477	0.04	121,428	12,248	87	133,763	384,714
COUT BAX-C	224	518,477	0.04	121,428	12,248	85	133,762	384,716
COUT BAX-E	94	518,477	0.02	121,428	12,248	14	133,691	384,786
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	105	518,477	0.02	121,428	12,248	16	133,693	384,784
COUT-I	240	518,477	0.05	121,428	12,248	91	133,768	384,709
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

TABLE 20 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR MULE DEER CRUCIAL WINTER RANGE HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	17	41,483	0.04	2,992	139	0	3,131	38,352
COUT-B-1	17	295,008	0.01	38,500	755	0	39,255	255,753
COUT-B-2	17	295,008	0.01	38,500	755	0	39,255	255,753
COUT-B-3	17	41,483	0.04	2,992	139	0	3,131	38,352
COUT-B-4	17	295,008	0.01	38,500	755	0	39,255	255,753
COUT-B-5	18	41,483	0.04	2,992	139	0	3,131	38,352
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	33	635,260	0.01	63,868	2,315	118	66,301	568,959
COUT BAX-C	32	635,260	0.01	63,868	2,315	116	66,299	568,961
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-I	35	635,260	0.01	63,868	2,315	104	66,287	568,973
NOTES:								
¹ Cumulative disturbance was calculated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

**TABLE 21
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR MULE DEER CRUCIAL WINTER/SPRING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-E	5	101,060	<0.01	6,400	996	49	7,445	93,615
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	30	101,060	0.03	6,400	996	158	7,555	93,505
COUT-A-1	30	101,060	0.03	6,400	996	158	7,555	93,505
COUT-B	30	101,060	0.03	6,400	996	171	7,567	93,492
COUT-B-1	30	101,060	0.03	6,400	996	172	7,568	93,491
COUT-B-2	30	101,060	0.03	6,400	996	172	7,568	93,491
COUT-B-3	30	101,060	0.03	6,400	996	172	7,568	93,491
COUT-B-4	30	101,060	0.03	6,400	996	172	7,568	93,492
COUT-B-5	31	101,060	0.03	6,400	996	176	7,572	93,487
COUT-C	31	101,060	0.03	6,400	996	179	7,576	93,484
COUT-C-1	32	101,060	0.03	6,400	996	181	7,577	93,483
COUT-C-2	31	101,060	0.03	6,400	996	180	7,577	93,483
COUT-C-3	32	101,060	0.03	6,400	996	182	7,578	93,481
COUT-C-4	32	101,060	0.03	6,400	996	182	7,578	93,481
COUT-C-5	31	101,060	0.03	6,400	996	176	7,572	93,487
COUT-H	5	101,060	<0.01	6,400	996	55	7,451	93,609

NOTES:

¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.

Acres are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

**TABLE 22
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR MULE DEER SUBSTANTIAL HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						Estimated Cumulative Development	Remaining Available Resource
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance			
				Past and Present Development	Reasonably Foreseeable Future Actions				
Ashley National Forest									
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)									
COUT-B	126	259,406	0.05	48,502	1,291	0	49,793	209,613	
COUT-B-1	127	283,866	0.04	51,967	1,350	0	53,318	230,549	
COUT-B-2	127	283,866	0.04	51,967	1,350	0	53,318	230,549	
COUT-B-3	126	259,406	0.05	48,502	1,291	0	49,793	209,613	
COUT-B-4	126	283,866	0.04	51,967	1,350	0	53,318	230,549	
COUT-B-5	129	259,406	0.05	48,502	1,291	0	49,793	209,613	

NOTES:
¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.
 Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

The majority of mule deer habitat that would be affected by alternative routes that cross the Ashley and Manti-La Sal National Forests is crucial summer range and substantial habitat. Crucial winter/spring, winter, and winter/spring ranges would also be affected but are primarily located on or outside the boundaries of the Ashley and Manti-La Sal National Forests.

Project-related impacts on mule deer could include temporary displacement from seasonal habitats that provide forage, cover, water, and space into less suitable habitats and minor loss of forage as a result of removal of native vegetation during Project construction. These effects are unlikely to adversely affect mule deer populations over the long-term as local mule deer populations have adapted to and accommodated previous anthropogenic disturbance in designated range on the Ashley and Manti-La Sal National Forests. The magnitude of potential effects on mule deer habitats would be reduced through the implementation of Design Features 26, 27, and 28 (vehicle and construction activity access restrictions and construction personnel instruction). Impacts on mule deer would also be reduced by avoiding construction and maintenance operations during periods when mule deer are especially sensitive to disturbance from human activities (e.g., wintering and fawning) through application of Selective Mitigation Measure 12. Access roads constructed for the Project would be closed following construction in the event they are likely to facilitate increased human use and disturbance of crucial mule deer habitats that would result in measurable adverse effects on mule deer (Selective Mitigation Measure 15). After application of design features and selective mitigation measures, impacts on mule deer habitats on the Ashley and Manti-La Sal National Forests would be localized and are not anticipated to affect overall habitat effectiveness for mule deer on the Ashley and Manti-La Sal National Forests.

The Project would affect between less than 0.01 and 0.12 percent of the designated mule deer crucial summer and winter range, and substantial habitat in the CIAA on the Ashley National Forest (Tables 18 through 22). Alternatives COUT-B and route variations would affect comparatively more mule deer habitat than Alternatives COUT-C and route variations on the Ashley National Forest. Alternatives COUT-B and route variations cross mule deer crucial winter range on the northern boundary of the Ashley National Forest and cross substantial habitat in Sowers Canyon on the Ashley National Forest.

The alternative follows an existing lower voltage transmission line and forest roads on the national forest, and local mule deer populations have likely adapted to some level of anthropogenic disturbance from previous development in the area. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 follow the southern boundary of mule deer crucial summer range in the Reservation Ridge area and impacts are likely to be minor as the majority of designated mule deer crucial summer range would remain undisturbed by the Project.

The Project would affect between less than 0.01 and 0.05 percent of designated mule deer crucial spring/fall, summer, winter, and winter/spring habitat in the CIAA on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect comparatively more mule deer crucial habitat than all other alternative routes on the Manti-La Sal National Forest. The magnitude of Project-related impacts under Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I are likely to be minimal due to existing disturbance from existing linear facilities, as well as coal mining, oil and gas development, recreational use, residential development, and wildfires. Wildfire is a natural ecological process that can promote long-term forest health and forage regeneration in mule deer habitat over the long-term (UDWR 2006b), potentially increasing mule deer use of habitat. Designated mule deer habitat in the area maintains high levels of functionality due to the mountainous, forested nature of habitats that has effectively limited the effects of development in this area. Alternatives COUT-A, COUT-B, COUT-C and route variations parallel existing transmission lines, U.S. Highways 6 and 89, and the Rio Grande Western Railroad along the northern boundary of the Manti-La Sal National Forest. Habitat effectiveness on the northern boundary has been further diminished by residential and agricultural development, livestock grazing, and recreational use although local mule deer populations have likely habituated to ongoing disturbance. Project-related impacts on mule deer are likely to be minimal in the area.

Cumulative Effects

Project-related loss, fragmentation, and modification of mule deer designated habitat would contribute to the cumulative loss, fragmentation, and modification of mule deer designated habitat in relevant CIAAs and reduce habitat effectiveness for mule deer. On the Manti-La Sal National Forest, a large percentage of the past and present impacts reported in Tables 18 through 22 are a result of recent large wildfires, oil and gas leases, and coal mining. Minimal development is anticipated with past oil and gas leasing, and minimal ground disturbance is associated with underground coal mining. Wildfire is a natural ecological process in mule deer habitats. RFFAs include the TransWest Express Transmission Project, oil and gas development, a pipeline, and a coal mine that could further impact habitat quality for mule deer. However, previous vegetation management actions and proposed riparian, forest, and rangeland restoration management actions could offset proposed RFFA development and improve habitat effectiveness for mule deer herds on USFS-administered lands over the long-term.

Findings

No mule deer crucial spring/fall, winter/spring, or year-long habitats would be affected on the Ashley National Forest. No mule deer crucial year-long or substantial habitat would be affected on the Manti-La Sal National Forest. All alternative routes that cross the Ashley and Manti-La Sal National Forests could result in localized modification or loss of forage and cover in designated mule deer crucial and substantial habitats but only slightly when considering the existing disturbance. The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-B and route variations, and COUT-I as these alternative routes affect a greater amount of mule deer crucial and substantial habitat on the Ashley and Manti-La Sal National Forests and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of mule deer crucial and substantial habitats would remain undisturbed in the CIAA, and habitat effectiveness for mule deer would

remain largely unaffected by the Project. None of the alternative routes that cross the Ashley National Forest would adversely affect the current stable trend for mule deer populations on the Ashley National Forest. None of the alternative routes that cross the Manti-La Sal National Forest would adversely affect the stable to decreasing mule deer population trend on the Manti-La Sal National Forest.

Northern Goshawk (USFS Sensitive/ MIS and MIG: Ashley, Uinta, and Manti-La Sal)

Environmental Consequences

Impacts on delineated PFAs and potentially suitable nesting and foraging habitat for northern goshawk are presented in Tables 23 through 25.

TABLE 23 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR NORTHERN GOSHAWK POST-FLEDGLING AREAS								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	21	600	3.5	14	34	0	48	552
COUT-B-1	21	600	3.5	14	34	0	48	552
COUT-B-2	21	600	3.5	14	34	0	48	552
COUT-B-3	21	600	3.5	14	34	0	48	552
COUT-B-4	21	600	3.5	14	34	0	48	552
COUT-B-5	22	600	3.7	14	34	0	48	552
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	5	760	0.7	37	45	5	87	673
COUT BAX-C	5	760	0.7	37	45	5	87	673
COUT BAX-E	11	613	1.8	613	0	0	613	0
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	11	613	1.8	613	0	0	613	0
COUT-I	5	760	0.7	37	45	5	87	673
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

**TABLE 24
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR NORTHERN GOSHAWK POTENTIAL NESTING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	25	34,125	0.1	6,928	351	0	7,279	26,845
COUT-B-1	37	71,339	0.1	8,291	850	47	9,188	62,150
COUT-B-2	30	65,950	0.1	8,172	775	65	9,012	56,938
COUT-B-3	25	34,125	0.1	6,928	351	0	7,279	26,845
COUT-B-4	30	65,950	0.1	8,172	775	66	9,013	56,937
COUT-B-5	25	34,125	0.1	6,928	351	0	7,279	26,845
COUT-C-1	12	48,368	0.02	4,570	668	50	5,288	43,080
COUT-C-2	5	31,826	0.02	1,244	423	69	1,736	30,090
COUT-C-4	5	31,826	0.02	1,244	423	70	1,737	30,089
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	180	95,408	0.2	35,812	254	124	36,189	59,218
COUT BAX-C	177	95,408	0.2	35,812	254	122	36,187	59,220
COUT BAX-E	75	84,963	0.1	22,906	6,650	38	29,593	55,370
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	85	84,963	0.1	22,906	6,650	42	29,598	55,366
COUT-I	189	95,408	0.2	35,812	254	130	36,196	59,212
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	144	85,983	0.2	3,802	4,113	145	8,061	77,922
COUT-A-1	168	85,395	0.2	3,331	4,113	177	7,621	77,774
COUT-B	1	54,178	<0.01	3,995	181	13	4,189	49,990
COUT-B-1	9	76,457	0.01	5,155	430	34	5,619	70,838
COUT-B-2	9	76,457	0.01	5,155	430	33	5,619	70,838
COUT-B-3	1	54,178	<0.01	3,995	181	13	4,189	49,989
COUT-B-4	9	76,457	0.01	5,155	430	33	5,619	70,838
COUT-B-5	1	54,178	<0.01	3,995	181	14	4,190	49,989
COUT-C	1	54,178	<0.01	3,995	181	13	4,189	49,989
COUT-C-1	10	76,457	0.01	5,155	430	35	5,621	70,836
COUT-C-2	9	76,457	0.01	5,155	430	35	5,621	70,836
COUT-C-3	1	54,178	<0.01	3,995	181	14	4,190	49,988
COUT-C-4	10	76,457	0.01	5,155	430	35	5,621	70,836

NOTES:
¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.
 Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

**TABLE 25
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR NORTHERN GOSHAWK POTENTIAL FORAGING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	105	116,827	0.1	12,437	673	0	13,110	103,716
COUT-B-1	113	221,187	0.1	17,364	2,443	132	19,939	201,247
COUT-B-2	108	199,937	0.1	16,583	2,017	203	18,802	181,135
COUT-B-3	105	116,827	0.1	12,437	673	0	13,110	103,716
COUT-B-4	108	199,937	0.1	16,583	2,017	202	18,802	181,135
COUT-B-5	108	116,827	0.1	12,437	673	0	13,110	103,716
COUT-C-1	8	115,713	0.01	7,429	1,944	139	9,512	106,201
COUT-C-2	3	83,113	<0.01	4,146	1,344	212	5,702	77,411
COUT-C-4	3	83,113	<0.01	4,146	1,344	214	5,704	77,409
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	176	147,097	0.1	47,240	691	275	48,206	98,892
COUT BAX-C	173	147,097	0.1	47,240	691	270	48,201	98,897
COUT BAX-E	105	111,638	0.1	21,963	6,513	115	28,591	83,048
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	30	86,623	0.03	10,147	1,141	274	11,562	75,061
COUT-A-1	30	86,623	0.03	10,147	1,141	274	11,562	75,061
COUT-B	30	86,623	0.03	10,147	1,141	271	11,559	75,064
COUT-B-1	30	86,623	0.03	10,147	1,141	273	11,561	75,062
COUT-B-2	30	86,623	0.03	10,147	1,141	273	11,560	75,063
COUT-B-3	30	86,623	0.03	10,147	1,141	272	11,560	75,063
COUT-B-4	30	86,623	0.03	10,147	1,141	272	11,560	75,063
COUT-B-5	31	86,623	0.04	10,147	1,141	279	11,567	75,057
COUT-C	31	86,623	0.04	10,147	1,141	284	11,572	75,051
COUT-C-1	32	86,623	0.04	10,147	1,141	286	11,574	75,049
COUT-C-2	31	86,623	0.04	10,147	1,141	286	11,574	75,050
COUT-C-3	32	86,623	0.04	10,147	1,141	288	11,576	75,047
COUT-C-4	32	86,623	0.04	10,147	1,141	288	11,576	75,047
COUT-C-5	31	86,623	0.04	10,147	1,141	279	11,567	75,056
COUT-H	117	111,638	0.1	21,963	6,513	129	28,604	83,034
COUT-I	185	147,097	0.1	47,240	691	207	48,138	98,959
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	295	220,274	0.1	26,809	6,638	371	33,817	186,457
COUT-A-1	279	218,752	0.1	25,589	6,638	368	32,595	186,158

**TABLE 25
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR NORTHERN GOSHAWK POTENTIAL FORAGING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COUT-B	135	175,584	0.1	26,995	1,401	213	28,609	146,975
COUT-B-1	148	228,454	0.1	29,350	2,155	333	31,839	196,616
COUT-B-2	148	228,454	0.1	29,350	2,155	333	31,838	196,616
COUT-B-3	135	175,584	0.1	26,995	1,401	240	28,636	146,948
COUT-B-4	147	228,454	0.1	29,350	2,155	333	31,838	196,616
COUT-B-5	139	175,584	0.1	26,995	1,401	245	28,641	146,943
COUT-C	141	175,584	0.1	26,995	1,401	223	28,619	146,965
COUT-C-1	155	228,454	0.1	29,350	2,155	350	31,855	196,599
COUT-C-2	155	228,454	0.1	29,350	2,155	349	31,854	196,600
COUT-C-3	143	175,584	0.1	26,995	1,401	254	28,650	146,934
COUT-C-4	156	228,454	0.1	29,350	2,155	352	31,857	196,597
COUT-C-5	139	175,584	0.1	26,995	1,401	246	28,641	146,943

NOTES:

¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.

Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

Disturbance to known northern goshawk delineated PFAs, known nest locations, and potentially suitable nesting and foraging habitat could occur on USFS-administered lands as a result of the proposed activities but is unlikely as goshawks may avoid areas where Project activities occur. Project-related effects on northern goshawk habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and all associated facilities. However, suitable goshawk habitat generally occurs in patches greater than or equal to 10 acres in size. Displacement of individuals as a result of habitat loss or degradation also may occur, but with abundant alternative habitat for goshawk in the CIAA, Project-related impacts on goshawk would be localized and would not preclude goshawk from using habitat on the national forest. Potential mortality risk to goshawks would be reduced by implementing avian-safe transmission line design standards (Design Feature 4) that reduce the potential for avian collisions with the transmission line. Due to the phase-to-phase and phase-to-ground separation of components of 500kV transmission lines, electrocution of goshawks would not be possible on the transmission line. Preconstruction nest surveys would be conducted in suitable goshawk nesting habitat (Design Feature 3), and seasonal and spatial restrictions would be implemented during construction and maintenance to avoid disturbing nesting and brood-rearing goshawks (Selective Mitigation Measure 12 and Design Feature 8). Access roads constructed for the Project would be closed following construction in the event that they cross goshawk PFAs and the new access roads are likely to facilitate increased human use and disturbance of goshawks using these areas (Selective Mitigation Measure 15).

Post-fledgling Areas

Alternative COUT-B and route variations could affect between 3.5 and 3.7 percent of an identified PFA on the Ashley National Forest (Table 23). Alternative COUT-B and route variations follow an existing transmission line and forest roads through Sowers Canyon that has resulted in minor modification to

existing habitats, and habitat effectiveness for goshawk is likely to be high in the area. The nest area in the PFA would not be affected by any alternative routes. The alternative route and route variations follow the existing low voltage transmission line through the PFA, which would reduce the need for construction of new access roads in the PFA. Some removal of forested vegetation would be required in the PFA to allow for safe operation of the transmission line. Trees in the PFA would be removed selectively (Selective Mitigation Measure 4) to reduce the effects of tree removal on habitats in the PFA. Additionally, there are several north-facing slopes with coniferous forest in the immediate vicinity of the PFA crossed that provide similar habitat to what would be disturbed by the transmission line and could function as replacement habitat for affected individual birds.

The estimated Project disturbance could affect between 0.7 and 1.8 percent of crossed PFAs on the Manti-La Sal National Forest (Table 23). Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I could affect known PFAs. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I are located within 1 mile of three known nests, and Alternatives COUT BAX-E and COUT-H are located within 1 mile of four known nests. Alternatives COUT BAX-E and COUT-H cross the Upper Huntington Creek PFA on the Manti-La Sal National Forest. These alternative routes also would be located within 1 mile of known goshawk nests in the Upper Huntington Creek and North Fork of Burnout Canyon PFAs. Delineated nest areas around the known nests would not be crossed. The areas around the Upper Huntington Creek and North Fork of Burnout Canyon PFAs contain existing high-traffic unpaved roads and receive human traffic associated with recreational use of these roads. As a result, goshawks occupying these territories are likely somewhat habituated to human presence and noise associated with vehicle use. Some removal of forested vegetation would be required in the PFA to allow for safe operation of the transmission line. Trees would be removed selectively in the PFA (Selective Mitigation Measure 4) to reduce the effects of tree removal on habitats in the PFA. The area around the Upper Huntington Creek PFA contains a natural mosaic of forested, shrub, and meadow habitats and removal of some trees from the PFA would not substantially alter the structure of goshawk nesting habitat in the PFA and the abundant surrounding forested habitats. Additionally, access roads constructed for the Project through the PFA would be closed following construction to prevent increased human use and disturbance of these areas (Selective Mitigation Measure 15).

Alternatives COUT BAX-B, COUT BAX-C, and COUT-I cross the North End of Trail Mountain PFA on the Manti-La-Sal National Forest. These alternative routes also are located within 0.5 mile of two known goshawk nests in the North End of Trail Mountain PFA. Delineated nest areas around the known nests would not be crossed. The alternative routes cross only the far northwestern corner of the PFA for approximately one span length between tower structures (approximately 1,500 feet) and would be adjacent to an existing high-voltage transmission line. Additionally, unpaved roads that receive frequent recreational traffic cross the PFA and are located between the transmission line alternative routes and the known nest sites in the PFA. Goshawks occupying these territories are likely somewhat habituated to human presence and noise associated with vehicle use. Some removal of forested vegetation would be required in the PFA to allow for safe operation of the transmission line. Trees would be removed selectively in the PFA (Selective Mitigation Measure 4) to reduce the effects of tree removal on habitats in the PFA. Minimal access road construction would likely be required due to the presence and proximity of existing roads to the alternative routes and a short distance for which the PFA would be crossed. The area around the North End of Trail Mountain PFA contains a natural mosaic of forested, shrub, and meadow habitats and removal of some trees from in the PFA would not substantially alter the structure of goshawk nesting habitat in the PFA and the abundant surrounding forested habitats. Additionally, access roads constructed for the Project through the PFA would be closed following construction to prevent increased human use and disturbance of these areas (Selective Mitigation Measure 15).

While the habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential

developments, coal mining, and recreation; habitat effectiveness for goshawk in the study corridor for these alternative routes is likely to be high due to the mountainous, forested nature of habitats in this area that reduces the effects of noise and other human activities.

The Project would not affect delineated PFAs on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 follow the Bonanza-Mona Transmission Project that was constructed in the 1980s and is subject to occasional human disturbance during transmission line maintenance or inspection. Northern goshawk in the area have likely adapted to the modification of habitat in the right-of-way and occasional disturbance and habitat effectiveness in the study corridor for these alternative routes is likely to be high for goshawk due to the mountainous, forested nature of habitats in this area. Alternative COUT-A and Route Variation COUT-A-1 are located within 1 mile of two known nests. Seasonal construction restrictions (Selective Mitigation Measure 12) would prevent construction noise and human presence from negatively affecting goshawks occupying these areas.

Nesting and Foraging Habitat

The analysis of potentially suitable goshawk nesting habitat included all forested cover habitat types in which goshawks are known to nest. The analysis of potentially suitable goshawk foraging habitat incorporated the majority of vegetation types that occur in forested landscapes where goshawk are known to occur. The estimated disturbance to nesting and foraging habitat is likely a conservative estimation of habitat used by goshawk on the three national forests, as goshawk show a preference for habitat characteristics driven by prey requirements that include but are not limited to large clumped trees with interlocking crowns, vegetation with a variety of age-class and structural classes, snags and downed logs, and small to medium openings for foraging (Squires and Kennedy 2006).

The Project would affect between 0.02 and 0.1 percent of potentially suitable nesting habitat and between less than 0.01 and 0.1 percent of potentially suitable foraging habitat in the CIAA on the Ashley National Forest (Tables 24 and 25). Alternatives COUT-B and route variations would affect comparatively more nesting and foraging habitat than Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 on the Ashley National Forest. Alternative COUT-B and route variations follow linear development (lower-voltage transmission lines and forest roads) through Sowers Canyon that have resulted in minor habitat modification, and potentially suitable nesting and foraging habitat in the study corridor maintains high levels of functionality for northern goshawk. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 are located in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest. Habitats in this area are largely unmodified by anthropogenic developments; therefore habitat effectiveness for goshawk would likely be high.

The Project would affect between 0.1 and 0.2 percent of potentially suitable nesting habitat and between less than 0.04 and 0.1 percent of potentially suitable foraging habitat in the CIAA on the Manti-La Sal National Forest (Tables 24 and 25). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect comparatively more goshawk nesting habitat than Alternatives COUT BAX-E and COUT-H on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H and COUT-I would affect comparatively more goshawk foraging habitat than Alternatives COUT-A, COUT-B, and COUT-C and route variations on the Manti-La Sal National Forest. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, and recreation although potentially suitable nesting and foraging habitat in the study corridor for these alternative routes maintain high levels of functionality for goshawk due to the mountainous, forested nature of the area. Habitats along Alternatives COUT BAX-E and COUT-H also have been affected by wildfires that could reduce habitat effectiveness for goshawk in the short-term through the removal of mature trees, canopy coverage, and structural complexity that goshawk prefer for nesting, but could

increase availability of open foraging habitat and promote long-term forest health essential for goshawks. Alternatives COUT-A, COUT-B, and COUT-C and route variations parallel existing transmission lines, U.S. Highways 6 and 89, and the Rio Grande Western Railroad along the northern boundary of the Manti-La Sal National Forest. Habitats along these alternative routes are generally lower in elevation and do not have the minimum patch size necessary to provide suitable goshawk nesting and foraging habitat. In addition, habitats have been affected by nearby residential and agricultural developments, livestock grazing, and frequent off-highway-vehicle and recreational use. These developments have decreased the quality and effectiveness of potentially suitable foraging habitat.

The Project would affect between less than 0.01 and 0.2 percent of potentially suitable nesting habitat, and 0.1 percent of potentially suitable foraging habitat in the CIAA on the Uinta National Forest (Tables 24 and 25). Alternative COUT-A and Route Variation COUT-A-1 would affect comparatively more goshawk nesting habitat but similar amounts of foraging habitat compared to Alternatives COUT-B and COUT-C and route variations on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat and is subject to occasional human disturbance during transmission line maintenance or inspection. Northern goshawk in the area have likely adapted to the modification of habitat in the right-of-way and occasional disturbance. Potentially suitable nesting and foraging habitat in the study corridor for these alternative routes maintain high levels of functionality due to the mountainous, forested nature of habitats in this area. Habitat under Alternatives COUT-B and COUT-C and route variations have been heavily modified by previous development from two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. Potentially suitable goshawk nesting and foraging habitat quality likely would be diminished in these areas.

Cumulative Effects

All alternative routes could result in fragmentation and modification of potentially suitable northern goshawk nesting and foraging habitat that could contribute to the cumulative loss, fragmentation, and modification of potentially suitable northern goshawk nesting and foraging habitat in relevant CIAAs and could reduce habitat effectiveness for northern goshawk. Past and present actions in potential goshawk habitat include oil and gas development, limestone leasing, a communication facility, coal mines, sand and gravel extraction, a pipeline, fences, and residential development. The majority of coal mining operations on the Manti-La Sal National Forest involve underground mining techniques that do not disturb or prevent goshawks from using habitat on the surface. Additionally, oil and gas leasing on the Manti-La Sal National Forest has resulted only in minor surface development. Past and present actions in goshawk habitats also include vegetation management and habitat and rangeland management, which could provide long-term benefits to goshawk foraging and nesting habitats on the national forest. Therefore, the estimation of the effects of past and present actions on potential northern goshawk habitats in Tables 23 through 25 is very conservative. RFFAs include the TransWest Express Transmission Project, vegetation management, a tunnel, sand and gravel extraction, a pipeline, a coal mine, a reservoir, transportation development, and recreational and residential development that could decrease habitat effectiveness.

Alternative COUT-B and route variations could result in fragmentation and modification of a goshawk PFA on the Ashley National Forest and could contribute to the cumulative loss, fragmentation, and modification of the PFA. Past actions in this PFA include construction of a low voltage transmission line and construction of unpaved roads. RFFAs in this PFA include the TransWest Express Transmission Project. The majority of the PFA would remain unaffected by past and present actions and RFFAs. Large wildfires in 2012 burned through known goshawk PFAs and nest areas on the Manti-La Sal National Forest that are not crossed by the alternative routes. Information regarding the effects of these wildfires

on goshawk nest, PFA, and territory occupancy are not available; however, it is reasonable to assume negative effects on habitat quality occurred in PFAs affected by the fires. These effects may result in a temporary reduction in goshawk territory occupancy on the Manti-La Sal National Forest, though this reduction would likely be in the natural range of variability on the Manti-La Sal National Forest. Affected territories would be expected to recover over the long-term though territory occupancy may be reduced while habitats recover. However, goshawk population trends on the Ashley and Manti-La Sal National Forests, as measured by the percentage of occupied territories currently capable of supporting goshawk would not be anticipated to decline substantially.

Alternatives COUT BAX-E and COUT-H could result in fragmentation and modification of the Upper Huntington Creek known goshawk PFA on the Manti-La-Sal National Forest and could contribute to the cumulative loss, fragmentation, and modification of the PFA. The PFA is in the lease boundary of the Skyline Coal Mine, though mining is occurring using underground methods and disturbance to the PFA is not anticipated. RFFAs in this PFA include the TransWest Express Transmission Project. The majority of goshawk habitat in the PFA would remain unaffected by past and present actions and RFFAs.

Alternatives COUT BAX-B, COUT BAX-C, and COUT-I could result in fragmentation and modification of the North End of Trail Mountain known goshawk PFA on the Manti-La-Sal National Forest and could contribute to the cumulative loss, fragmentation, and modification of the PFA. Past actions in this PFA include construction of unpaved roads. The PFA is in the lease boundary of the Deer Creek Coal Mine, though mining is occurring using underground methods and disturbance to the PFA is not anticipated. Portions of the PFA also have been leased for oil and gas development, though surface activity in the PFA is not anticipated. RFFAs in this PFA include the TransWest Express Transmission Project. The majority of goshawk habitat in the PFA would remain unaffected by past and present actions and RFFAs.

