



**Ecological Resource Consultants, Inc.**

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Screening Report  
for  
Federal and State Listed Threatened and  
Endangered Species and General Wildlife

**Thunder Valley PUD**

**Weld County, Colorado**

**January 26, 2018**

**Prepared for:**

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**ERC Project #420-1707**

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## 1.0 INTRODUCTION

Ecological Resource Consultants, Inc. (ERC) has prepared this report at the request of the property representative, J&T Consulting, Inc. The approximately 39.5 acre property referred to herein as the Thunder Valley PUD (survey area) is located in unincorporated Weld County, Colorado. The survey area is under consideration for potential future land use changes which will likely alter a majority of the current survey area landscape, therefore this report has been prepared to specifically identify potential federal and state listed threatened and endangered species and/or habitat that could exist on or immediately surrounding the survey area. In addition, this report provides a cursory screening of general wildlife use characteristics and existing vegetation community types.

This report has been prepared in accordance with the Migratory Bird Treaty Act (MBTA), Endangered Species Act (ESA) and Colorado Parks and Wildlife (CPW) Colorado Statute Title 33.

## 2.0 GENERAL SURVEY AREA DESCRIPTION

The survey area is located on the west side of County Road 21 approximately 1 mile south of the intersection with Highway 52 in unincorporated Weld County, Colorado in the *Lower Big Dry Creek* watershed (HUC 101900030408). More specifically, the survey area is located in **Section 10, Township 1 North, Range 67 West**, in Weld County (**latitude 40.062475° north, longitude -105.868803° west**). From the intersection of Interstate 25 and Highway 52, the survey area can be accessed by heading east on Highway 52 for approximately 6.2 miles, then south on County Road 21 for approximately 1 mile to the intersection with County Road 10.5. The survey area is then located southwest of the intersection of County Road 21 and County Road 10.5. The survey area is accessible along the west side of County Road 21. Refer to **Figure 1** and **Figure 2** for a location map and a US Geological Survey (USGS) topographic map of the survey area.

The survey area comprises approximately 39.5 acres and has an average elevation of 5,025 feet above mean sea level. The survey area is predominantly comprised of upland herbaceous vegetated lands currently used for the agricultural production of hay. The central portion of the survey area comprises a linear topographic depression that appears to have been historically altered to facilitate water storage which is identified as palustrine emergent (PEM) wetland habitat, and a man-made, concrete lined irrigation ditch known as Bull Ditch 2, Lateral 3 exists along the entire western perimeter of the survey area. Topography across the survey area is generally flat, with topographic highpoints in the northern and southern portions, sloping downward toward the center of the survey area.

Two primary land use class/vegetation cover types exist within the survey area. Upland habitats are primarily characterized as Cultivated Cropland and wetland habitats are characterized as Ruderal Wetland (SWReGAP 2011). In general, the vegetation communities characterized within the survey area are somewhat based on natural vegetation associations in the region (NatureServe 2018) however have been disturbed by historic and current land use practices thus represent somewhat degraded forms of these communities. A summary of habitat types within the survey area is provided as follows.

