

Burrowing Owl Presence/Absence Surveys

Rail Tie Wind Project Albany County, Wyoming

September 2020



Prepared for:

ConnectGen Albany County LLC



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1 INTRODUCTION

At the request of ConnectGen Albany County LLC (ConnectGen), Tetra Tech, Inc. (Tetra Tech) conducted presence/absence surveys for burrowing owls (*Athene cunicularia*) for the Rail Tie Wind Project (Project), a proposed wind energy facility that would encompass approximately 26,000 acres in southeastern Albany County, Wyoming. These surveys were conducted as a result of review and discussion of potential Species of Greatest Conservation Need (SGCN) surveys recommended for the Project during the follow-up Project meeting with Wyoming Game and Fish Department (WGFD) on April 1, 2020, as well as the scoping response letter provided by WGFD in May 2020 (WGFD 2020). This report summarizes the methodology and results of burrowing owl presence/absence surveys conducted for the Project in 2020.

1.1 Species Background

Burrowing owls are listed as a Tier 1 (highest priority) SGCN by WGFD (WGFD 2017). Burrowing owls are generally found in open terrain such as grasslands, prairies, shrub-steppe, and deserts, and prefer well-draining or gently sloping areas with low vegetation and a high percentage of bare ground (WGFD 2017). Burrowing owls require burrows for nesting, escape cover, prey caching, and vigilance and use burrows previously excavated by mammals. In Wyoming, burrowing owls are primarily found in prairie dog colonies, both active and inactive. Although the species is patchily distributed across western and central Wyoming, burrowing owls are most abundant in grasslands in eastern Wyoming (WGFD 2017).

Burrowing owls are known to occur in Albany County (Faulkner 2010, eBird 2020) and the Wyoming Natural Diversity Database (WYNDD) modeling predicts that burrowing owls may be present within or adjacent to (within approximately one mile of) the Project Area (WYNDD 2019). Habitat for burrowing owl is present throughout the Project Area and is primarily associated with Wyoming Basins Dwarf Sagebrush Shrubland and Steppe, although the owls may be associated with portions of Inter-mountain Basins Montane Sagebrush Steppe and Inter-mountain Basins Mountain-Mahogany Woodland and Shrubland.

2 METHODOLOGY

2.1 Burrowing Owl Surveys

Tetra Tech conducted the surveys in accordance with the survey techniques outlined in Chapter 19 of the 2007 WGFD Handbook of Biological Techniques (revised 2013) for determining burrowing owl presence/absence (WGFD 2007). Surveys were conducted within the Project Siting Corridor (i.e., the development footprint encompassing all potential Project features and associated ground disturbance buffers).

Tetra Tech established 73 survey stops spaced approximately 0.5 mile apart along secondary and tertiary roads within the Project Siting Corridor in areas of suitable burrowing owl habitat (Figure 1). Suitable habitat within the Project Siting Corridor consisted of grassland and shrub-steppe habitats, which make up approximately 98% of the Project Siting Corridor (Tetra Tech

2020). Survey stops were micro-sited in the field to provide an optimal viewing radius of the surrounding land. Survey stop locations and associated field data were recorded using a GPS-enabled tablet installed with ArcGIS Collector.

Surveys were conducted when burrowing owls were expected to be above ground (between April 15 and August 7) by a qualified Tetra Tech biologist. One survey round was conducted during each of the three 30-day survey windows corresponding to burrowing owl nesting stages: pre-incubation (April 20–May 19), incubation/hatching (May 30–June 28), and nestling (July 9–August 7). Survey Round 1 was conducted from May 12 to 15, 2020, during the pre-incubation survey window; Survey Round 2 was conducted from June 11 to 13, 2020, during the incubation/hatching survey window; and Survey Round 3 was conducted from July 14 to 16, 2020, during the nestling survey window.

Surveys were conducted during two optimal time periods — early morning (30 minutes before sunrise to 0900 hours) and evening (1700 hours until 30 minutes after sunset). At each survey stop the biologist exited the vehicle, listened, and used binoculars to search for burrowing owls in a 360-degree circumference for six minutes. Surveys were not conducted if it was raining or if the wind speed exceeded 12 miles/hour (20 kilometer/hour). Wind speed was measured using a portable anemometer. Each survey stop was surveyed at approximately the same time during each survey round, weather permitting. Data were recorded on the standardized burrowing owl survey data sheet provided in Attachment 17 of Chapter 19 of the 2007 WGFD Handbook of Biological Techniques (WGFD 2007).