Findings

All alternative routes crossing USFS-administered lands could result in local losses or modifications of potentially suitable goshawk nesting and foraging habitat and may reduce habitat effectiveness for goshawk. The magnitude of effects on PFAs would be greater under Alternatives COUT BAX-B, COUT BAX-C, COU BAX-E, COUT-B and route variations, COUT-H, and COUT-I as these alternative routes cross known goshawk PFAs, although delineated nest areas in these PFAs would not be affected. All affected PFAs occur in landscapes with ample forested habitat that could serve as replacement nesting habitat for areas in PFAs affected by the Project. The magnitude of effects on potentially suitable nesting and foraging habitat would be greater under Alternatives COUT BAX-B; COUT BAX-C; COUT BAX-E; COUT-A and COUT-B and route variations; COUT-H; and COUT-I as these alternative routes affect a greater amount of potentially suitable habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of potential goshawk nesting and foraging habitats would remain unaffected by the Project and cumulative actions in the CIAA. All alternative routes may affect individual goshawks but are not likely to cause a trend towards federal listing or a loss of viability on the Ashley, Uinta, or Manti-La Sal National Forests. Additionally, no alternative routes would affect the stable national forest-wide trend of northern goshawk on the Ashley and Manti-La Sal National Forests or on the increasing population trends on the Uinta National Forest. When analyzed as a migratory bird species representing deciduous woodland habitat, impacts resulting from any of the alternative routes are unlikely to affect regional goshawk population trends.

Peregrine Falcon (USFS Sensitive: Ashley, Manti-La Sal, and Uinta)

Environmental Consequences

Impacts on potentially suitable peregrine falcon nesting and foraging habitat are presented in Tables 26 and 27.

TABLE 26 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR PEREGRINE FALCON NESTING HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	5	4,576	0.1	347	17	0	364	4,211
COUT-B-1	5	5,085	0.1	355	21	0	376	4,709
COUT-B-2	5	4,719	0.1	351	17	0	368	4,351
COUT-B-3	5	4,576	0.1	347	17	0	364	4,211
COUT-B-4	5	4,719	0.1	351	17	0	368	4,351
COUT-B-5	5	4,576	0.1	347	17	0	364	4,211
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	1	444	0.2	130	2	2	134	310
COUT BAX-C	1	444	0.2	130	2	2	134	310
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-I	2	444	0.5	130	2	3	135	310
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	2	862	0.2	22	53	1	76	787
COUT-A-1	2	797	0.3	22	53	2	77	720
COUT-B	2	473	0.4	94	10	0	104	369
COUT-B-1	2	573	0.3	94	10	0	105	469
COUT-B-2	2	573	0.3	94	10	0	105	469
COUT-B-3	2	473	0.4	94	10	0	104	369
COUT-B-4	2	573	0.3	94	10	0	105	469
COUT-B-5	2	473	0.4	94	10	0	104	369
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

**TABLE 27
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR PEREGRINE FALCON FORAGING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	50	2,661	1.9	371	91	0	462	2,199
COUT-B-1	51	3,064	1.7	380	106	3	490	2,575
COUT-B-2	51	2,890	1.8	374	106	3	483	2,407
COUT-B-3	50	2,661	1.9	371	91	0	462	2,199
COUT-B-4	51	2,890	1.8	374	106	3	483	2,407
COUT-B-5	52	2,661	2.0	371	91	0	462	2,199
COUT-C-1	1	403	0.2	9	14	4	27	376
COUT-C-2	1	229	0.4	3	14	3	21	209
COUT-C-4	1	229	0.4	3	14	3	21	209
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	26	2,521	1.0	1,440	6	6	1,451	1,070
COUT BAX-C	25	2,521	1.0	1,440	6	5	1,451	1,070
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-I	27	2,521	1.1	1,440	6	6	1,451	1,070
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	31	3,525	0.9	309	275	26	610	2,914
COUT-A-1	38	3,514	1.1	311	275	33	620	2,895
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

Peregrines will use a broad array of habitat types and alternative nest sites in response to human activity, although response often varies by individual, period in the breeding cycle, and environmental conditions (White et al. 2002). Disturbance to peregrine falcons could occur on USFS-administered lands as a result of the proposed activities but is unlikely as the extent of nesting habitat is extremely limited and patchy on the Ashley, Manti-La Sal, and Uinta National Forests. Foraging habitat associated with grassland and riparian areas are also limited on the Ashley, Manti-La Sal, and Uinta National Forests. Construction of permanent transmission line structures and work areas in riparian areas would likely be avoided and is not anticipated to diminish foraging habitat effectiveness for peregrine falcon on the Ashley, Manti-La Sal, and Uinta National Forests. Project-related impacts on peregrine falcon could include the removal, alteration, and damage to vegetation during Project construction and displacement of individuals as a result of habitat loss or degradation. The magnitude of Project-related impacts would be minimized through the application of preconstruction raptor nest surveys in suitable peregrine falcon nesting habitat (Design Feature 3), and seasonal and spatial restrictions during construction and maintenance (Selective Mitigation Measure 12 and Design Feature 8). Access roads constructed for the Project would be closed following construction in the event that peregrine falcon nests are located during preconstruction surveys, and new access roads are likely to facilitate increased human use and disturbance of these areas (Selective

Mitigation Measure 15). The Applicant would use avian-safe transmission line design standards (Design Feature 4) to reduce the potential for avian collisions with the transmission line. Due to the phase-to-phase, and phase-to-ground separation of components of 500kV transmission lines, electrocution of peregrine falcons would not be possible on the transmission line. After application of design features and selective mitigation measures, impacts on peregrine falcon habitat on all three national forests from all alternative routes would be limited, and habitat effectiveness for peregrine falcons on USFS-administered lands would remain largely unaffected by the Project.

The Project would affect 0.1 percent of peregrine falcon nesting habitat and between 0.2 and 2 percent of the total available foraging habitat in the CIAA on the Ashley National Forest. Alternative COUT-B and route variations would affect more peregrine falcon habitat than Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 on the Ashley National Forest. Alternative COUT-B and route variations follow linear development (lower-voltage transmission lines and forest roads) that have resulted in minor habitat modification. Potentially suitable nesting and foraging habitat in the study corridor for this alternative maintains high levels of functionality for peregrine falcons. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 are located in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest. Habitats in this area are largely unmodified by anthropogenic developments; therefore, habitat effectiveness for peregrine falcons would likely be high.

The Project would affect between 0.2 and 0.5 percent of the total available nesting habitat and less than 1.1 percent of the total available foraging habitat in the CIAA on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would have similar impacts on potentially suitable peregrine falcon foraging habitat. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I follow existing linear facilities (transmission lines, forest roads) on the Manti-La Sal National Forest and would be located in an area of additional disturbance that includes coal mining, oil and gas development, and recreational use, which has resulted in diminished habitat effectiveness in localized areas.

The Project would affect between 0.2 and 0.4 percent of peregrine falcon nesting habitat and less than 1.1 percent of the total available foraging habitat in the CIAA on the Uinta National Forest. Alternatives COUT-A and Route Variation COUT-A-1 would affect more peregrine falcon nesting and foraging habitat than Alternative COUT-B and route variations. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project. This transmission line previously fragmented and altered potentially suitable habitat, and peregrine falcons that use these habitats are subject to occasional human disturbance during transmission line maintenance or inspection. Peregrine falcons have likely adapted to the modification of habitat in the right-of-way and occasional disturbance, and potentially suitable foraging and nesting habitat in the study corridor for these alternative routes maintain high levels of functionality. Habitat under Alternatives COUT-B and route variations have been heavily modified by previous development from two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. These developments have likely reduced the habitat effectiveness for peregrine falcon in the area and resulted in individual peregrine falcons that have likely habituated to frequent noise and human presence associated with operation of the transportation infrastructure. Peregrine falcons have likely habituated to frequent noise and human presence from previous development and may have adapted to alternative habitat availability in the area (White et al. 2002).

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable peregrine falcon nesting and foraging habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable peregrine falcon nesting and foraging habitat in relevant CIAA and could reduce habitat

effectiveness for peregrine falcon on the Ashley, Manti-La Sal, and Uinta National Forests. The majority of disturbance from past and present actions reported in Tables 26 and 27 results from past oil and gas leasing for which minimal development is anticipated and underground coal mining and leasing with minimal ground disturbance. However, minimal development is anticipated with oil and gas leasing, and minimal ground disturbance is associated with underground coal mining. RFFAs include the TransWest Express Transmission Project, vegetation management, a coal mine, a reservoir, and recreational and residential development that could further decrease habitat effectiveness for peregrine falcon populations. Ongoing habitat/rangeland management actions and proposed vegetation management and riparian, forest and rangeland restoration management actions occurring or planned in the CIAA could provide long-term benefits to potentially suitable peregrine falcon nesting and foraging habitat and increase habitat effectiveness for the species on the national forest over the long-term.

Findings

All alternative routes except Alternatives COUT BAX-E and COUT-H could result in local losses or modifications of potentially suitable peregrine falcon nesting and foraging habitat and may reduce habitat effectiveness for peregrine falcons. The magnitude of effects would be greater under Alternative COUT-B and route variations compared to other alternative routes due to the high habitat effectiveness along these alternative routes and the amount of disturbance in relation to total available habitat. Overall, the majority of potentially suitable peregrine falcon nesting and foraging habitat would remain unaffected by the Project and cumulative actions in the CIAA, and habitat effectiveness for peregrine would remain largely unaffected by the Project. Construction, operation, and maintenance of the Project are not likely to cause a trend toward federal listing or a loss of viability of peregrine falcon on the Ashley, Manti-La Sal, or Uinta National Forests.

Red-naped Sapsucker (MIS: Ashley)

Environmental Consequences

Impacts on potentially suitable red-naped sapsucker habitat on the Ashley National Forest are presented in Table 28.

TABLE 28 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR RED-NAPED SAPSUCKER HABITAT ON THE ASHLEY NATIONAL FOREST								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	8	146	5.5	12	30	0	42	103
COUT-B-1	12	232	5.2	15	47	0	62	170
COUT-B-2	8	146	5.5	12	30	0	42	104
COUT-B-3	8	146	5.5	12	30	0	42	103

**TABLE 28
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR RED-NAPED SAPSUCKER HABITAT ON THE ASHLEY NATIONAL FOREST**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COUT-B-4	8	146	5.5	12	30	0	42	104
COUT-B-5	9	146	6.2	12	30	0	42	103
COUT-C-1	3	86	3.5	2	17	0	19	67

NOTES:
¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. The red-naped sapsucker is a management indicator species for deciduous woodland habitat on the Ashley National Forest only.
 Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

Red-naped sapsucker is generally associated with mixed deciduous woodland and riparian habitat, but may use juniper habitat during migration (Walters et al. 2002). Disturbance to potentially suitable red-naped sapsucker habitat could occur on the Ashley National Forest as a result of the proposed activities but is unlikely as potentially suitable habitat is limited in the Project area on the national forest. Direct effects on red-naped sapsucker habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and all associated facilities and temporary displacement of individuals as a result of habitat loss or degradation. Any effects on red-naped sapsucker habitat on the Ashley National Forest would be minor and localized and would not prevent adjacent habitat from supporting red-naped sapsucker populations.

Under all alternative routes that cross the Ashley National Forest, preconstruction surveys would be conducted to identify riparian areas crossed by the Project (Design Feature 3) that could be used by red-naped sapsucker. In areas where riparian areas are identified, avoidance of sensitive resources and spanning or avoiding sensitive features (Selective Mitigation Measures 2 and 7) and selective removal of trees more than 5-feet tall in riparian habitats (Selective Mitigation Measure 4) would be implemented to avoid or reduce impacts on riparian areas. Due to the anticipated span distances between transmission line structures up to 1,500 feet (refer to Section 2.3 of the Project Draft EIS [BLM 2014]), construction of permanent transmission line structures and work areas in riparian areas and potentially suitable red-naped sapsucker habitat likely would be avoided completely. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory birds nesting season, appropriate species-specific nest buffers would be implemented on identified active red-naped sapsucker nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7). Alternative COUT-B follows an existing transmission line through the Ashley National Forest and would use existing access roads where feasible.

The Project would affect between 3.5 and 6.2 percent of the total available potentially suitable red-naped sapsucker habitat in the CIAA on the Ashley National Forest (Table 28). Alternative COUT-B and route variations would affect comparatively more red-naped sapsucker habitat than Route Variation COUT-C-1 on the Ashley National Forest. Alternative COUT-B and route variations follow an existing lower voltage transmission line through Sowers Canyon and are also located in the vicinity of Reservation Ridge where

they join Route Variation COUT-C-1. Habitats along these alternative routes have largely remained unmodified by anthropogenic developments; therefore, habitat effectiveness for red-naped sapsucker would likely be high.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable red-naped sapsucker habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable red-naped sapsucker habitat in the CIAA and reduce habitat effectiveness for the species. Past and present actions on potentially suitable red-naped sapsucker habitat include oil and gas leasing. RFFAs include the TransWest Express Transmission Project but also include forest and rangeland restoration management actions that could offset disturbance from proposed development and increase habitat effectiveness for red-naped sapsucker over the long-term.

Findings

All alternative routes that cross the Ashley National Forest could result in local losses or modifications of potentially suitable red-naped sapsucker habitat and may reduce habitat effectiveness for red-naped sapsuckers. The magnitude of effects would be greater under Alternative COUT-B and route variations as they would affect a greater amount of potentially suitable habitat and would be located in areas of high habitat effectiveness for red-naped sapsucker. Overall, the majority of potentially suitable red-naped sapsucker habitat would remain undisturbed by the Project and cumulative actions in the CIAA and habitat effectiveness for red-naped sapsucker on the national forest would remain largely unaffected by the Project. None of the alternative routes would affect the stable red-naped sapsucker population trend on the Ashley National Forest.

Song Sparrow (MIS: Ashley)

Environmental Consequences

Impacts on potentially suitable song sparrow habitat on the Ashley National Forest are presented in Table 29.