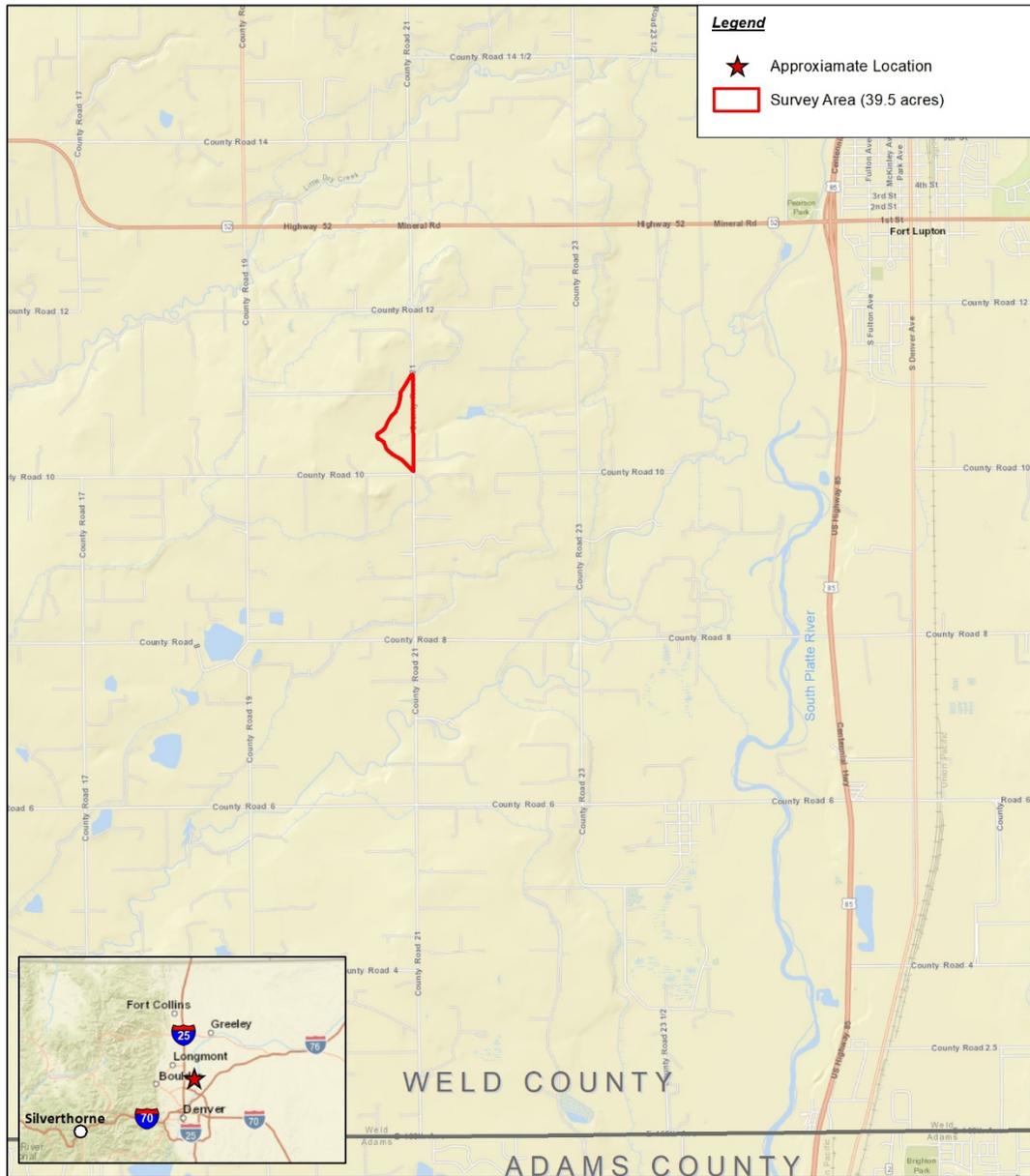
### *Cultivated Cropland*

The cultivated cropland community is characterized as non-natural system which includes lands used for the production of annual crops where crop vegetation accounts for greater than 20 percent of the total vegetation and where the land is actively tilled (SWReGAP 2011). This class also includes all land being actively tilled. The vegetation community across the survey area is dominated by species such as smooth brome (*Bromus inermis*), western wheatgrass (*Pascopyrum smithii*), and cheatgrass (*Bromus tectorum*),

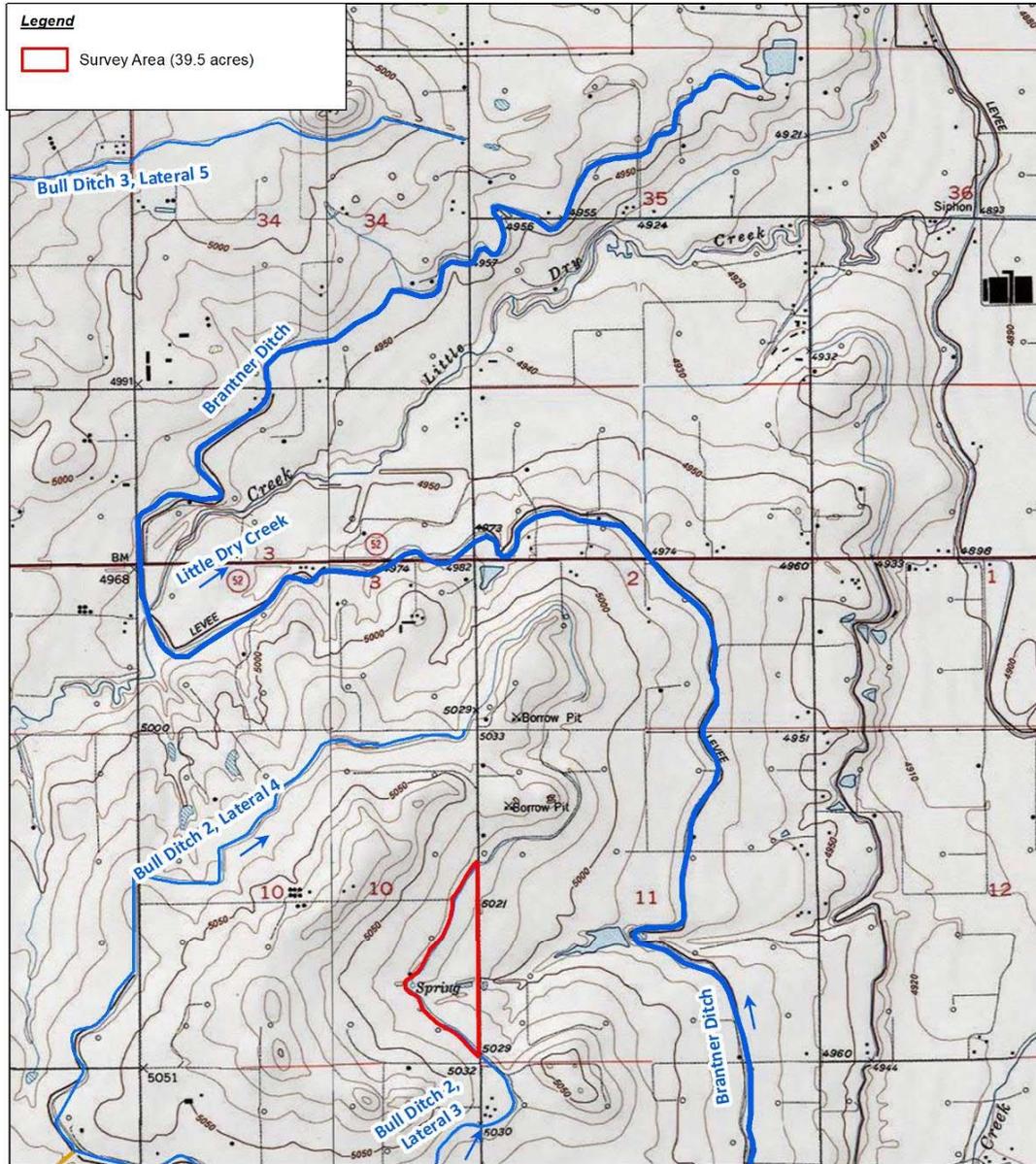
intermixed with a variety of ruderal herbaceous species. Vegetative cover across the survey area generally ranges from 85-100% cover, with the remaining cover comprising exposed surface soil. Generally, species within the hay fields in the northern and southern portions of the survey area have been recently mowed, and this community along the perimeter of the wetland habitat and irrigation ditch are considered fallow uplands with dense, unmowed herbaceous vegetation and few tree/shrub species. One area within the hay fields, located to the south of the wetland habitat, is approximately 200 feet wide spanning the entire survey area from west to east that has been recently plowed/tilled and is currently completely devoid of vegetation. Few mid succession trees are located in upland fallow areas immediately adjacent to the southeastern boundary of the wetland habitat and sporadically along the perimeter of the wetland habitat. These are the only tree/shrub species located within the survey area.