2.2 Other Wildlife Species

Tetra Tech also recorded all terrestrial vertebrate species observed incidentally to the burrowing owl presence/absence surveys. Particular attention was paid to special-status species listed as potentially occurring within the Project Area, including federally listed threatened and endangered species, bald and golden eagles, Wyoming SGCN, USFWS Birds of Conservation Concern (BCC), prairie and sage grouse, and big game (Tetra Tech 2020). A list of these species is provided in Appendix A. In particular, focus was paid to documentation of any incidental observations of mountain plover (*Charadrius montanus*) or long-billed curlew (*Numenius americanus*) based on requests outlined in the scoping response letter provided by WGFD in May 2020 (WGFD 2020).

3 RESULTS

3.1 Burrowing Owl Surveys

All 73 survey stops were surveyed during each of the three survey rounds completed. No burrowing owls or signs of burrowing owl (e.g., pellets, whitewash) were observed during the 2020 presence/absence surveys (Tables 1–3).

Table 1. Burrowing Owl Survey Results for Rail Tie Wind Project: Round 1

Survey Date	# of Stops Surveyed	Start Time	End Time	Weather Start (Temperature; Wind Speed)	Weather End (Temperature; Wind Speed)	Owls/Sign Present?	# of Owls Detected
May 12, 2020	11	17:00	19:35	64°F; 10 mph (SW)	51°F; 11 mph (SSE)	No	0
May 13, 2020	12	05:16	08:52	48°F; 0 mph	60°F; 7 mph (W)	No	0
May 13, 2020	12	17:20	20:10	57°F; 11 mph (W)	48°F; 6 mph (W)	No	0
May 14, 2020	10	05:16	07:52	43°F; 10 mph (WSW)	44°F; 11 mph (WSW)	No	0
May 14, 2020	14	17:45	20:30	49°F; 10 mph (WNW)	47°F; 2 mph (WNW)	No	0
May 15, 2020	14	05:14	08:15	43°F; 2 mph (SW)	51°F; 3 mph (WSW)	No	0
Total	73						0

Table 2. Burrowing Owl Survey Results for Rail Tie Wind Project: Round 2

Survey Date	# of Stops Surveyed	Start Time	End Time	Weather Start (Temperature; Wind Speed)	Weather End (Temperature; Wind Speed)	Owls Present?	# of Owls Detected
June 11, 2020	20	17:00	20:54	64°F; 5 mph (SW)	57°F; 0 mph	No	0
June 12, 2020	17	04:59	08:50	49°F; 10 mph (S)	61°F; 7 mph (S)	No	0
June 12, 2020	19	17:00	20:56	72°F; 8 mph (SE)	70°F; 11 mph (SE)	No	0
June 13, 2020	17	05:00	08:42	55°F; 11 mph (SSE)	70°F; 4 mph (SE)	No	0
Total	73						0

Table 3. Burrowing Owl Survey Results for Rail Tie Wind Project: Round 3

Survey Date	# of Stops Surveyed	Start Time	End Time	Weather Start (Temperature; Wind Speed)	Weather End (Temperature; Wind Speed)	Owls Present?	# of Owls Detected
July 14 2020	18	17:00	20:35	63°F; 10 mph (SSE)	56°F; 5 mph (SSE)	No	0
July 15 2020	19	05:13	08:52	46°F; 0 mph	63°F; 8 mph (N)	No	0
July 15 2020	20	17:00	20:40	69°F; 10 mph (SSE)	68°F; 10 mph (SSE)	No	0
July 16 2020	16	05:14	07:50	52°F; 0 mph	63°F; 4 mph (S)	No	0
Total	73						0

3.2 Other Wildlife Species

During the 2020 burrowing owl presence/absence surveys, 78 species (68 birds and 10 mammals) were observed incidentally within the Project (Appendix A). Fifteen SGCN were observed during the surveys: American kestrel (*Falco sparverius*), American pipit (*Anthus rubescens*), American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), black-crowned night-heron (*Nycticorax nycticorax*), Clark's nutcracker (*Nucifraga columbiana*), common yellowthroat (*Geothlypis trichas*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), great blue heron (*Ardea herodias*), Lewis's woodpecker (*Melanerpes lewis*), loggerhead shrike (*Lanius ludovicianus*), MacGillivray's warbler (*Geothlypis tolmiei*), McCown's longspur (*Rhynchophanes mccownii*), Swainson's hawk (*Buteo swainsoni*), and swift fox (*Vulpes velox*). No observations of mountain plover or long-billed curlew and no federally threatened or endangered species were observed during the surveys. In addition, no prairie dog colonies were incidentally observed within the Project during the survey effort.