TABLE 29 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR SONG SPARROW HABITAT ON THE ASHLEY NATIONAL FOREST								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	4	74	5.4	8	21	0	29	45
COUT-B-1	4	74	5.4	8	21	0	29	45
COUT-B-2	4	74	5.4	8	21	0	29	45
COUT-B-3	4	74	5.4	8	21	0	29	45

**TABLE 29
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR SONG SPARROW HABITAT ON THE ASHLEY NATIONAL FOREST**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COUT-B-4	4	74	5.4	8	21	0	29	45
COUT-B-5	4	74	5.4	8	21	0	29	45

NOTES:

¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. The song sparrow is a management indicator species for riparian habitat on the Ashley National Forest only. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

Disturbance to potentially suitable song sparrow habitat could occur on the Ashley National Forest as a result of the proposed activities but is unlikely as potentially suitable riparian and wetland habitat is limited in the Project area on the national forest. Due to the anticipated span distances between transmission line structures (refer to Section 2.3 of the Project Draft EIS Project Description [BLM 2014]), construction of permanent transmission line structures and work areas in riparian areas and potentially suitable song sparrow habitat likely would be avoided completely. Any effects on riparian areas or song sparrow habitat on the Ashley National Forest would be minor and localized, and would not be expected to prevent the habitat from supporting current song sparrow populations.

Project-related impacts on song sparrow habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and associated facilities as well as the displacement of individuals as a result of habitat loss or degradation. These effects would be minor and localized and would not prevent the habitat from supporting local song sparrow populations. Preconstruction surveys would be conducted to identify riparian areas crossed by the Project (Design Feature 3) that may be used by song sparrows. In areas where riparian areas are identified, the transmission line would be designed to span or avoid these areas (Selective Mitigation Measures 2, and 7), and selective removal of trees taller than 5-feet in riparian and tree nesting habitats (Selective Mitigation Measure 4) would be implemented to avoid or reduce impacts on riparian areas. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season for all alternative routes between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory birds nesting season, appropriate species-specific nest buffers would be implemented on identified active song sparrow nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect 5.4 percent of the total available potentially suitable song sparrow habitat in the CIAA on the Ashley National Forest (Table 29). Impacts would be the same under all alternative routes. Alternative COUT-B and route variations follow an existing lower voltage transmission line and forest roads through Sowers Canyon where the majority of potentially suitable song sparrow habitat is located. Song sparrows that use these habitats are likely habituated to occasional disturbance from vehicle travel on the road and occasional inspections and maintenance of the transmission line. Habitats along these alternative routes on the Ashley National Forest have largely remained unmodified by anthropogenic developments; therefore, potential habitat effectiveness for the song sparrow would likely be high.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable song sparrow habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable song sparrow habitat in the CIAA and could reduce habitat effectiveness for the species. Past and present actions on potentially suitable song sparrow habitat include oil and gas leasing for which minimal development is anticipated. RFFAs include the TransWest Express Transmission Project. Incremental Project-related disturbance on potentially suitable song sparrow habitat would occur in areas of pre-existing disturbance or areas of future disturbance, such as by colocating the Project transmission line with the TransWest Express Transmission Project. However, RFFAs also would include riparian restoration management actions that could increase habitat effectiveness and availability for the song sparrow over the long-term.

Findings

All alternative routes that cross USFS-administered lands could result in local losses or modifications of potentially suitable riparian and wetland habitat and may reduce habitat effectiveness for song sparrows. The magnitude of effects would be the same for Alternative COUT-B and route variations on the Ashley National Forest. Overall, the majority of potentially suitable song sparrow habitat would remain unaffected by the Project and cumulative actions in the CIAA, and habitat effectiveness for song sparrow on the Ashley National Forest would remain largely unaffected by the Project. None of the alternative routes are likely to adversely affect the stable national forest-wide song sparrow population trend on the Ashley National Forest.

Spotted Bat and Townsend's Big-eared Bat (USFS Sensitive: Ashley, Manti-La Sal, and Uinta)

Environmental Consequences

Impacts on potentially suitable spotted bat and Townsend's big-eared roosting and foraging habitat are presented in Tables 30 and 31.

TABLE 30 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR SPOTTED BAT AND TOWNSEND'S BIG-EARED BAT ROOSTING HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	5	14,716	0.03	832	22	0	854	13,862
COUT-B-1	5	19,669	0.03	954	53	0	1,007	18,663
COUT-B-2	5	17,973	0.03	943	33	0	976	16,997
COUT-B-3	5	14,716	0.03	832	22	0	854	13,862
COUT-B-4	5	17,973	0.03	943	33	0	976	16,997
COUT-B-5	5	14,716	0.03	832	22	0	854	13,862

**TABLE 30
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR SPOTTED BAT AND TOWNSEND'S BIG-EARED BAT ROOSTING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	1	4,050	0.02	885	3	2	891	3,159
COUT BAX-C	1	4,050	0.02	885	3	2	891	3,159
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	2	5,543	0.04	537	284	1	821	4,721
COUT-A-1	2	5,465	0.04	499	284	2	785	4,680
COUT-B	2	3,454	0.06	452	13	0	465	2,989
COUT-B-1	2	5,036	0.04	528	14	0	542	4,495
COUT-B-2	2	5,036	0.04	528	14	0	542	4,495
COUT-B-3	2	3,454	0.06	452	13	0	465	2,989
COUT-B-4	2	5,036	0.04	528	14	0	542	4,495
COUT-B-5	2	3,454	0.06	452	13	0	465	2,989
COUT-C	2	3,454	0.06	452	13	0	465	2,989
COUT-C-1	2	5,036	0.04	528	14	0	542	4,495
COUT-C-2	2	5,036	0.04	528	14	0	542	4,495
COUT-C-3	2	3,454	0.06	452	13	0	465	2,989
COUT-C-4	2	5,036	0.04	528	14	0	542	4,495
COUT-C-5	2	3,454	0.06	452	13	0	465	2,989

NOTES:

¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acres are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

**TABLE 31
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR SPOTTED BAT AND TOWNSEND'S BIG-EARED BAT FORAGING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	180	164,760	0.11	19,246	992	0	20,237	144,522
COUT-B-1	198	297,968	0.07	25,484	3,015	166	28,665	269,302
COUT-B-2	190	270,706	0.07	24,590	2,528	218	27,337	243,370
COUT-B-3	181	164,760	0.11	19,246	992	0	20,237	144,522
COUT-B-4	189	270,706	0.07	24,590	2,528	218	27,337	243,370
COUT-B-5	186	164,760	0.11	19,246	992	0	20,237	144,522
COUT-C-1	17	152,956	0.01	11,213	2,289	175	13,677	139,279
COUT-C-2	9	105,950	0.01	5,344	1,536	229	7,110	98,840
COUT-C-4	9	105,950	0.01	5,344	1,536	231	7,112	98,837
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	291	223,538	0.13	75,720	868	345	76,933	146,605
COUT BAX-C	286	223,538	0.13	75,720	868	339	76,927	146,611
COUT BAX-E	127	155,658	0.08	39,234	9,525	131	48,890	106,768
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	30	102,414	0.03	13,177	1,161	276	14,614	87,801
COUT-A-1	30	102,414	0.03	13,177	1,161	276	14,614	87,801
COUT-B	30	102,414	0.03	13,177	1,161	273	14,611	87,804
COUT-B-1	30	102,414	0.03	13,177	1,161	274	14,612	87,802
COUT-B-2	30	102,414	0.03	13,177	1,161	274	14,612	87,802
COUT-B-3	30	102,414	0.03	13,177	1,161	274	14,612	87,802
COUT-B-4	30	102,414	0.03	13,177	1,161	274	14,612	87,803
COUT-B-5	31	102,414	0.03	13,177	1,161	280	14,618	87,796
COUT-C	31	102,414	0.03	13,177	1,161	286	14,624	87,791
COUT-C-1	32	102,414	0.03	13,177	1,161	288	14,626	87,788
COUT-C-2	31	102,414	0.03	13,177	1,161	287	14,625	87,789
COUT-C-3	32	102,414	0.03	13,177	1,161	290	14,628	87,786
COUT-C-4	32	102,414	0.03	13,177	1,161	290	14,628	87,787
COUT-C-5	31	102,414	0.03	13,177	1,161	281	14,619	87,796
COUT-H	142	155,658	0.09	39,234	9,525	147	48,906	106,752
COUT-I	307	223,538	0.14	75,720	868	276	76,864	146,674
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	339	291,204	0.12	43,819	8,611	491	52,922	238,282
COUT-A-1	331	289,216	0.11	42,337	8,611	496	51,444	237,771
COUT-B	138	225,812	0.06	43,645	1,591	287	45,524	180,288
COUT-B-1	156	292,759	0.05	47,030	2,451	417	49,898	242,861
COUT-B-2	156	292,759	0.05	47,030	2,451	417	49,898	242,861
COUT-B-3	139	225,812	0.06	43,645	1,591	314	45,551	180,262
COUT-B-4	155	292,759	0.05	47,030	2,451	416	49,897	242,862
COUT-B-5	142	225,812	0.06	43,645	1,591	322	45,558	180,254

**TABLE 31
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR SPOTTED BAT AND TOWNSEND'S BIG-EARED BAT FORAGING HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COUT-C	145	225,812	0.06	43,645	1,591	301	45,538	180,275
COUT-C-1	164	292,759	0.06	47,030	2,451	438	49,919	242,840
COUT-C-2	163	292,759	0.06	47,030	2,451	437	49,918	242,841
COUT-C-3	147	225,812	0.07	43,645	1,591	333	45,569	180,243
COUT-C-4	165	292,759	0.06	47,030	2,451	441	49,922	242,837
COUT-C-5	142	225,812	0.06	43,645	1,591	322	45,559	180,254

NOTES:

¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.

Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

Disturbance to potentially suitable spotted bat and Townsend's big-eared bat roosting and foraging habitat could occur on USFS-administered lands as a result of the proposed activities. Analysis of potentially suitable roosting habitat is conservative as it included all potential cliff areas. Project-related impacts on roosting habitat are unlikely as potentially suitable habitat is very limited in the Project area on the Ashley, Manti-La Sal, and Uinta National Forests. The analysis of potentially suitable foraging habitat included all vegetation types on the Ashley, Manti-La Sal, and Uinta National Forests and is conservative due to the large area of available habitat. Project-related impacts on individual foraging bats are also anticipated to be minimal due to the likely distribution or behavior of the two species. Townsend's big-eared bat have a wide range and may travel anywhere up to 15 miles per night on foraging trips, and spotted bats are usually solitary foragers (NatureServe 2013).

Project-related impacts on spotted and Townsend's big-eared bat roosting and foraging habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and associated facilities. Project-related impacts on spotted bat and Townsend's big-eared bat would be minimized through instructing Project personnel on the protection of natural resources (Design Feature 28). Instruction also will be given for reporting and stop-work procedures in the event of a resource conflict such as identification of a roosting site near the Project. Any spotted or Townsend's big-eared bat hibernacula or roost site identified during preconstruction surveys would be subject to additional selective mitigation measures to reduce impacts on individuals and populations.

The Project would affect less than 0.3 percent of the total available roosting habitat and approximately 0.1 percent of the total available foraging habitat in the CIAA on the Ashley National Forest (Tables 30 and 31). Alternative COUT-B and route variations would have the same effects on potentially suitable roosting habitat. Alternative COUT-B and route variations would affect comparatively more spotted and Townsend's big-eared bat foraging habitat than Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 on the Ashley National Forest. Alternative COUT-B and route variations follow linear development (lower-voltage transmission lines and forest roads) that have resulted in minor habitat modification, and potentially suitable roosting and foraging habitat in the study corridor maintains high levels of functionality for spotted or Townsend's big-eared bat. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 are located in the vicinity of Reservation Ridge on

the southern edge of the Ashley National Forest and have largely remained unmodified by anthropogenic developments; therefore, habitat effectiveness also would likely be high.

The Project would affect less than 0.2 percent of the total available roosting habitat and between 0.03 and 0.14 percent of the total available foraging habitat in the CIAA on the Manti-La Sal National Forest (Tables 30 and 31). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect more spotted and Townsend's big-eared bat roosting and foraging habitat than Alternatives COUT BAX-E; COUT-A and route variation COUT-A-1; COUT-B and route variations; COUT-C and route variations; and COUT-H. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, wildfires, and recreation although potentially suitable roosting and foraging habitat in the study corridor for these alternative routes maintain high levels of functionality for spotted and Townsend's big-eared bat due to the mountainous, forested nature of habitats in this area that has limited development. Wildfires that have affected these habitats may impact foraging habitat over the short-term but could increase foraging habitat quality over the long-term. Alternatives COUT-A, COUT-B, and COUT-C and route variations are located along the northern boundary of the Manti-La Sal National Forest in an area heavily modified by previous disturbance, including residential and agricultural development, livestock grazing, and recreational use. These disturbances have likely reduced habitat effectiveness for spotted and Townsend's big-eared bat in the area due to frequent noise and human presence associated with operation of the transportation infrastructure.

The estimated Project disturbance would affect between 0.2 and 0.4 percent of the total available roosting habitat and between 0.05 and 0.12 percent of the total available foraging habitat in the CIAA on the Uinta National Forest (Tables 30 and 31). Alternative COUT-B and COUT-C and route variations would have similar effects on potentially suitable roosting habitat on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 would affect more spotted and Townsend's big-eared bat foraging habitat on the Uinta National Forest than all other alternative routes. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat. Habitats adjacent to the Bonanza-Mona Transmission Project are subject to occasional human disturbance during transmission line maintenance or inspection. However, potentially suitable roosting and foraging habitat maintain high levels of functionality due to the mountainous, forested nature of habitats in this area. Habitats crossed by Alternatives COUT-B and COUT-C and route variations on the Uinta National Forest have been heavily modified by previous construction of two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. The existing quality of potentially suitable roosting and foraging habitat is likely to be diminished in these areas as a result of these developments.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable spotted bat and Townsend's big-eared bat roosting and foraging habitat under all alternative routes would contribute to the cumulative loss, fragmentation, and modification of potentially suitable spotted bat and Townsend's big-eared bat roosting and foraging habitat in the CIAA and could reduce habitat effectiveness for the two species. Past and present actions on spotted bat and Townsend's big-eared bat roosting and foraging habitat include oil and gas leasing, limestone leases, historical fires, mining, and residential development. Minimal development and ground disturbance is anticipated with oil and gas leasing. Abandoned mines potentially could increase subterranean roosting habitat for Townsend's big-eared bat. RFFAs include the TransWest Express Transmission Project and recreational development. However, ongoing vegetation management and proposed riparian, forest, and rangeland restoration could improve habitat quality for the two species over the long-term.