#### *Ruderal Wetland*

The ruderal wetland community is also characterized as non-natural system which occurs resulting from succession following significant anthropogenic disturbance of an area. It is generally characterized by unnatural combinations of species (primarily native species, though they often contain slight or substantial numbers and amounts of species alien to the region as well) (SWReGAP 2011). Within the survey area, the wetland habitat occurs as linear topographic depression that appears to have been historically altered to facilitate water storage. Overall, the vegetation community within the wetland is dominated by species such as broadleaf cattail (*Typha latifolia*), reed canary grass (*Phalaris arundinacea*), and dockleaf smartweed (*Persicaria lapathifolia*) intermixed with some non-dominant herbaceous species such as curly dock (*Rumex crispus*) and Hooker's evening primrose (*Oenothera elata*). This area contains a temporarily flooded water regime and no surface water and/or flows were observed within the wetland at the time of the field evaluation. The wetland continues offsite into an agricultural pond, which appears to outlet to an irrigation ditch, identified as Brantner Ditch, approximately 0.5 miles east of the survey area.



<p>Prepared By:</p>  <p>5672 Juhls Drive Boulder, CO 80301 (303) 679-4820 ERC #420-1707</p>	<p><b>FIGURE 1. LOCATION MAP</b></p> <p><b>THUNDER VALLEY PUD WELD COUNTY, COLORADO</b></p>	
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**FIGURE 2.**  
**USGS TOPOGRAPHIC MAP**  
**THUNDER VALLEY PUD**  
**WELD COUNTY, COLORADO**



Refer to **Photos 1-6** below for typical characteristics within the survey area. The overall existing survey area conditions are depicted on the aerial photograph provided as **Figure 3**.



**Photo 1.** Example of the Cultivated Cropland vegetation community which is currently used as hay field in the southern portion of the survey area.



**Photo 2.** View southeast of the southern portion of the survey area where it has been recently plowed/tilled and is completely devoid of vegetation.



**Photo 3.** View south of the eastern portion of the Ruderal Wetland community (blue lines above) and adjacent fallow uplands. Few mid succession trees can be seen in the background.



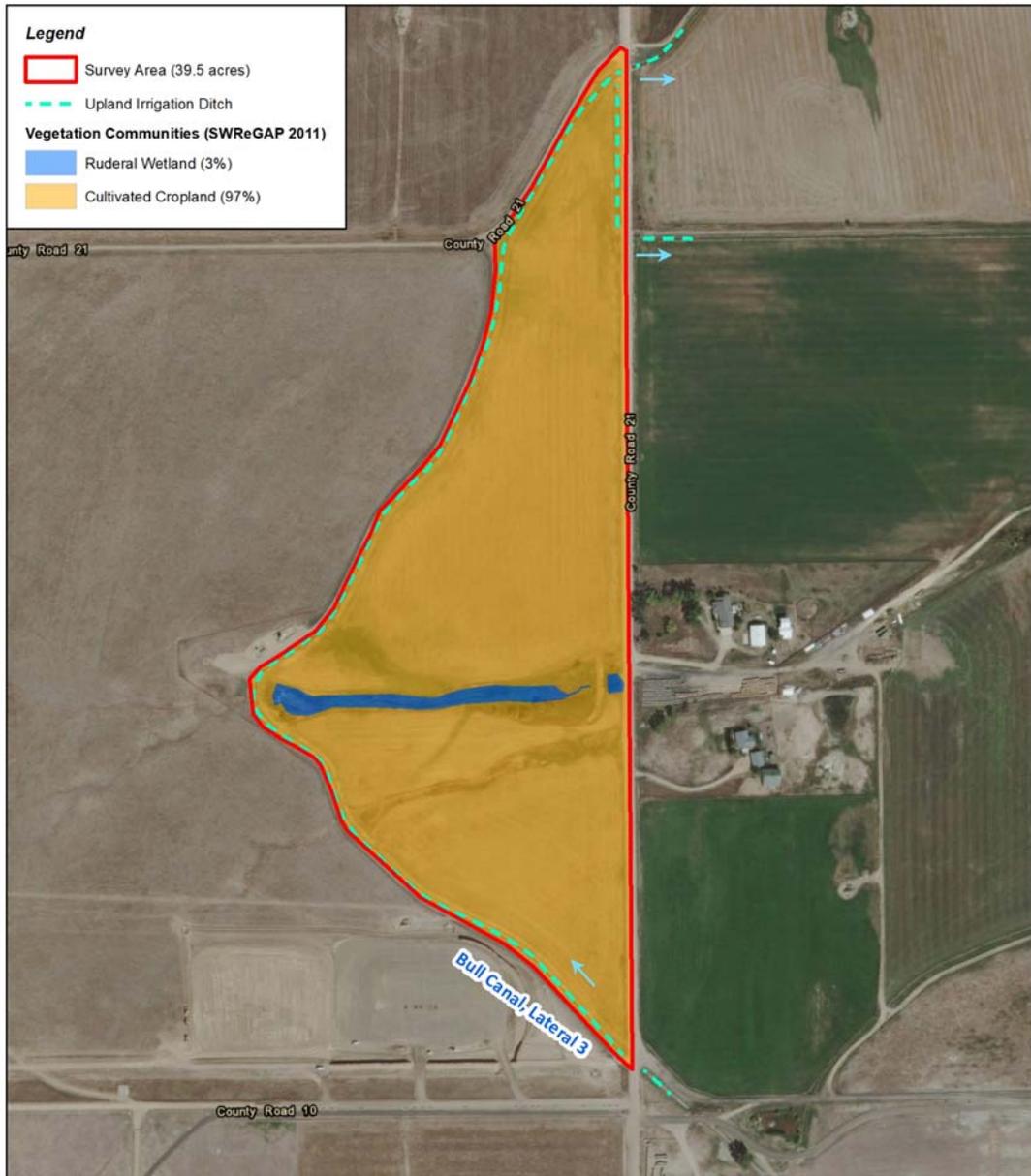
**Photo 4.** View east from the western boundary of the Ruderal Wetland community within the survey area. The wetland is largely dominated by broadleaf cattail herbaceous vegetation.