4 DISCUSSION

Despite the presence of suitable habitat for burrowing owls within the Project Area and the presence of other burrowing mammals such as Wyoming ground squirrel (*Urocitellus elegans*) and swift fox, whose burrows could serve as suitable burrow locations for the species, no burrowing owls or burrowing owl sign were detected at any of the 73 survey stop locations during all three survey rounds completed within the Project Siting Corridor. The absence of the species during the 2020 burrowing owl surveys, in addition to the lack of any previous observations of the species within the 18 months of avian use surveys conducted within the Project Area to date, suggest that the Project Siting Corridor does not support the presence of burrowing owls and the species is unlikely to occur within the Project. This assertion is also supported by the lack of prairie dog colonies present within the Project Area, which often serve as key habitat for burrowing owls.

5 LITERATURE CITED

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FIGURES

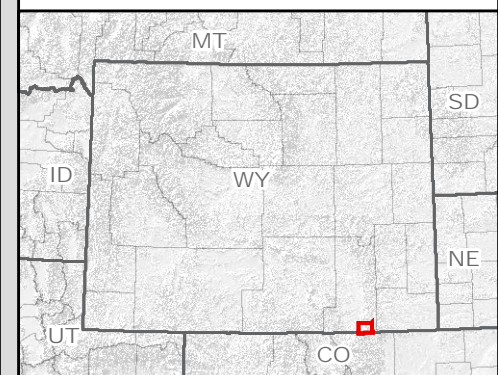
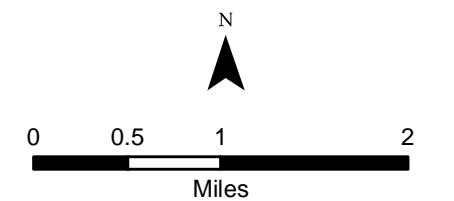
Figure 1: Burrowing Owl Survey Stops

Rail Tie Wind Project

Figure 1 Burrowing Owl Survey Stops

Albany County, WY

- Burrowing Owl Survey Location
- Project Area
- Siting Corridor
- NLCD Suitable Habitat
 - Shrub/Scrub
 - Grassland/Herbaceous
- State/County Boundary
- Interstate
- US Highway



Albany County, Wyoming
Larimer County, Colorado

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APPENDIX A:
Incidental Species Observations during the 2020 Burrowing Owl
Presence/Absence Surveys for the Rail Tie Wind Project

Appendix A. Incidental Species Observations during the 2020 Burrowing Owl Presence/Absence Surveys for the Rail Tie Wind Project

Common Name	Scientific Name	Survey Round 1	Survey Round 2	Survey Round 3
Birds				
American crow	<i>Corvus brachyrhynchos</i>	X	X	X
American goldfinch	<i>Spinus tristis</i>	X	X	X
American kestrel ¹	<i>Falco sparverius</i>	X	X	X
American pipit ¹	<i>Anthus rubescens</i>	X	—	—
American robin	<i>Turdus migratorius</i>	X	X	X
American white pelican ¹	<i>Pelecanus erythrorhynchos</i>	—	X	X
American wigeon	<i>Mareca americana</i>	X	—	—
Bald eagle ^{1,2}	<i>Haliaeetus leucocephalus</i>	X	X	—
Barn swallow	<i>Hirundo rustica</i>	X	X	X
Black-billed magpie	<i>Pica hudsonia</i>	X	X	X
Black-crowned night-heron ¹	<i>Nycticorax nycticorax</i>	—	X	—
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	—	X	—
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	X	X	X
Broad-tailed hummingbird	<i>Selasphorus platycercus</i>	X	X	X
Brown-headed cowbird	<i>Molothrus ater</i>	X	X	X
Canada goose	<i>Branta canadensis</i>	X	—	X
Chipping sparrow	<i>Spizella passerina</i>	X	X	X
Clark's nutcracker ¹	<i>Nucifraga columbiana</i>	X	X	X
Clay-colored sparrow	<i>Spizella pallida</i>	X	—	—
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	—	X	X
Common grackle	<i>Quiscalus quiscula</i>	X	—	X
Common merganser	<i>Mergus merganser</i>	—	—	X
Common raven	<i>Corvus corax</i>	X	X	X
Common yellowthroat ¹	<i>Geothlypis trichas</i>	X	—	—
Eurasian collared-dove	<i>Streptopelia decaocto</i>	—	—	X
European starling	<i>Sturnus vulgaris</i>	X	X	X
Ferruginous hawk ^{1,2}	<i>Buteo regalis</i>	X	—	—
Gadwall	<i>Mareca strepera</i>	X	—	—
Golden eagle ^{1,2}	<i>Aquila chrysaetos</i>	X	X	X
Gray catbird	<i>Dumetella carolinensis</i>	X	—	—
Great blue heron ¹	<i>Ardea herodias</i>	—	X	—