Findings

All alternative routes that cross USFS-administered lands could result in local losses or modifications of spotted bat and Townsend’s big-eared bat roosting and foraging habitat, and may locally reduce habitat effectiveness for the two species. The magnitude of effects would be greater under Alternatives COUT BAX-B; COUT BAX-C; COUT-A and COUT-B and route variations; and COUT-I than other alternative routes on the Ashley, Manti-La Sal, and Uinta National Forests as these alternative routes affect a greater amount of potentially suitable roosting and foraging habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of potentially suitable roosting and foraging habitat would remain undisturbed by the Project and cumulative actions in the CIAA, and habitat effectiveness for spotted bat and Townsend’s big-eared bat on the Ashley, Manti-La Sal, and Uinta National Forests would remain largely unaffected by the Project. Project-related impacts are not likely to cause a trend to federal listing or loss of viability of spotted bat and Townsend’s big-eared bat on the Ashley, Manti-La Sal, or Uinta National Forests.

Three-toed Woodpecker (USFS Sensitive: Ashley, Manti-La Sal, and Uinta; MIS: Uinta)

Environmental Consequences

Impacts on potentially suitable three-toed woodpecker habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Table 32.

TABLE 32 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR THREE-TOED WOODPECKER HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	11	256	4.3	7	19	0	25	230
COUT-B-1	20	1,515	1.3	23	89	2	114	1,400
COUT-B-2	16	786	2.0	12	56	1	68	718
COUT-B-3	11	256	4.3	7	19	0	25	230
COUT-B-4	16	786	2.0	12	56	1	68	718
COUT-B-5	12	256	4.7	7	19	0	25	230
COUT-C-1	9	1,259	0.7	17	70	2	89	1,170
COUT-C-2	5	531	0.9	5	37	1	43	488
COUT-C-4	5	531	0.9	5	37	1	43	488
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	75	2,836	2.6	1,563	90	40	1,694	1,142
COUT BAX-C	74	2,836	2.6	1,563	90	40	1,693	1,143
COUT BAX-E	21	1,179	1.8	456	269	2	727	451
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	23	1,179	2.0	456	269	3	728	451
COUT-I	79	2,836	2.8	1,563	90	43	1,696	1,140

**TABLE 32
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR THREE-TOED WOODPECKER HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	29	829	3.5	21	81	29	131	698
COUT-A-1	37	974	3.8	21	79	37	138	836

NOTES:
¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.
 Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

Disturbance to potentially suitable three-toed woodpecker habitat could occur on USFS-administered lands as a result of the proposed activities. On the Ashley National Forest habitat is limited for the species in the Project area. On the Manti-La Sal and Uinta National Forests habitat is widespread on the national forest outside of the alternative route study corridors. Any effects on three-toed woodpecker habitat on the national forest would be minor and localized, and would not prevent adjacent habitat from supporting three-toed woodpecker populations.

Project-related effects on three-toed woodpecker habitat could include the removal, alteration, and damage to vegetation and or trees during construction of Project access roads, transmission line towers, and all associated facilities and temporary displacement of individuals as a result of habitat loss or degradation. Preconstruction nest surveys would be conducted in potentially suitable three-toed woodpecker habitat (Design Feature 3), and seasonal and spatial restrictions would be implemented during construction and maintenance to avoid disturbing three-toed woodpecker during sensitive breeding periods (Selective Mitigation Measure 12 and Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory birds nesting season, appropriate species-specific nest buffers would be implemented on identified active three-toed woodpecker nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect between 0.7 and 4.7 percent of total available three-toed woodpecker habitat in the CIAA on the Ashley National Forest (Table 32). Alternative COUT-B and route variations would affect more potentially suitable habitat than Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 on the Ashley National Forest. Alternative COUT-B and route variations follow linear development (lower-voltage transmission lines and forest roads) that have resulted in only minor habitat modification. Potentially suitable habitat for three-toed woodpecker in this study corridor is likely to maintain high levels of functionality. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 are located in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest, which also largely remains unmodified by anthropogenic developments.

The Project would affect between 1.8 and 2.8 percent of total available three-toed woodpecker habitat in the CIAA on the Manti-La Sal National Forest (Table 32). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect more potentially suitable three-toed woodpecker habitat than Alternatives COUT BAX-E and COUT-H on the Manti-La Sal National Forest. Habitats crossed by Alternatives

COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, and recreational development that has likely fragmented three-toed woodpecker habitat locally and potentially reduced food availability. Potentially suitable habitat in the study corridor for these alternative routes maintains high levels of functionality for three-toed woodpecker due to the mountainous, forested nature of the area. Habitats along Alternatives COUT BAX-E and COUT-H also have been affected by wildfires, which may benefit three-toed woodpecker populations from increased insect availability during forest recovery.

The Project would affect less than 3.8 percent of total available three-toed woodpecker habitat in the CIAA on the Uinta National Forest (Table 32). Alternative COUT-A and Route Variation COUT-A-1 follow the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat. Habitats adjacent to the transmission line are subject to occasional human disturbance during transmission line maintenance or inspection. Three-toed woodpeckers are very tolerant of human disturbance (Leonard 2001) and have likely adapted to the modification of habitat in the right-of way. Potentially suitable three-toed woodpecker habitat maintains high levels of functionality in the area due to the mountainous, forested nature of habitats in the CIAA on the Uinta National Forest.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable three-toed woodpecker habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable three-toed woodpecker habitat in the CIAA and could reduce habitat effectiveness for three-toed woodpecker. Past and present actions on three-toed woodpecker habitat include oil and gas leasing and a coal mine. Minimal development is anticipated with the oil and gas leases and coal mining is currently being conducted using underground methods that have minimal surface disturbance. RFFAs include the TransWest Express Transmission Project, a coal mine, a reservoir, and transportation and residential development. However, ongoing vegetation management as well as proposed forest and rangeland restoration could improve habitat effectiveness for three-toed woodpecker over the long-term.

Findings

All alternative routes that cross USFS-administered lands could result in local losses or modifications of potentially suitable three-toed woodpecker habitat and may locally reduce habitat effectiveness for the species. The magnitude of effects would be greater under Alternatives COUT BAX-B; COUT BAX-C; COUT-A and COUT-B and route variations; and COUT-I on the Ashley, Manti-La Sal, and Uinta National Forests as these alternative routes affect a greater amount of potentially suitable three-toed woodpecker habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. Overall, the majority of potentially suitable three-toed woodpecker habitat would remain undisturbed by the Project and cumulative actions in the CIAA, and habitat effectiveness for three-toed woodpecker would remain largely unaffected by the Project on the Ashley, Manti-La Sal, and Uinta National Forests. None of the alternative routes that cross potentially suitable three-toed woodpecker habitat on the Uinta National Forest would adversely affect the decreasing national forest-wide population trend. None of the alternative routes that cross USFS-administered lands are likely to cause a trend towards federal listing or a loss of viability on the Ashley, Manti-La Sal, or Uinta National Forests.

Warbling Vireo (MIS: Ashley)

Environmental Consequences

Impacts on potentially suitable warbling vireo habitat on the Ashley National Forest are presented in Table 33.

TABLE 33 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR WARBLING VIREO HABITAT ON THE ASHLEY NATIONAL FOREST								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	8	160	5.0	13	30	0	43	117
COUT-B-1	12	352	3.4	16	56	0	72	280
COUT-B-2	9	208	4.3	13	34	0	47	161
COUT-B-3	9	160	5.6	13	30	0	43	117
COUT-B-4	9	208	4.3	13	34	0	47	161
COUT-B-5	9	160	5.6	13	30	0	43	117
COUT-C-1	4	192	2.1	4	26	0	29	162
NOTES: ¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. The warbling vireo is a management indicator species for deciduous woodland habitat on the Ashley National Forest only. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

Disturbance to warbling vireo habitat could occur on the Ashley National Forest as a result of the proposed activities but is unlikely as potentially suitable habitat is limited in the study corridor on the Ashley National Forest. The only anticipated Project-related impacts on potentially suitable warbling vireo habitat would be vegetation and minor tree clearing in the right-of-way to allow for safe operation of the transmission line and construction of new access roads to access the transmission line in the event that existing crossings of riparian areas are not sufficient. Temporary displacement of individuals as a result of habitat loss or degradation may occur. Project-related effects are anticipated to be minor and localized, and would not prevent the habitat from supporting local warbling vireo populations. Warbling vireo will readily use human-made habitat edges and smaller patches of habitat (Gardali and Ballard 2000), and would be expected to use habitat edges resulting from construction of the Project right-of-way.

Under all alternative routes that cross the Ashley National Forest, seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory bird nesting season, preconstruction nest surveys would be conducted and appropriate species-specific nest buffers would be implemented on identified active warbling vireo nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7). Warbling vireo is associated with mixed deciduous woodlands, particularly woodlands associated with riparian corridors (Gardali and Ballard 2000). Under all alternative routes that cross the Ashley National Forest, preconstruction surveys would be conducted to identify riparian areas crossed by the Project

(Design Feature 3) that could be used by warbling vireo. In areas where riparian areas are identified, avoidance of sensitive resources and spanning or avoiding sensitive features (Selective Mitigation Measures 2, and 7) and selective removal of trees taller than 5-feet in riparian and tree nesting habitats (Selective Mitigation Measure 4) would be implemented to avoid or reduce impacts on riparian areas. Due to the anticipated span distances between transmission line structures (refer to Section 2.3 of the Project Draft EIS [BLM 2014]), construction of permanent transmission line structures and work areas in riparian areas and potentially suitable warbling vireo habitat likely would be avoided completely.

The Project would affect between 2.1 and 5.6 percent of the total available potentially suitable habitat in the CIAA on the Ashley National Forest (Table 33). Alternative COUT-B and route variations would affect more potentially suitable warbling vireo habitat than Route Variation COUT-C-1. Alternative COUT-B and route variations follow an existing transmission line and forest roads that has resulted in minor modification to existing habitats. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, and COUT-C-1 are located in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest where habitat has largely remained unaffected by anthropogenic disturbance. Current habitat effectiveness for warbling vireos is likely to be high in habitats crossed by Alternative COUT-B and route variations due to lack of previous anthropogenic development.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable warbling vireo habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable warbling vireo habitat in the CIAA and could reduce habitat effectiveness for warbling vireos. Past and present actions on potentially suitable warbling vireo habitat include oil and gas leasing. RFFAs include the TransWest Express Transmission Project, which would likely be colocated with the Project to limit disturbance on the Ashley National Forest. Additionally, proposed forest and riparian restoration and management actions could improve habitat quality for the species over the long-term.

Findings

All alternative routes that cross Ashley National Forest could result in local losses or modifications of potentially suitable habitat and may locally reduce habitat effectiveness for warbling vireo. The magnitude of effects would be greater under Alternative COUT-B and Route Variations COUT-B-3 and COUT-B-5 as these alternative routes would affect a greater amount of potentially suitable warbling vireo habitat and would be located in areas of high habitat effectiveness. Overall, the majority of potentially suitable warbling vireo habitat would remain undisturbed by the Project and cumulative actions in the CIAA and habitat effectiveness for warbling vireo would remain largely unaffected by the Project on the Ashley National Forest. None of the alternative routes would adversely affect the stable warbling vireo population trend on the Ashley National Forest.

Other Species of Concern – Migratory Birds

Black Rosey-finch

Environmental Consequences

There would be no impacts on potentially suitable black rosey-finch habitat on the Ashley National Forest. Impacts on potentially suitable black-rosey finch habitat on the Manti-La Sal and Uinta National Forests are presented in Table 34.

TABLE 34 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR BLACK ROSEY-FINCH HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	6	2,331	0.26	1,108	1	0	1,109	1,222
COUT BAX-C	6	2,331	0.26	1,108	1	0	1,109	1,222
COUT BAX-E	1	555	0.18	103	73	0	177	378
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	1	555	0.18	103	73	0	177	378
COUT-I	7	2,331	0.30	1,108	1	0	1,109	1,222
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	4	1,105	0.36	16	19	3	38	1,067
COUT-A-1	2	1,105	0.18	16	19	1	37	1,069
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

There are no North American Bird Breeding Surveys (BBS) data for black rosey-finch in the Project area. The species use above timberline, alpine habitat and remote breeding sites (Johnson 2002). In Utah, the black rosey-finch was last recorded on the Wasatch Range and Uinta Mountains in 1972 (Johnson 2002). Population trends on the three national forests are currently unknown. Disturbance to potentially suitable black-rosey finch habitat could occur on USFS-administered lands as a result of the proposed activities, but potentially suitable alpine habitat above 8,600 feet is extremely limited in the Project area on the Manti-La Sal and Uinta National Forest (Table 34).

Project-related impacts on black rosey-finch could include minor and localized removal, alteration, and damage to vegetation during construction of the Project and could also include the displacement of individuals as a result of habitat loss or degradation. However, Project-related impacts are not anticipated to prevent the habitat from supporting local black rosey-finch populations. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory birds nesting season, preconstruction nest surveys would be

conducted and appropriate species-specific nest buffers would be implemented on identified active black rosey-finch nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect between 0.18 and 0.30 percent of the total available potentially suitable black rosey-finch habitat in the CIAA on the Manti-La Sal National Forest (Table 34). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect comparatively more black rosey-finch habitat than Alternatives COUT BAX-E and COUT-H. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I follow existing linear facilities including transmission lines and roads and have been locally affected by development of pipelines, residential developments, coal mining, and recreation. Habitats along Alternative COUT BAX-E also have been affected by wildfires that could reduce habitat effectiveness for black rosey-finch in the short-term but may improve vegetation growth and seed and insect availability that represent the main food source for black rosey-finch over the long-term. However, black rosey-finch forage and nest above the tree line in open tundra habitat where fires are infrequent due to limited fuel and moist conditions. Potentially suitable black rosey-finch habitat in the study corridor for these alternative routes maintain high levels of functionality due to the mountainous, forested nature of habitats in this area.