**Photo 5.** View southwest at the man-made, concrete lined irrigation ditch along the western perimeter of the survey area. Unmowed herbaceous vegetated fallow lands along the ditch is evident in this photo.



**Photo 6.** View of typical upland hay fields (Cultivated Cropland) in the northern portion of the survey area. This photo is representative of the entire northern portion of the survey area.



<p>Prepared By:</p>  <p>5672 Juhls Drive Boulder, CO 80301 (303) 679-4820 ERC #420-1707</p>	<p><b>FIGURE 3. VEGETATION COMMUNITIES</b></p> <p><b>THUNDER VALLEY PUD WELD COUNTY, COLORADO</b></p>	
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### 3.0 SCREENING METHODOLOGY

ERC conducted a literature review as part of initial data collection for preparation of this report. Among others, ERC reviewed the available literature sources including; CPW information and the US Fish and Wildlife Service (USFWS) Federal Register.

A field inspection was subsequently conducted on January 9, 2018 to identify and document the presence of natural vegetation communities, general wildlife use and potential for threatened and endangered species/habitat. Upon review of all available resources, including literature and field inspections, ERC provides the following determination for the survey area.

### 4.0 GENERAL WILDLIFE HABITAT (NON-REGULATED)

Wildlife utilizes the general landscape in a multitude of ways and uses a variety of habitats as areas of permanent inhabitation, seasonal inhabitation, breeding grounds, migratory routes, for foraging purposes, or as temporary shelter. Potential wildlife habitat includes agricultural land (hay field), fallow uplands, and herbaceous wetland communities.

Historic and current land use associated with agricultural practices have restricted and/or degraded the development of any significant natural vegetation communities within a majority of the survey area, which limits the overall quality of potential wildlife habitat. The predominant habitat type which occupies 97% of the survey area is characterized by the Cultivated Cropland community which comprises agricultural land currently used for the agricultural production of hay that is regularly mowed. Fallow uplands occupy a portion of this community immediately around the perimeter of the wetland and irrigation ditch. This vegetation type which is dominated by non-native or weedy species is not typically considered of high ecological value to wildlife; however, agricultural lands can have beneficial values to certain wildlife species. These areas at a minimum are considered “open space” providing limited foraging and hunting grounds, refuge and limited areas for nesting (Kingery 1998). Such lands often serve as a buffer between natural areas, providing food, cover, nesting and open-space habitat which allow movement and exchange of plant and animal populations. In addition, there are few mid succession trees/shrubs and dense herbaceous vegetation located within the fallow uplands around the perimeter of the wetland habitat. Overstory canopy trees and midstory shrubs, situated near an agricultural landscape, can provide potential roosting and nesting habitat for visiting and residential raptors and smaller migratory birds. The agricultural land which is present across the survey area has largely replaced the native shortgrass prairie habitat which would have been present in this region. Herbaceous non-native species or ruderal native species which permeate the vegetation communities generally do not provide quality habitat for most wildlife. In general, agriculture practices have altered the structure, function, community composition, and habitat value of land within a majority of the survey area; however, this area does provide a variety of important wildlife habitat values in an otherwise agricultural landscape. Within the survey area, significant limitations for wildlife use exist due to land use activities such as regular mowing, habitat fragmentation from fences and roadways, and noise disturbances from oil and gas production equipment on adjacent land to the southwest.