Common Name	Scientific Name	Survey Round 1	Survey Round 2	Survey Round 3
Green-tailed towhee	<i>Pipilo chlorurus</i>	X	X	X
Horned lark	<i>Eremophila alpestris</i>	X	X	X
House sparrow	<i>Passer domesticus</i>	—	X	X
House wren	<i>Troglodytes aedon</i>	X	—	X
Killdeer	<i>Charadrius vociferus</i>	X	X	X
Lark bunting	<i>Calamospiza melanocorys</i>	X	—	X
Lark sparrow	<i>Chondestes grammacus</i>	X	X	X
Lewis's woodpecker ^{1,2}	<i>Melanerpes lewis</i>	X	—	—
Lincoln's sparrow	<i>Melospiza lincolnii</i>	X	—	—
Loggerhead shrike ^{1,2}	<i>Lanius ludovicianus</i>	X	X	X
MacGillivray's warbler ¹	<i>Geothlypis tolmiei</i>	—	X	—
Mallard	<i>Anas platyrhynchos</i>	—	—	X
McCown's longspur ^{1,2}	<i>Rhynchophanes mccownii</i>	X	X	X
Mountain bluebird	<i>Sialia currucoides</i>	X	X	X
Mountain chickadee	<i>Poecile gambeli</i>	—	—	X
Mourning dove	<i>Zenaida macroura</i>	—	—	X
Northern flicker	<i>Colaptes auratus</i>	X	X	X
Prairie falcon ²	<i>Falco mexicanus</i>	X	—	—
Red crossbill	<i>Loxia curvirostra</i>	—	—	X
Red-breasted nuthatch	<i>Sitta canadensis</i>	X	—	X
Red-tailed hawk	<i>Buteo jamaicensis</i>	X	X	X
Red-winged blackbird	<i>Agelaius phoeniceus</i>	X	X	X
Rock pigeon	<i>Columba livia</i>	—	X	X
Rock wren	<i>Salpinctes obsoletus</i>	X	X	X
Savannah sparrow	<i>Passerculus sandwichensis</i>	X	X	X
Sharp-shinned hawk	<i>Accipiter striatus</i>	X	—	—
Song sparrow	<i>Melospiza melodia</i>	X	X	X
Sora	<i>Porzana carolina</i>	X	X	—
Swainson's hawk ^{1,2}	<i>Buteo swainsoni</i>	X	X	X
Tree swallow	<i>Tachycineta bicolor</i>	X	X	X
Turkey vulture	<i>Cathartes aura</i>	X	X	X
Vesper sparrow	<i>Pooecetes gramineus</i>	X	X	X

Common Name	Scientific Name	Survey Round 1	Survey Round 2	Survey Round 3
Violet-green swallow	<i>Tachycineta thalassina</i>	X	X	X
Western meadowlark	<i>Sturnella neglecta</i>	X	X	X
Wilson's snipe	<i>Gallinago delicata</i>	X	X	—
Yellow warbler	<i>Setophaga petechia</i>	—	X	X
Yellow-rumped warbler	<i>Setophaga coronata</i>	X	X	X
Mammals				
Coyote	<i>Canis latrans</i>	X	X	X
Elk	<i>Cervus canadensis</i>	X	X	X
Least chipmunk	<i>Tamias minimus</i>	X	X	X
Mule deer	<i>Odocoileus hemionus</i>	X	X	X
North American porcupine	<i>Erethizon dorsatum</i>	X	—	—
Pronghorn	<i>Antilocapra americana</i>	X	X	X
Swift fox ¹	<i>Vulpes velox</i>	—	—	X
White-tailed jackrabbit	<i>Lepus townsendii</i>	—	—	X
Wyoming ground squirrel	<i>Urocitellus elegans</i>	X	X	X
Yellow-bellied marmot	<i>Marmota flaviventris</i>	—	—	X

1 SGCN (WGFD 2017)

2 BCC (USFWS 2008)