The Project would affect between 0.18 and 0.36 percent of the total available potentially suitable black rosey-finch habitat in the CIAA on the Uinta National Forest (Table 34). Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project and forest roads that have previously fragmented and altered potentially suitable black rosey-finch habitat. Habitat effectiveness for the species on the Uinta National Forest is likely to be high due to the mountainous and forested terrain in the area that limits the effects of development.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable black rosey-finch habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable black rosey-finch habitat in the CIAA and could locally reduce habitat effectiveness for black rosey-finch. Past and present actions in potentially suitable black rosey-finch habitat include oil and gas leasing and a coal mine, although minimal development is anticipated with past oil and gas leasing. RFFAs include the TransWest Express Transmission Project, a coal mine, and transportation and residential development that could impact habitat effectiveness for the species. Ongoing vegetation management could have long-term beneficial effects on habitat quality. The remoteness of breeding habitat and the males use of floating territories (i.e., protection of territory wherever the female nests) could protect black rosey-finch populations from the majority of human activity (Johnson 2002) and help the species accommodate impacts that do occur.

Findings

The Project would have no impacts on potentially suitable black rosey-finch habitat on the Ashley National Forest. Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-A and route variation, COUT-H, and COUT-I could result in local losses or modifications of potentially suitable black rosey-finch habitat, and could locally reduce habitat effectiveness for the species. The magnitude of impacts would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and route variations, and COUT-I as these alternative routes affect a greater amount of potentially suitable alpine habitat compared to other alternative routes and would be located in areas of high habitat effectiveness. Overall, the majority of potentially suitable black rosey-finch habitat on the Uinta and Manti-La Sal National Forests would remain unaffected by the Project and cumulative actions in the CIAA. When

analyzed as a migratory bird species representing alpine habitat, the Project is unlikely to affect regional black rosey-finch population trends.

Black-throated Gray Warbler

Environmental Consequences

Impacts on potentially suitable black-throated gray warbler habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Table 35.

TABLE 35 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR BLACK-THROATED GRAY WARBLER HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	47	4,542	1.1	211	109	0	320	4,223
COUT-B-1	47	4,608	1.0	211	110	0	321	4,287
COUT-B-2	47	4,586	1.0	211	110	0	321	4,265
COUT-B-3	47	4,542	1.0	211	109	0	320	4,223
COUT-B-4	47	4,586	1.0	211	110	0	321	4,265
COUT-B-5	48	4,542	1.1	211	109	0	320	4,223
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	20	1,613	1.2	566	47	23	636	977
COUT BAX-C	20	1,613	1.2	566	47	23	636	978
COUT BAX-E	10	650	1.5	12	3	16	31	619
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	30	2,939	1.0	154	297	63	514	2,425
COUT-A-1	30	2,939	1.0	154	297	63	514	2,425
COUT-B	30	2,939	1.0	154	297	63	513	2,425
COUT-B-1	30	2,939	1.0	154	297	63	514	2,425
COUT-B-2	30	2,939	1.0	154	297	63	514	2,425
COUT-B-3	30	2,939	1.0	154	297	63	514	2,425
COUT-B-4	30	2,939	1.0	154	297	63	514	2,425
COUT-B-5	31	2,939	1.1	154	297	65	515	2,423
COUT-C	31	2,939	1.1	154	297	66	516	2,422
COUT-C-1	32	2,939	1.1	154	297	66	517	2,422
COUT-C-2	31	2,939	1.1	154	297	66	517	2,422
COUT-C-3	32	2,939	1.1	154	297	67	517	2,421
COUT-C-4	32	2,939	1.1	154	297	67	517	2,421
COUT-C-5	31	2,939	1.1	154	297	65	515	2,423
COUT-H	11	650	1.7	12	3	18	33	617
COUT-I	21	1,613	1.3	566	47	24	637	976

**TABLE 35
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR BLACK-THROATED GRAY WARBLER HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	66	3,997	1.7	1,444	154	28	1,626	2,371
COUT-A-1	66	3,988	1.7	1,444	154	28	1,626	2,362
COUT-B	103	7,370	1.4	1,931	210	42	2,183	5,188
COUT-B-1	111	7,947	1.4	1,935	239	69	2,243	5,704
COUT-B-2	111	7,947	1.4	1,935	239	69	2,243	5,704
COUT-B-3	103	7,370	1.4	1,931	210	42	2,183	5,187
COUT-B-4	111	7,947	1.4	1,935	239	69	2,243	5,704
COUT-B-5	106	7,370	1.4	1,931	210	43	2,184	5,186
COUT-C	108	7,370	1.5	1,931	210	44	2,185	5,186
COUT-C-1	117	7,947	1.5	1,935	239	72	2,246	5,700
COUT-C-2	117	7,947	1.5	1,935	239	72	2,246	5,701
COUT-C-3	109	7,370	1.5	1,931	210	45	2,185	5,185
COUT-C-4	118	7,947	1.5	1,935	239	73	2,247	5,700
COUT-C-5	106	7,370	1.4	1,931	210	43	2,184	5,186

NOTES:

¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction. Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

The BBS data between 1966 and 2011 show a negative population trend (-1.1 percent; range of -2.0 to -0.3 percent) for black-throated gray warblers in the western BBS region, but an increasing trend (2.8 percent; range of 0.3 to 5.5 percent) in Utah. Data are limited in the state (Sauer et al. 2012). Nine territories were recorded in Grand County, and 21 territories in San Juan County in Utah in 1994 and 1995 (Guzy and Lowther 2012), which are outside of the Project area. Trends on the three national forests are unknown.

Disturbance to potentially suitable black-throated gray warbler habitat could occur on USFS-administered lands as a result of the proposed activities. Project-related impacts on black-throated gray warbler could include minor and localized removal, alteration, and damage to vegetation during construction of the Project, and could also include the displacement of individuals as a result of habitat loss or degradation. However, potentially suitable habitat is widespread both in and outside of the Ashley, Manti-La Sal, and Uinta National Forest boundaries. Additionally, human activity appears to have had little effect on habitat selection by the species as black-throated gray warblers appear to use habitats that have been severely altered (Guzy and Lowther 2012). Therefore, Project-related impacts are not anticipated to prevent the habitat from supporting local black-throated gray warbler populations. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6) under all alternative routes. In the event that construction activities cannot be avoided during the primary migratory birds nesting season, preconstruction nest surveys would be conducted and appropriate species-specific nest buffers would be

implemented on identified active black-throated gray warbler nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect less than 1.1 percent of the total available potentially suitable black-throated gray warbler habitat in the CIAA on the Ashley National Forest (Table 35). The magnitude of effects would be similar between Alternative COUT-B and route variations. The majority of potentially suitable black-throated gray warbler habitat affected by Alternative COUT-B and route variations occurs in Sowers Canyon. Alternative COUT-B and route variations follow an existing transmission line and forest roads through the canyon that has resulted in only minor modification to existing habitats. Local populations of black-throated gray warbler have likely adapted to existing disturbance and potentially suitable habitat is likely to maintain high levels of functionality for the species.

The Project would affect between 1.0 and 1.5 percent of the total available potentially suitable black-throated gray warbler habitat in the CIAA on the Manti-La Sal National Forest (Table 35). Alternatives COUT BAX-E and COUT-H would affect marginally more potentially suitable black-throated gray warbler habitat than Alternatives COUT BAX-B; COUT BAX-C; COUT-A, COUT-B, and COUT-C and route variations; and COUT-I on the Manti-La Sal National Forest. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of roads, pipelines, transmission lines, residential developments, coal mining, and recreational development. These developments have fragmented black-throated gray warbler habitat. Furthermore, habitats along Alternatives COUT BAX-E and COUT-H also have been affected by wildfires, which could improve habitat effectiveness for the species over the long-term. Potentially suitable habitat in the study corridor for Alternatives COUT-H and COUT BAX-E maintains high levels of functionality for black-throated gray warbler due to the mountainous, forested nature of the area that limits the effects of development. Alternatives COUT-A, COUT-B, and COUT-C and route variations parallel existing transmission lines, U.S. Highways 6 and 89, and the Rio Grande Western Railroad along the northern boundary of the Manti-La Sal National Forest. The northern boundary of the Manti-La Sal National Forest also is heavily modified by residential and agricultural development, livestock grazing, and recreational use. These developments have likely reduced habitat effectiveness for black-throated gray warbler in the area and resulted in individual black-throated gray warblers that are habituated to frequent noise and human presence associated with operation of the transportation infrastructure.

The Project would affect between 1.4 and 1.7 percent of the total available potentially suitable black-throated gray warbler habitat in the CIAA on the Uinta National Forest (Table 35). Alternative COUT-A and Route Variation COUT-A-1 would affect more black-throated gray warbler habitat than Alternatives COUT-B and COUT-C and route variations. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat for the species. Habitats adjacent to these alternative routes are subject to occasional human disturbance during transmission line maintenance or inspection. Black-throated gray warblers have likely adapted to the modification of habitat in the right-of-way and occasional disturbance, and potentially suitable habitat in the study corridor for these alternative routes maintain high levels of functionality due to the mountainous, forested nature of habitats in this area. Habitat under Alternatives COUT-B and COUT-C and route variations have been heavily modified by previous development from two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. These developments have reduced habitat effectiveness for the species, although black-throated gray warblers have likely habituated to frequent noise and human presence from previous development.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable black-throated gray warbler habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable black-throated gray warbler habitat in the CIAA and could locally reduce habitat effectiveness for the species. A large percentage of the past and present impacts reported in Table 35 are a result of recent large wildfires, oil and gas leasing, and a coal mine. Minimal surface disturbance is anticipated from oil and gas leasing, and coal mining is currently being conducted using underground methods that have minimal surface disturbance. RFFAs include the TransWest Express Transmission Project, a pipeline, a reservoir, and recreational and residential development, which could decrease habitat effectiveness for black-throated gray warbler. Ongoing vegetation management actions, as well as proposed forest and rangeland restoration, could improve habitat quality for black-throated gray warbler over the long-term.

Findings

All alternative routes that cross USFS-administered lands could result in local losses or modifications of potentially suitable black-throated gray warbler habitat and could reduce habitat effectiveness for the species. The magnitude of impacts would be greater under Alternatives COUT BAX-E, COUT-A and route variation, and COUT-H as these alternative routes affect a greater amount of potentially suitable habitat on the Manti-La Sal and Uinta National Forests. Overall, the majority of potentially suitable black-throated gray warbler habitat would remain unaffected by the Project and cumulative actions in the CIAA. When analyzed as a migratory bird species representing pinyon-juniper habitat, impacts resulting from any of the alternative routes on the Ashley, Manti-La Sal, and Uinta National Forests are unlikely to affect regional black-throated gray warbler population trends.

Grasshopper Sparrow

Environmental Consequences

Impacts on potentially suitable grasshopper sparrow habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Table 36.

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	47	225	20.9	43	49	0	92	133
COUT-B-1	48	250	19.2	44	55	0	99	151
COUT-B-2	48	249	19.3	44	54	0	98	151
COUT-B-3	47	225	20.9	43	49	0	92	133
COUT-B-4	48	249	19.3	44	54	0	98	151
COUT-B-5	48	225	21.3	43	49	0	92	133

**TABLE 36
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR GRASSHOPPER SPARROW HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COUT-C-1	1	25	4.0	1	6	0	7	17
COUT-C-2	1	24	4.2	1	5	0	6	17
COUT-C-4	1	24	4.2	1	5	0	6	17
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	26	179	14.5	139	6	6	150	28
COUT BAX-C	25	179	14.0	139	6	5	150	28
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-I	27	179	15.1	139	6	6	151	28
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	6	62	9.7	25	6	2	33	29
COUT-A-1	7	59	11.9	24	6	1	32	27

NOTES:
¹Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.
 Acres are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

The BBS data between 1966 and 2011 show a negative population trend (-1.7 percent; range of -6.6 to 0.2 percent) for the grasshopper sparrow in the western BBS region, but a slightly increasing trend (0.5 percent; range of -9.9 to 8.4 percent) in Utah, although data are limited (Sauer et al. 2012). Population trends on the three national forests are undocumented for this species. Threats to grasshopper sparrow include habitat loss and degradation of southwestern grasslands (Vickery 1996).

Disturbance to potentially suitable grasshopper sparrow habitat could occur as a result of the Project on USFS-administered lands. Potentially suitable habitat in the study corridor has a patchy distribution and grasshopper sparrow are more likely to occupy large tracts of habitat rather than small patches of fragmented habitat (Vickery 1996). Project-related impacts on grasshopper sparrow could include minor and localized removal, alteration, and damage to vegetation during construction of the Project and displacement of individuals as a result of habitat loss or degradation. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory bird nesting season, preconstruction nest surveys would be conducted and appropriate species-specific nest buffers would be implemented on identified active grasshopper sparrow nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect between 4.0 and 21.3 percent of the total available potentially suitable grasshopper sparrow habitat in the CIAA on the Ashley National Forest (Table 36). Alternative COUT-B and route variations would affect substantially more grasshopper sparrow habitat than Alternatives COUT-C and route variations on the Ashley National Forest. Alternative COUT-B and route variations follow existing linear developments (lower-voltage transmission lines and forest roads) that have resulted

in only minor habitat modification through Sowers Canyon. Although the estimated amount of total available habitat affected by Alternative COUT-B and route variation is substantial due to the small area of the CIAA for this species, there is abundant habitat available outside of the CIAA on the Ashley National Forest that would remain unaffected and would not prevent the habitat from supporting local grasshopper sparrow populations on the national forest. Route Variations COUT-B-1, COUT-B-2, COUT-B-4 join Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest, which remains largely unmodified by anthropogenic developments. Potentially suitable habitat for grasshopper sparrow is extremely limited in the area.

The Project would affect between 14.0 and 15.1 percent of the total available potentially suitable grasshopper sparrow habitat in the CIAA on the Manti-La Sal National Forest (Table 36). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect similar amounts of grasshopper sparrow habitat on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, and COUT-I have been locally affected by the development of roads, transmission lines, residential developments, coal mining, and recreational development that has likely fragmented grasshopper sparrow habitat locally and reduced habitat effectiveness. Potentially suitable grasshopper sparrow habitat is extremely limited and patchy in the study corridor for these route variations and habitat effectiveness is likely to be limited by natural habitat distribution in this area.

The Project would affect between 9.7 and 11.9 percent of the total available potentially suitable grasshopper sparrow habitat in the CIAA on the Uinta National Forest (Table 36). Route Variation COUT-A-1 would affect marginally more grasshopper sparrow habitat than Alternative COUT-A on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 follow the Bonanza-Mona Transmission Project that previously fragmented and altered potentially suitable habitat. Habitats in the areas are subject to occasional human disturbance during transmission line maintenance or inspection. Potentially suitable grasshopper sparrow habitat is extremely limited and patchy in the study corridor of these route variations and habitat effectiveness is likely to be limited by natural habitat distribution in this area.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable grasshopper sparrow habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable grasshopper sparrow habitat in the CIAA and could locally reduce habitat effectiveness for grasshopper sparrow. Past and present actions on potentially suitable grasshopper sparrow habitat include oil and gas leasing and a coal mine. Minimal surface disturbance is anticipated from oil and gas leasing, and coal mining is currently being conducted using underground methods that have minimal surface disturbance. RFFAs include the TransWest Express Transmission Project and a coal mine that could further decrease habitat effectiveness for the species. Ongoing vegetation management actions, as well as proposed rangeland restoration actions, could have beneficial impacts on potentially suitable habitat for the species as grasshopper sparrow will respond positively to habitat improvement actions (Vickery 1996).