The Ruderal Wetland habitat within the survey area occupies a smaller percentage (3%) bisecting the central portion of the survey area from west to east. Wetlands can provide a variety of wildlife habitat features such as cover, forage or nesting habitat, and can act as a movement corridor for various small mammals, amphibians, birds, and reptiles. The general structural characteristics of the wetland habitat

including a seasonal water source and dense emergent vegetation does create a relatively unique habitat in an otherwise arid and agricultural landscape. The wetland habitat appears to be inundated for at least some portion of the growing season which provides added wildlife benefits and habitat variety within the survey area; however, hydrology within the wetland habitat appears to be largely supported by irrigation water and no flows and/or surface water were present at the time of the field inspection, which severely limits habitat value for wildlife that requires a year-round water source such as certain amphibians and reptiles. Within the survey area, some limitations for wildlife use exist due to habitat fragmentation from roadways, upland berms, fences, and restricted culverts; however, overall wetland habitat of the survey area provides a variety of important wildlife habitat values.

Some local wildlife species that may use this habitat within the survey area includes coyote (*Canis latrans*), red fox (*Vulpes vulpes*), rabbit (*Lepus sp.*), cottontail (*Sylvilagus sp.*), raccoon (*Procyon lotor*), black tailed prairie dog (*Cynomys ludovicianus*), white-tailed deer (*Odocoileus virginianus*), deer mouse (*Peromyscus maniculatus*), meadow vole (*Microtus pennsylvanicus*), red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferous*), western meadowlark (*Sturnella neglecta*), killdeer (*Charadrius vociferous*), barn owl (*Tyto alba*), hawks (*Buteo sp.*), and garter snake (*Thamnophis sp.*).

- Generally, there are features within the survey area and the surrounding area that provide general habitat for local songbirds, raptors, and small to mid-size mammals; however, the majority of habitat on the Site (approximately 97%) comprises cultivated cropland which is highly degraded from a wildlife perspective by historic and current land use practices. Within the survey area, the ruderal wetland habitat occupies a smaller percentage of the survey area (3%) but still provides a variety of important wildlife habitat values.

## 5.0 MIGRATORY BIRD TREATY ACT

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 730-712). The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase barter, or offer for sale, purchase, or barter any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. In Colorado, all birds except for the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*) and rock pigeon (*Columba livia*) are protected under the MBTA. A total of 523 migratory bird species are known to occur in the Mountain-Prairie Region (USFWS Region 6, Montana, Wyoming, Utah, North Dakota, South Dakota, Nebraska, Kansas and Colorado); 320 of the 523 migratory bird species are known to breed in USFWS Region 6.

Migratory birds likely exist within the survey area. The ruderal wetland and fallow upland habitats exhibit few overstory canopy trees/midstory shrubs within the survey area that provide at the very least, potential nesting and foraging habitat for migratory birds. Several red-winged blackbird (*Agelaius phoeniceus*), black-billed magpie (*Pica hudsonia*), and European starling (*Sturnus vulgaris*) individuals, and one inactive migratory bird nest were directly observed on the survey area during the field inspection. Such birds are protected under the MBTA, and killing or possession of these birds (or their parts and nests) is prohibited under the MBTA. The migratory birds observed likely utilize the survey area primarily for foraging and seasonal nesting.

- Based upon literature review and an onsite assessment of the survey area, ERC has determined that some migratory birds likely utilize the survey area. These birds are protected under the MBTA, and

killing or possession of these birds is prohibited. Future land use changes that may occur on the survey area which remove the more permanent vegetation should first ensure that active nests are not disturbed. Generally, the active nesting season for most migratory birds in this region of Colorado occurs between April 1 and August 31.

- In addition, raptor nest sites are further protected by the CPW. The CPW has established recommended buffer zones and seasonal activity restrictions for a variety of Colorado raptors. While no active nests were observed and no CPW mapped buffer zones are located within the survey area (CPW 2017a), raptors could potentially establish nesting in the vicinity of the survey area. Future land use changes should ensure that no active raptor nest sites have established generally (depending on species) within a ½ mile of the survey area.

## 6.0 SPECIES PROTECTED UNDER THE ENDANGERED SPECIES ACT OF 1973

The ESA of 1973 was enacted by the United States to conserve endangered and threatened species and the ecosystems that they depend on. Under the ESA, species may be listed as either “endangered” or “threatened”; both designations are protected by law. The ESA is administered by the USFWS. The USFWS has developed project specific species lists, available online by request, identifying threatened, endangered, and proposed species, designated critical habitat, and candidate species protected under the ESA that may occur within the boundary of the proposed project and/or may be affected by the proposed project (USFWS 2018) (Tracking Number: 06E24000-2018-SLI-0449). The species list for the survey area has identified a total of 9 threatened or endangered species within the survey area.

### Species Not Present

The following federally listed threatened and endangered species are identified to occur within Weld County. However, these species are not known to exist within the specific vicinity of the survey area and/or have specific habitat requirements (i.e., elevation range) that are not common in the vicinity of the survey area.

Common Name	Scientific Name	Status*	Determination
Mexican spotted owl	<i>Strix occidentalis lucida</i>	FT	NO EFFECT

\*Status key:

FT – Federally listed as threatened

- The survey area does not contain the specific habitat characteristics necessary to support the species listed above. These species and/or critical habitat is not present within the survey area. Therefore the project will have no effect on the species, their habitats, or proposed or designated critical habitat.

### Water Depletions Species

The USFWS under the ESA has determined that water depletions in the South Platte River Basin are considered an adverse effect to the listed species identified below. The survey area is considered to be located within the South Platte River Basin.