Findings

Alternatives COUT BAX-B; COUT BAX-C; COUT-A, COUT-B, and COUT-C and route variations; and COUT-I could result in local losses or modifications of potentially suitable grasshopper sparrow habitat on the Ashley, Manti-La Sal, and Uinta National Forests and could reduce habitat effectiveness for the species. The magnitude of effects would be greatest under Alternative COUT-B and route variations on the Ashley National Forest; Alternatives COUT BAX-B, COUT BAX-C, and COUT-I on the Manti-La Sal National Forest; and Route Variation COUT-A-1 on the Uinta National Forest as these

alternative routes affect more potentially suitable grasshopper sparrow habitat. Overall, the majority of potentially suitable grasshopper sparrow habitat would remain unaffected by the Project and cumulative actions in the CIAA, and abundant habitat is available outside of the CIAA on all three national forests. When analyzed as a migratory bird species representing grassland habitat, impacts resulting from any of the alternative routes on the Ashley, Manti-La Sal, and Uinta National Forests are unlikely to affect regional grasshopper sparrow population trends.

Sage Sparrow

Environmental Consequences

Impacts on potentially suitable sage sparrow habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Table 37.

TABLE 37 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR SAGE SPARROW HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	53	448	11.9	49	75	0	125	324
COUT-B-1	57	601	9.5	52	121	1	174	427
COUT-B-2	56	546	10.3	51	106	1	157	389
COUT-B-3	53	448	11.9	49	75	0	125	324
COUT-B-4	56	546	10.3	51	106	1	157	389
COUT-B-5	55	448	12.2	49	75	0	125	324
COUT-C-1	4	153	2.7	2	46	1	49	104
COUT-C-2	3	98	3.0	1	30	1	33	65
COUT-C-4	3	98	3.0	1	30	1	33	65
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	58	566	10.3	410	11	20	441	125
COUT BAX-C	57	566	10.1	410	11	19	441	125
COUT BAX-E	40	522	7.6	105	129	4	237	285
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-H	44	522	8.5	105	129	4	238	284
COUT-I	61	566	10.8	410	11	21	442	124
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	117	901	13.0	177	115	72	364	537
COUT-A-1	85	705	12.1	167	104	44	315	389

**TABLE 37
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR SAGE SPARROW HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COUT-B	32	332	9.7	177	18	17	212	120
COUT-B-1	33	356	9.3	178	25	18	220	135
COUT-B-2	33	356	9.3	178	25	18	220	135
COUT-B-3	32	332	9.7	177	18	17	212	120
COUT-B-4	33	356	9.3	178	25	18	220	135
COUT-B-5	33	332	10.0	177	18	17	213	119
COUT-C	34	332	10.2	177	18	18	213	119
COUT-C-1	35	356	9.8	178	25	19	221	134
COUT-C-2	35	356	9.7	178	25	19	221	135
COUT-C-3	34	332	10.3	177	18	18	213	119
COUT-C-4	35	356	9.8	178	25	19	221	134
COUT-C-5	33	332	10.0	177	18	17	213	119

NOTES:

¹Cumulative effects were estimated for all habitats in the cumulative impact analysis area, regardless of land jurisdiction.

Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.

The BBS data between 1966 and 2011 show non-significant population trends (-0.1 percent; range of -1.4 to 1.5 percent) for sage sparrow in the western BBS region and (-0.5 percent; range of -2.8 to 1.6 percent) in Utah (Sauer et al. 2012). Population trends on the three national forests are unknown.

The analysis of potentially suitable sage sparrow habitat is conservative as it included vegetation communities that sage sparrow are associated with, including big sagebrush, low sagebrush, and shrub-steppe communities (e.g., greasewood, saltbrush and Mormon tea that also have a sagebrush component). Sage sparrows often show a preference for big sagebrush and semi-open habitats with evenly spaced shrubs 1 to 2 meters high as vertical structures. Habitat patchiness and vegetation density also are important habitat selection criteria for this species and would affect species distribution on the landscape (Martin and Carlson 1998).

Disturbance to potentially suitable sage sparrow habitat could occur on USFS-administered lands as a result of the proposed activities. The effects of the Project would not prevent the habitat from supporting local sage sparrow populations on the Ashley, Manti-La Sal, and Uinta National Forests and there is abundant sage brush habitat available on USFS-administered lands that would remain unaffected. Project-related impacts on sage sparrow habitat could include minor and localized removal, alteration, and damage to vegetation during construction of Project access roads, transmission line towers, and associated facilities and temporary displacement of individuals as a result of habitat loss or degradation. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory bird nesting season, preconstruction surveys would be conducted and appropriate species-specific nest buffers would be implemented on identified active sage sparrow nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect between 2.7 and 12.2 percent of the total available potentially suitable sage sparrow habitat in the CIAA on the Ashley National Forest (Table 37). Alternative COUT-B and route variations would affect comparatively more potentially suitable sage sparrow habitat than Alternative COUT-C and route variations on the Ashley National Forest. Alternative COUT-B and route variations follow existing linear developments (lower-voltage transmission lines and forest roads) through Sowers Canyon that have resulted in minor habitat modification. Habitat effectiveness in the area is likely to be high for sage sparrow. Route Variations COUT-B-1, COUT-B-2, COUT-B-4 join Route Variations COUT-C-1, COUT-C-2, and COUT-C-4 in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest. This area remains largely unmodified by anthropogenic developments, and habitat effectiveness for grasshopper sparrow is likely to be high in the Reservation Ridge area.

The Project would affect between 7.6 and 10.8 percent of the total available potentially suitable sage sparrow habitat in the CIAA on the Manti-La Sal National Forest (Table 37). Alternatives COUT BAX-B, COUT BAX-C, and COUT-I would affect more sage sparrow habitat than Alternatives COUT BAX-E and COUT-H on the Manti-La Sal National Forest. Habitats crossed by Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of pipelines, residential developments, coal mining, transmission lines, roads, and recreation. Potentially suitable sage sparrow habitat in the study corridor for these alternative routes maintains high levels of functionality. Habitats along Alternatives COUT BAX-E and COUT-H also have been affected by wildfires that could temporarily reduce habitat effectiveness for sage sparrow by removing vegetation structure, depleting native perennial grass seed banks on which this species depends, and replacing native vegetation with exotic annuals (Martin and Carlson 1998). Sage brush communities may take years to recover to pre-fire conditions; however, wildfires may result in long-term benefits such as increased native vegetation.

The Project would affect between 9.3 and 13.0 percent of the total available potentially suitable sage sparrow habitat in the CIAA on the Uinta National Forest (Table 37). Alternative COUT-A and Route Variation COUT-A-1 would affect more sage sparrow habitat than Alternatives COUT-B and COUT-C and route variations on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project and forest roads that previously fragmented and altered potentially suitable sage sparrow habitat, although habitat effectiveness for the species is likely to be high in areas crossed by the alternative routes. Habitat under Alternatives COUT-B and COUT-C and route variations have been heavily modified by previous development including two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. These developments have reduced habitat effectiveness for the species.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable sage sparrow habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable sage sparrow habitat in the CIAA and could locally reduce habitat effectiveness for the species. Past and present actions on potentially suitable sage sparrow habitat include oil and gas leasing. Minimal surface disturbance is anticipated from oil and gas leasing, and coal mining is currently being conducted using underground methods that have minimal surface disturbance. RFFAs include the TransWest Express Transmission Project. The two transmission lines would likely be colocated if developed in the same corridor, which would limit disturbance on the Ashley, Manti-La Sal, and Uinta National Forests by concentrating impacts in one area. Incremental Project disturbance is anticipated to be minor compared to anticipated RFFAs on the Ashley National Forest and minimal compared to past and present actions on the Manti-La Sal and Uinta National Forests.

Findings

Alternatives COUT BAX-B; COUT BAX-C; COUT BAX-E; COUT-A, COUT-B, and COUT-C and route variations; COUT-H; and COUT-I could result in local losses or modifications of potentially suitable habitat and could locally reduce habitat effectiveness for sage sparrow on the Ashley, Manti-La Sal, and Uinta National Forests. The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and COUT-B and route variations, and COUT-I as these Alternatives would affect a greater amount of potentially suitable sage sparrow habitat and would be located in areas of high habitat effectiveness. Overall, the majority of potentially suitable sage sparrow habitat would remain undisturbed by the Project and cumulative actions in the CIAA, and habitat effectiveness for sage sparrow would remain largely unaffected by the Project. None of the alternative routes that cross the Ashley, Manti-La Sal, and Uinta National Forests would adversely affect sage sparrow population trends on the three national forests.

Virginia's Warbler

Environmental Consequences

Impacts on potentially suitable warbling vireo habitat on the Ashley, Manti-La Sal, and Uinta National Forests are presented in Table 38.

TABLE 38 SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES) FOR VIRGINIA'S WARBLER HABITAT								
Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
Ashley National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-B	18	174	10.3	15	28	0	43	131
COUT-B-1	27	373	7.2	19	68	0	88	285
COUT-B-2	23	281	8.2	17	50	0	67	214
COUT-B-3	18	174	10.3	15	28	0	43	131
COUT-B-4	23	281	8.2	17	50	0	67	214
COUT-B-5	19	174	10.9	15	28	0	43	131
COUT-C-1	9	199	4.5	4	40	0	44	154
COUT-C-2	5	107	4.7	2	21	0	24	83
COUT-C-4	5	107	4.7	2	21	0	24	83
Manti-La Sal National Forest								
Colorado to Utah – U.S. Highway 40 to Baxter Pass to Clover (COUT BAX)								
COUT BAX-B	83	1,083	7.7	613	45	45	703	380
COUT BAX-C	82	1,083	7.6	613	45	44	703	380
COUT BAX-E	30	339	8.9	135	58	12	204	135
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COUT)								
COUT-A	8	96	8.3	4	17	7	28	68
COUT-A-1	8	96	8.3	4	17	7	28	68

**TABLE 38
SUMMARY OF ESTIMATED GROUND DISTURBANCE (IN ACRES)
FOR VIRGINIA'S WARBLER HABITAT**

Alternative Route	Project Disturbance on the Forest Only	Cumulative Impact Analysis Area ¹						
		Total Available Resource	Percent of Total Available Resource Disturbed by the Project	No Action Alternative		Incremental Project Disturbance	Estimated Cumulative Development	Remaining Available Resource
				Past and Present Development	Reasonably Foreseeable Future Actions			
COU-B	8	96	8.3	4	17	7	28	68
COU-B-1	8	96	8.3	4	17	7	28	68
COU-B-2	8	96	8.3	4	17	7	28	68
COU-B-3	8	96	8.3	4	17	7	28	68
COU-B-4	8	96	8.3	4	17	7	28	68
COU-B-5	8	96	8.3	4	17	8	28	68
COU-C	8	96	8.3	4	17	8	28	68
COU-C-1	8	96	8.3	4	17	8	28	68
COU-C-2	8	96	8.3	4	17	8	28	68
COU-C-3	8	96	8.3	4	17	8	28	68
COU-C-4	8	96	8.3	4	17	8	28	68
COU-C-5	8	96	8.3	4	17	8	28	68
COU-H	34	339	10.0	135	58	13	205	134
COU-I	88	1,083	8.1	613	45	47	706	377
Uinta National Forest								
Colorado to Utah – U.S. Highway 40 to Central Utah to Clover (COU)								
COU-A	66	633	10.4	37	119	43	199	434
COU-A-1	74	673	11.0	37	114	51	202	470
COU-B	18	217	8.3	16	31	7	55	162
COU-B-1	31	362	8.6	18	46	22	87	275
COU-B-2	31	362	8.6	18	46	22	87	276
COU-B-3	18	217	8.3	16	31	7	55	162
COU-B-4	31	362	8.6	18	46	22	87	276
COU-B-5	18	217	8.3	16	31	8	55	162
COU-C	19	217	8.8	16	31	8	55	162
COU-C-1	33	362	9.1	18	46	24	88	274
COU-C-2	33	362	9.1	18	46	24	88	274
COU-C-3	19	217	8.8	16	31	8	55	161
COU-C-4	33	362	9.1	18	46	24	88	274
COU-C-5	18	217	8.3	16	31	8	55	162
NOTES:								
¹ Cumulative effects were estimated for all habitat in the cumulative impact analysis area, regardless of land jurisdiction.								
Acreages are approximate and have been rounded to the nearest acre; therefore, the columns may not total.								

The BBS data between 1966 and 2011 show a slight negative population trend (-0.8 percent; range of -2.0 to 0.3 percent) for Virginia's warbler in the western BBS region, but an increasing trend (3.9 percent; range of 1.0 to 6.7 percent) in Utah (Sauer et al. 2012). Sample sizes in BBS are generally limited and survey routes may miss important Virginia's Warbler habitat (Olson and Martin 1999). Population trends on the three national forests are unknown.

The analysis of impacts on potentially suitable Virginia's Warbler habitat is conservative as it included all mountain shrub/oak woodland vegetation communities. Virginia's warbler often has a strong association

with habitat characteristics such as steep draws, drainages, or slopes with oak or other shrubby vegetation for breeding (Olson and Martin 1999). Furthermore, Virginia's warbler may use alternative vegetation types at various elevation ranges in addition to oak and pinyon-juniper woodlands (Olsen and Martin 1999). Disturbance to potentially suitable Virginia's warbler habitat could occur on USFS-administered land as a result of the proposed activities but is unlikely to prevent the habitat from supporting local Virginia's warbler populations on the Ashley, Manti-La Sal, and Uinta National Forests. There is abundant mountain-shrub/oak woodland habitat available on USFS-administered lands that would remain unaffected. Project-related impacts on Virginia's warbler could include minor and localized removal, alteration, and damage to vegetation during construction of Project and the displacement of individuals as a result of habitat loss or degradation. Seasonal restrictions on construction and maintenance activities would be implemented during the migratory bird nesting season between February 1 and August 31 (Design Feature 6). In the event that construction activities cannot be avoided during the primary migratory bird nesting season, preconstruction surveys would be conducted and appropriate species-specific nest buffers would be implemented on identified active Virginia's warbler nests to limit human disturbance and noise levels in the vicinity of breeding individuals (Design Feature 7).

The Project would affect between 4.5 and 10.9 percent of the total available potentially suitable Virginia's warbler habitat in the CIAA on the Ashley National Forest (Table 38). Alternative COUT-B and route variations would affect comparatively more Virginia's warbler habitat than Alternatives COUT-C and route variations on the Ashley National Forest. Alternative COUT-B and route variations follow existing linear developments (lower-voltage transmission lines and forest roads) through Sowers Canyon that have resulted in minor habitat modification. Potentially suitable habitat for Virginia's warbler likely maintains high levels of functionality in this corridor. Route Variations COUT-B-1, COUT-B-2, COUT-B-4, COUT-C-1, COUT-C-2, and COUT-C-4 are located in the vicinity of Reservation Ridge on the southern edge of the Ashley National Forest, which largely remains unmodified by anthropogenic developments. Habitat effectiveness for Virginia's warbler likely remains high in this area.

The Project would affect between 7.6 and 10.0 percent of the total available potentially suitable Virginia's warbler habitat in the CIAA on the Manti-La Sal National Forest (Table 38). Alternatives COUT BAX-E and COUT-H would affect comparatively more Virginia's warbler habitat relative to total available habitat in the CIAA than Alternatives COUT BAX-B; COUT BAX-C; COUT-A, COUT-B, and COUT-C and route variations; and COUT-I on the Manti-La Sal National Forest. Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-H, and COUT-I have been locally affected by development of transmission lines, roads pipelines, residential developments, coal mining, and recreation. Habitats along Alternatives COUT BAX-E and COUT-H have further been affected by wildfires that could reduce habitat effectiveness for Virginia's warbler in the short-term. However, wildfires promote long-term forest health that would be beneficial to the species.

The Project would affect between 8.3 and 11.0 percent of the total available potentially suitable Virginia's warbler habitat in the CIAA on the Uinta National Forest (Table 38). Alternative COUT-A and Route Variation COUT-A-1 would affect more Virginia's warbler habitat than Alternatives COUT-B and COUT-C and route variations on the Uinta National Forest. Alternative COUT-A and Route Variation COUT-A-1 parallel the Bonanza-Mona Transmission Project and forest roads that previously fragmented and altered potentially suitable Virginia's warbler habitat. Habitat effectiveness for the species is likely to be high in the study corridor for these alternative routes due to the mountainous and forested terrain in the area that limits the effects of development. Habitats crossed by Alternatives COUT-B and COUT-C and route variations have been heavily modified by previous development of two 345kV transmission lines, several lower voltage transmission lines, U.S. Highway 6, the Rio Grande Western Railroad, residential developments, livestock grazing, and recreational use. These developments have locally reduced habitat effectiveness for the species.

Cumulative Effects

Project-related loss, fragmentation, and modification of potentially suitable Virginia's warbler habitat would contribute to the cumulative loss, fragmentation, and modification of potentially suitable Virginia's warbler habitat in the CIAA and could locally reduce habitat effectiveness for the species. Past and present actions on potentially suitable Virginia's warbler habitat include oil and gas leasing and a coal mine. Minimal surface disturbance is anticipated from oil and gas leasing, and coal mining is currently being conducted using underground methods that have minimal surface disturbance. RFFAs include the TransWest Express Transmission Project, a coal mine, and residential development that could further reduce habitat quality for Virginia's warbler. However, ongoing vegetation management, as well as proposed riparian, forest, and rangeland restoration projects could increase habitat effectiveness for this species over the long-term.

Findings

Alternatives COUT BAX-B; COUT BAX-C; COUT BAX-E; COUT-A, COUT-B, and COUT-C and route variations; COUT-H; and COUT-I could result in local losses or modifications of potentially suitable Virginia's warbler habitat, and could locally reduce habitat effectiveness for the species. The magnitude of impacts would be greater under Alternatives COUT-A, COUT-B, and COUT-H and Route Variations COUT-B-3 and COUT-B-5 as these alternative routes affect a greater amount of potentially suitable mountain shrub/oak woodland habitat in the CIAA on the Ashley, Manti-La Sal, and Uinta National Forests. Overall, the majority of potentially suitable Virginia's warbler habitat would remain unaffected by the Project and cumulative actions in the CIAA on the Ashley, Manti-La Sal, and Uinta National Forests. When analyzed as a migratory bird species representing mountain shrub habitat, impacts resulting from any of the alternative routes are unlikely to affect regional Virginia's warbler population trends.

Summary of Effects

Land and Resource Management Plans Consistency Determination

Based on this analysis, construction, operation, and maintenance along any of the alternative routes would be consistent with the Ashley, Manti-La Sal, and Uinta National Forests LRMPs, as amended. Forest Plan compliance is documented in the Project record.

Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13186

Executive Order 13186, signed January 10, 2001, directs federal agencies to protect migratory birds by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practical, adverse impacts on migratory birds' resources when conducting agency actions. Executive Order 13186 directs agencies to further comply with the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and other pertinent statutes. This analysis is compliant with the National Memorandum of Understanding between the USFS and the FWS to promote the conservation of migratory birds (USFS 2008). In addition, the Ashley, Manti-La Sal, or Uinta National Forests are compliant with a letter of understanding between USFS and the FWS Utah Field Office concerning compliance with the Migratory Bird Treaty Act and Executive Order 13186.

Effects on U.S. Forest Service Sensitive, Management Indicator Species, and Other Species of Concern

Impacts on designated or potentially suitable habitat for USFS-sensitive, MIS, and migratory bird species and their habitats would occur with implementation of certain Project alternative routes on USFS-administered land. Surveys would be conducted in suitable habitat as identified by or approved by the USFS, the results of which would be used to determine the application of selective mitigation measures and micro-siting of Project facilities. None of the alternative routes analyzed in this report would affect species listed as threatened or endangered under the ESA on USFS-administered land. Habitat for some USFS-sensitive species, MIS, and migratory birds of concern are present in the Project area on USFS-administered land. Habitat effectiveness for each of the species analyzed in this report would remain largely unaffected by the Project. The alternative routes analyzed in this report may affect individuals, but none of the alternative routes that cross USFS-administered lands are likely to cause a trend to federal listing or loss of viability for any of the USFS-sensitive species discussed in this report. Additionally, none of the alternative routes would affect existing Ashley, Manti-La Sal, or Uinta National Forests forest-wide population trends for MIS species. The alternative routes analyzed in this report would not be expected to alter existing regional population trends for migratory bird species of concern.

U.S. Forest Service Sensitive Species and Management Indicator Species

American Beaver (MIS: Uinta)

Alternative COUT-A and Route Variation COUT-A-1 could result in local and minor losses or modifications of potentially suitable beaver habitat for beaver on the Uinta National Forest but would not prevent the habitat from supporting current or future beaver populations.

Bald Eagle (USFS Sensitive: Ashley, Manti-La Sal, and Uinta)

The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and COUT-B and route variations, and COUT-I on USFS-administered lands, as these alternative routes affect more potentially suitable bald eagle habitat and would be located in areas of high habitat effectiveness compared to other alternative routes.

Elk (MIS: Ashley and Manti-La Sal)

No elk calving grounds, crucial spring/fall, or crucial year-long habitats would be affected by any of the alternative routes on the Ashley or Manti-La Sal National Forests. The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-B and route variations, and COUT-I as these alternative routes affect more elk crucial and substantial habitat, and would be located in areas of high habitat effectiveness compared to other alternative routes.

Flammulated Owl (USFS Sensitive and MIG: Ashley, Manti-La Sal, and Uinta)

The magnitude of impacts would be greater under Alternatives COUT BAX-B, COUT BAX-C, and COUT-I on the Manti-La Sal National Forest as these alternative routes affect a greater amount of potentially suitable flammulated owl habitat and would be located in areas of high habitat effectiveness compared to other alternative routes.

Golden Eagle (MIS and MIG: Ashley and Manti-La Sal)

The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and COUT-B and route variations, and COUT-I on the Ashley, Manti-La Sal, or Uinta National Forests, as these alternative routes affect a greater amount of potentially suitable golden eagle habitat and would be located in areas of high habitat effectiveness compared to other alternative routes.

Greater Sage-grouse (ESA: candidate; USFS Sensitive: Ashley, Uinta, and Manti-La Sal; MIS: Ashley)

None of the alternative routes would affect sage-grouse brood-rearing, occupied, or winter habitat on the Ashley or Uinta National Forests. None of the alternative routes would be located in sage-grouse habitats within 4 miles of active sage-grouse leks on the Ashley, Manti-La Sal, or Uinta National Forests. The magnitude of impacts would be greater under Alternatives COUT BAX-B, COUT BAX-C, and COUT-I on the Manti-La Sal National Forest as these alternative routes affect more brood-rearing and occupied habitat.

Lincoln's Sparrow (MIS: Ashley; MIG: Ashley, Uinta, and Manti-La Sal)

The magnitude of impacts would be the same under the Alternative COUT-B route variations on the Ashley National Forest. The magnitude of effects would be greater under Alternative COUT-A and Route Variation COUT-A-1 on the Uinta National Forest as this alternative affects a greater amount of potentially suitable Lincoln's sparrow habitat and would be located in areas of high habitat effectiveness. Any effects on riparian areas or Lincoln's sparrow habitat on the Ashley National Forest would be minor and localized and would not prevent the habitat from supporting current Lincoln's sparrow populations.

Mule deer (MIS: Ashley and Manti-La Sal)

No mule deer crucial spring/fall, winter/spring, or year-long habitats would be affected on the Ashley National Forest. No mule deer crucial year-long or substantial habitat would be affected on the Manti-La Sal National Forest. The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-B and route variations, and COUT-I as these alternative routes affect more mule deer crucial and substantial habitat on the Ashley and Manti-La Sal National Forests and would be located in areas of high habitat effectiveness compared to other alternative routes.

Northern Goshawk (USFS Sensitive and MIS: Ashley, Uinta, and Manti-La Sal and MIG)

The magnitude of effects on PFAs would be greater under Alternatives COUT BAX-B, COUT BAX-C, COU BAX-E, COUT-B and route variations, COUT-H, and COUT-I as these alternative routes cross known goshawk PFAs, although delineated nest areas in these PFAs would not be crossed by any alternative route. The magnitude of effects on potentially suitable nesting and foraging habitat would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT BAX-E, COUT-A and COUT-B and route variations, COUT-H, and COUT-I as these alternative routes affect more potentially suitable habitat and would be located in areas of high habitat effectiveness compared to other alternative routes. The majority of potential goshawk nesting and foraging habitats would remain unaffected by the Project.

Peregrine Falcon (USFS Sensitive: Ashley, Manti-La Sal, and Uinta)

The magnitude of effects would be greater under Alternative COUT-B and route variations as these alternative routes affect more potentially suitable habitat for peregrine falcon compared to other alternative routes.

Red-naped Sapsucker (MIS: Ashley)

The magnitude of effects would be greater under Alternative COUT-B and route variations as these alternative routes affect more potentially suitable habitat for red-naped sapsucker compared to other alternative routes.

Song Sparrow (MIS: Ashley)

The magnitude of effects would be the same for Alternative COUT-B and route variations on the Ashley National Forest.

Spotted Bat and Townsend's Big-eared Bat (USFS Sensitive: Ashley, Manti-La Sal, and Uinta)

The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and COUT-B and route variations, and COUT-I on USFS-administered lands as these alternative routes affect more potentially suitable roosting and foraging habitat and would be located in areas of high habitat effectiveness compared to other alternative routes.

Three-toed Woodpecker (USFS Sensitive: Ashley, Manti-La Sal, and Uinta; MIS: Uinta)

The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and COUT-B and route variations, and COUT-I on USFS-administered lands as these alternative routes affect more potentially suitable three-toed woodpecker habitat and would be located in areas of high habitat effectiveness compared to other alternative routes.

Warbling Vireo (MIS: Ashley)

The magnitude of effects would be greater under Alternative COUT-B and Route Variations COUT-B-3 and COUT-B-5 as these alternative routes would affect more potentially suitable warbling vireo habitat.

Other Species of Concern – Migratory Birds

Black rosey-finch

There would be no impacts on potentially suitable black rosey-finch habitat on the Ashley National Forest. The magnitude of impacts would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and route variation, and COUT-I as these alternative routes affect more potentially suitable alpine habitat.

Black-throated Gray Warbler

The magnitude of impacts would be greater under Alternatives COUT BAX-E, COUT-A and route variation, and COUT-H as these alternative routes affect more potentially suitable habitat and would be located in areas of high habitat effectiveness compared to other alternative routes on USFS-administered lands.

Grasshopper Sparrow

The magnitude of effects would be greater under Alternative COUT-B and route variations on USFS-administered lands as these alternative routes affect more potentially suitable grasshopper sparrow habitat compared to other alternative routes.

Sage Sparrow

The magnitude of effects would be greater under Alternatives COUT BAX-B, COUT BAX-C, COUT-A and COUT-B and route variations, and COUT-I as these alternative routes would affect more potentially suitable sage sparrow habitat and would be located in areas of high habitat effectiveness compared to other alternative routes.

Virginia's Warbler

The magnitude of impacts would be greater under Alternatives COUT-A, COUT-B and Route Variations COUT-B-3 and COUT-B-5, and COUT-H as these alternative routes affect a greater proportion of potentially suitable alpine habitat and would be located in areas of high habitat effectiveness compared to other alternative routes on USFS-administered lands.

Monitoring Recommendations

Monitoring of construction activities should be conducted by a qualified biologist if federally listed or USFS-sensitive wildlife species or important habitats for these species are located during preconstruction surveys. Monitoring construction activities will ensure that stipulations applied in the Project POD are followed to minimize impacts on special status wildlife and associated habitats and ensure avoidance of identified species where feasible. Construction monitoring also would ensure that construction activities are in compliance with appropriate standards and guidelines from applicable LRMPs. Should construction activities be unavoidable in occupied special status wildlife habitat, appropriate seasonal and spatial restrictions on ground-disturbing activities would be applied (Selective Mitigation Measure 12 and Design Feature 8). Monitoring also should be implemented to ensure reclamation methods and techniques are appropriate for restoring suitable habitat conditions for the affected species, and that reclamation goals are achieved.

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