Common Name	Scientific Name	Status*	Determination
Least tern	<i>Sternula antillarum</i>	FE	NOT PRESENT, MAY BE AFFECTED BY DEPLETIONS
Pallid sturgeon	<i>Scaphirhynchus albus</i>	FE	NOT PRESENT, MAY BE AFFECTED BY DEPLETIONS

Common Name	Scientific Name	Status*	Determination
Piping plover	<i>Charadrius melodus</i>	FT	NOT PRESENT, MAY BE AFFECTED BY DEPLETIONS
Western prairie fringed orchid	<i>Platanthera praeclara</i>	FT	NOT PRESENT, MAY BE AFFECTED BY DEPLETIONS
Whooping crane	<i>Grus Americana</i>	FE	NOT PRESENT, MAY BE AFFECTED BY DEPLETIONS

\*Status key:

FT – Federally listed as threatened

FE – Federally listed as endangered

Any water related project conducted in the Platte River Basin that has a federal nexus; such as federal funding or a federal permits (i.e., Clean Water Act (CWA) Section 404 Permit), is subject to ESA Section 7 Consultation with the USFWS. The consultation is a mandate for water depletion projects that may affect threatened and endangered species that rely on the South Platte River.

- The survey area does not contain the specific habitat characteristics necessary to support the species listed above. These species and/or critical habitat is not present within the survey area. Therefore the project will have no effect on these listed species, their habitats, or proposed or designated critical habitat.
- Any future project which may be water related or determined to be a water depletion to the South Platte River Basin may potentially be considered an adverse effect to these species. Generally non-water dependent projects such as residential developments (which are supplied by municipal water) are not considered water depletions and therefore would have no effect on these species.

Species Potentially within Range

The following federally listed threatened and endangered species are identified to occur or historically occur within Weld County (USFWS 2018). The survey area is located within the potential known range for these species to occur. Further analysis was conducted to determine if the species or habitat has the potential to exist within the survey area considering site-specific conditions and characteristics. A brief explanation is provided as to the species life cycle, habitat requirements and potential occurrence within the survey area. The survey area is not within designated critical habitat of any federally listed species.

Common Name	Scientific Name	Status*	Determination
Colorado butterfly plant	<i>Gaura neomexicana var. coloradensis</i>	FT	NO EFFECT
Preble’s meadow jumping mouse	<i>Zapus hudsonius preblei</i>	FT	NO EFFECT
Ute Ladies’-tresses orchid	<i>Spiranthes diluvialis</i>	FT	NO EFFECT

\*Status key:

FT – Federally listed as threatened

**COLORADO BUTTERFLY PLANT (GAURA NEOMEXICANA VAR. COLORADENSIS)**

The Colorado butterfly plant is listed as federally threatened under the ESA. This plant species is a short-lived, perennial herb endemic to moist soils in mesic or wet meadows of floodplain areas in southeastern Wyoming, north central Colorado, and extreme western Nebraska. This early to mid-seral stage species occurs primarily in habitats created and maintained by streams active within their floodplains, with vegetation that is relatively open and not overly dense or overgrown. The conversion of natural wet

meadows and natural riparian corridors to agricultural land and urban development is the primary threat to the continued existence of the species (Federal Register 2000).

- The densely vegetated herbaceous wetland habitat within the survey area does not provide typical habitat conducive to this species. Neither individuals nor potential habitat for the Colorado butterfly plant were observed on or immediately surrounding the survey area. The survey area is not located within designated critical habitat for this species (Federal Register 2005). This species and/or critical habitat is not present within the survey area. Therefore the project will have no effect on the Colorado butterfly plant, its habitat, or proposed or designated critical habitat.

#### PREBLE'S MEADOW JUMPING MOUSE (*ZAPUS HUDSONIUS PREBLEI*)

On May 13, 1998 the US Fish and Wildlife Service issued a final rule to list the Preble's meadow jumping mouse (PMJM) as a federally threatened species under the ESA. PMJM range extends from southwestern Wyoming through eastern Colorado generally below 7,600 feet. Armstrong et al. (1997) described typical PMJM habitats as "well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity." Also noted was a preference for "dense herbaceous vegetation consisting of a variety of grasses, forbs and thick shrubs" (USFWS 1999). This species is known to regularly travel into adjacent uplands to feed and hibernate. The PMJM hibernates in an underground burrow from September to May. PMJM bears two to three litters per year, averaging five young per litter, in a grass-lined nest. In general, PMJM surveys are recommended for areas with suitable habitat in Weld County below 7,600 feet and within 300 feet of vegetated irrigation canals, ditches, and wetlands. Areas that are highly disturbed or modified (including landscaped lots and paved areas) or wetland areas dominated by cattails are excluded from this recommendation.

No populations of the PMJM are known to occur within the vicinity of the survey area (UDFCD 2010). Further, the survey area and immediate vicinity is not designated (or proposed) as Critical Mouse Habitat by the USFWS (USFWS 2017a). The USFWS Mouse Block Clearance Map for the Denver Metro Area (USFWS 2010) which identifies areas exempt from further review for PMJM habitat, shows the survey area occurs outside the Block Clearance Zone.

- No PMJM individuals were observed on or surrounding the survey area. The majority of the survey area is comprised of agricultural land that is regularly mowed thus does not provide habitat suitable for this species. The wetland habitat and adjacent fallow uplands within the survey area does exhibit some dense herbaceous vegetation; however, the wetland habitat is largely dominated by cattails, lacks shrub cover, and has been historically altered to facilitate water storage which would not be considered suitable habitat conducive to the PMJM. The USFWS also states that sites where wetlands are entirely composed of dense stands of cattails are exempt from trapping survey. This species and/or critical habitat is not present within the survey area. Therefore the project will have no effect on the PMJM, its habitat, or proposed or designated critical habitat.

#### UTE LADIES'-TRESSES (*SPIRANTHES DILUVIALIS*)

The Ute ladies-tresses is listed as federally threatened under the ESA. The Ute ladies-tresses occurs in seasonally moist soils and wet meadows near springs, lakes, or perennial streams and their associated floodplains below 6,500 feet in elevation in certain areas of Utah, Colorado, Idaho, Wyoming, and Nevada. Typical sites include early successional riparian habitats such as point bars, sand bars, and low lying gravelly, sandy, or cobbly edges. They seem to require "permanent subirrigation", conditions where the

water table is close to the surface, but they are not tolerant of permanent standing water. Typical habitat is open and sparsely vegetated, populations decline if trees and shrubs invade the habitat. They do not compete well with aggressive species such as reed canary grass or monocultures of cattails.

- The densely vegetated wetland habitat within the survey area dominated by dense cattail vegetation which is not typical habitat conducive to the Ute ladies-tresses. No Ute ladies-tresses or suitable habitat was identified within the survey area. This species and/or critical habitat is not present within the survey area. Therefore the project will have no effect on the Ute ladies-tresses, its habitat, or proposed or designated critical habitat.

## 7.0 STATE THREATENED AND ENDANGERED SPECIES

Species identified as state threatened or endangered are protected by the CPW under Colorado Statute Title 33. State regulations prohibit “any person to take, possess, transport, export, process, sell or offer for sale, or ship and for any common or contract carrier to knowingly transport or receive for shipment” any species or subspecies listed as state endangered or threatened. The CPW also has identified State Species of Special Concern, which are species or subspecies of native wildlife that are currently vulnerable in their Colorado range and have the potential to become threatened or endangered (CPW 2010). Species of Special Concern are not protected under State regulations but the ‘take’ of individuals and disturbance of their habitat is strongly discouraged.

All state listed species were screened as potential inhabitants of the survey area based on general habitat requirements and CPW Species Profiles (CPW 2017b). ERC evaluated the species listed by CPW as threatened or endangered that could potentially exist within the survey area. All animal species listed above as threatened or endangered by the USFWS are also listed by the CPW as threatened or endangered, respectively, therefore were not duplicated below.

### Species Not Present

The following listed threatened and endangered species are identified to occur within the state (CPW 2017b). However, these species are not known to exist within the specific vicinity of the survey area and/or have specific habitat requirements (i.e., elevation range) that are not common in the vicinity of the survey area (CPW 2017b and USFWS 2017).

Common Name	Scientific Name	Status*
Boreal toad	<i>Bufo boreas boreas</i>	SE
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	SE
Lesser prairie-chicken	<i>Tympanuchus pallidicinctus</i>	ST
Plains sharp-tailed grouse	<i>Tympanuchus phasianellus jamesii</i>	SE
Arkansas darter	<i>Etheostoma cragini</i>	ST
Bonytail	<i>Gila elegans</i>	SE
Razorback sucker	<i>Xyrauchen texanus</i>	SE
Humpback chub	<i>Gila cypha</i>	ST
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	ST
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	ST
Rio grande sucker	<i>Catostomus plebeius</i>	SE
Lake chub	<i>Couesius plumbeus</i>	SE
Plains minnow	<i>Hybognathus placitus</i>	SE

Common Name	Scientific Name	Status*
Suckermouth minnow	<i>Phenacobius mirabilis</i>	SE
Northern redbelly dace	<i>Phoxinus eos</i>	SE
Southern redbelly dace	<i>Phoxinus erythrogaster</i>	SE
Brassy minnow	<i>Hybognathus hankinsoni</i>	ST
Common shiner	<i>Luxilus cornutus</i>	ST
Gray wolf	<i>Canis lupus</i>	SE
Grizzly bear	<i>Ursus arctos</i>	SE
Lynx	<i>Lynx canadensis</i>	SE
Wolverine	<i>Gulo gulo</i>	SE
Kit fox	<i>Vulpes macrotis</i>	SE
River otter	<i>Lontra canadensis</i>	ST

\*Status key:

ST – State listed as threatened

SE – State listed as endangered

- The survey area does not contain the specific habitat characteristics necessary to support the species listed above. These species and/or critical habitat is not present within the survey area. Therefore the project will have no effect on the species, their habitats, or proposed or designated critical habitat.

#### Species Potentially within Range

The following state listed threatened and endangered species are identified to occur or historically occur within Weld County. The survey area is located within the potential known range for these species. Further analysis was conducted to determine if the species or habitat has the potential to exist on the survey area considering site-specific conditions and characteristics. A brief explanation is provided as to the species life cycle, habitat requirements and potential occurrence within the survey area.

Common Name	Scientific Name	Status*
Burrowing owl	<i>Athene cunicularia</i>	ST
Black-footed ferret	<i>Mustela nigripes</i>	SE

\*Status key:

ST – State listed as threatened

SE – State listed as endangered

#### **BURROWING OWL (ATHENE CUNICULARIA)**

The burrowing owl (Owl) is listed as a state threatened species in Colorado. The Owl is small (length of 24 centimeters), long-legged, boldly spotted, and barred with brown and white. The Owl is a breeding species across the plains of eastern Colorado however rarely winters in the state. Nesting habitat is abandoned burrows, especially prairie dog colonies, located in grasslands, mountain parks, well-drained steppes, deserts, prairies and agricultural lands from late March through October. The Owl can usually be observed on low perches such as fence posts, dirt mounds or the ground. Clutch size of this Owl averages six to seven and incubation lasts up to 30 days. The owlets usually run and forage at 4 weeks and fly at 6 weeks. Primary threats to existence of this species are habitat loss due to intensive agriculture, habitat degradation and fragmentation due to control of burrowing mammals and predation by cats and dogs.

- No Owl individuals were observed on or surrounding the survey area. The survey area is located within the overall range of the black-tailed prairie dog; however, no colonies were observed within the

survey area. Much of the agricultural land within the survey area is regularly mowed or tilled further limiting the potential use of the survey area by this species. Any future land use changes within the survey area should not adversely affect the continued existence or potential habitat of this species.

#### BLACK-FOOTED FERRET (*MUSTELA NIGRIPES*)

The black-footed ferret (BFF) (*Mustela nigripes*) is a medium-sized mustelid (a member of the weasel family). The BFF is the only ferret species native to the Americas. Its historical range spanned much of western North America's intermountain and prairie grasslands, extending from Canada to Mexico. Historically, BFF habitat coincided with habitats of black-tailed prairie dog (*C. ludovicianus*), Gunnison's prairie dog (*C. gunnisoni*), and white-tailed prairie dog (*C. leucurus*). Prairie dogs make up more than 90% of the BFF's diet. BFF's are limited to open habitat, the same habitat used by prairie dogs: grasslands, steppe, and shrub steppe. It depends largely on prairie dogs: ferrets prey on prairie dogs and utilize their burrows for shelter and denning (Hillman and Clark, 1980). It has been estimated that about 40-60 hectares of prairie dog colony are needed to support one ferret (Belant and Biggins 2008). BFF's once numbered in the tens of thousands, but due to a combination of human-induced threats they were believed to be extinct twice in the 20th century. As of 2015, BFFs have been reintroduced in the wild at 24 sites across 8 states, Canada, and Mexico.

- No BFF individuals were observed on or surrounding the survey area. The survey area is located within the overall range of the black-tailed prairie dog; however, no colonies were observed within the survey area. Further, the survey area occurs within the block clearance zone for black-footed ferret surveys (USFWS 2009). Any future land use changes within the survey area should not adversely affect the continued existence or potential habitat of this species.

## 8.0 SUMMARY

ERC has conducted this screening for federal and state listed threatened and endangered species for the approximately 39.5 acre survey area. The following provides key items identified as part of this report:

1. Two primary land use class/vegetation cover types exist within the survey area. Upland habitats are primarily characterized as Cultivated Cropland and wetland habitats are characterized as Ruderal Wetland. Historic land use for agricultural practices has led to degradation of the native vegetation community.
2. Generally, there are features on the survey area and the surrounding area that provide general habitat for local songbirds, raptors, and small to mid-size mammals. However, habitat within the survey area is somewhat degraded and of lower ecological value from a wildlife perspective due to historic and current land use for agriculture, which has restricted overall growth and establishment of vegetation.
3. Based upon literature review and field evaluation of the survey area, ERC has determined that some migratory birds likely utilize the survey area to a limited degree. These birds are protected under the MBTA, and killing or possession of these birds is prohibited. Generally, the active nesting season for most migratory birds in this region of Colorado occurs between April 1 and August 31. Any future land use changes that may occur within the survey area that remove vegetation during the active nesting season should first ensure that active nests are not disturbed. A nest survey can be conducted prior to vegetation removal that may occur during this time frame.

4. In addition, raptor nest sites are further protected by the CPW. The CPW has established recommended buffer zones and seasonal activity restrictions for a variety of Colorado raptors. While no active nests were observed and no CPW mapped buffer zones are located within the survey area (CPW 2017a), raptors could potentially establish nesting in the vicinity of the survey area. Future land use changes should ensure that no active raptor nest sites have established generally (depending on species) within a ½ mile of the survey area.
5. No federally listed threatened and endangered species and/or habitat protected under the ESA were identified within the survey area. The survey area is not within designated critical habitat of any federally listed species. The vegetation communities and features within the survey area were investigated as potential habitat for federally listed species. Potential threatened and endangered species habitat was found to lack one or more habitat components critical for the federally listed species likely to occur in the area. Furthermore, connectivity to known populations was limited due to geographic, hydrologic, and other habitat constraints. Therefore the project will have no effect on federal listed species, their habitats, or proposed or designated critical habitat.
6. Any future project which may be water related or determined to be a water depletion to the South Platte River Basin may potentially be considered an adverse effect to water depletion species. Generally non-water dependent projects such as residential developments (which are supplied by municipal water) are not considered water depletions and therefore would have no effect on these species.
7. No State listed threatened or endangered species and/or habitat protected under CPW under Colorado Statute Title 33 were identified within the survey area. The vegetation communities within the survey area were investigated as potential habitat for state listed species. Potential threatened and endangered species habitat was found to lack one or more habitat components critical for the state listed species likely to occur in the area. Furthermore, connectivity to known populations was limited due to geographic, hydrologic, and other habitat constraints. No other individuals or habitat for state listed threatened and endangered species would likely be impacted by any future land use changes.

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