



REVISED DRAFT
Natural Features and Wetland Report for the
Saddlehorn Ranch Project
Peyton, Colorado

November 9, 2018

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Project Number: 2018-13-2



TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 PURPOSE	1
1.2 SITE LOCATION AND PROJECT DESCRIPTION	1
2.0 METHODOLOGY.....	5
3.0 ENVIRONMENTAL SETTING.....	6
3.1 TOPOGRAPHY	7
3.2 SOILS	7
3.3 VEGETATION	8
3.4 WETLAND HABITAT AND WATERS OF THE U.S.	10
3.4.1 Methodology	10
3.4.2 Field Assessment Findings	10
3.5 WEEDS	13
3.5.1 Regulatory Background	13
3.5.2 Noxious Weed Survey Results	13
3.5.3 Noxious Weed Management Plan	13
3.6 WILDFIRE HAZARD	17
3.6.1 Fire Protection	18
3.7 WILDLIFE COMMUNITIES	20
4.0 FEDERAL LISTED SPECIES	20
4.1 PREBLE’S MEADOW JUMPING MOUSE	23
4.1.1 Natural History	23
4.1.2 Threats	24
4.1.3 Critical Habitat	24
4.1.4 Occupied Range	24
4.1.5 Summary	25
5.0 RAPTORS AND MIGRATORY BIRDS.....	28
6.0 SUMMARY OF IMPACTS.....	28
6.1 MINERAL AND NATURAL RESOURCE EXTRACTION	28
6.2 VEGETATION	28
6.3 WETLAND HABITAT AND WATERS OF THE U.S.	29
6.4 WEEDS	29
6.5 WILDFIRE HAZARD	29
6.6 WILDLIFE COMMUNITIES	29
6.7 FEDERAL LISTED SPECIES	30
6.8 RAPTORS AND MIGRATORY BIRDS	30

7.0 REGULATIONS AND RECOMMENDATIONS.....	30
7.1 CLEAN WATER ACT	30
7.2 ENDANGERED SPECIES ACT	31
7.3 MIGRATORY BIRD TREATY ACT & BALD AND GOLDEN EAGLE PROTECTION ACT.....	31
7.4 COLORADO NOXIOUS WEED ACT	31
8.0 REFERENCES.....	32

LIST OF FIGURES

FIGURE 1. USGS SITE LOCATION MAP.....	3
FIGURE 2. SITE PLAN WITH TOPOGRAPHY.....	4
FIGURE 3. VEGETATION COMMUNITY MAP	9
FIGURE 4. NATIONAL WETLAND INVENTORY & CNHP WETLAND AND RIPARIAN AREAS MAP.....	11
FIGURE 5. ECOS WETLAND AND WATERS SKETCH MAP.....	12
FIGURE 6. EL PASO COUNTY WILDFIRE HAZARDS MAP.....	19
FIGURE 7. USFWS PMJM TRAPPING LOCATION MAP.....	26
FIGURE 8. PMJM HABITAT MAP.....	27

LIST OF APPENDICES

APPENDIX A – USDA SOIL DATA
APPENDIX B – COMMITMENT LETTER TO PROVIDE FIRE AND EMERGENCY SERVICES
APPENDIX C – USFWS IPAC TRUST RESOURCE REPORT
APPENDIX D – MINERAL ESTATE OWNER CERTIFICATION AND U.S. MAIL RECEIPTS
APPENDIX E - PROFESSIONAL QUALIFICATIONS

LIST OF ACROYNMS AND ABBREVIATIONS

AMSL	above mean sea level
Applicant	ROI Property Group, LLC
CCRs	Codes, Covenants and Restrictions
CDA	Colorado Department of Agriculture
CNHP	Colorado Natural Heritage Program
COGCC	Colorado Oil and Gas Conservation Commission
CPW	Colorado Parks and Wildlife
CWA	Clean Water Act
Ecos or ecos	Ecosystem Services, LLC
JD	Jurisdictional under the Clean Water Act
Non-JD	Non- jurisdictional under the Clean Water Act
PMJM	Preble's meadow jumping mouse
Report	Natural Features and Wetland Report
Site	Saddlehorn Ranch Project in Peyton, Colorado
NRCS	Natural Resource Conservation Service
NTCHS	National Technical Committee for Hydric Soils
NWI	National Wetland Inventory
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOUS	Waters of the United States

1.0 INTRODUCTION

Ecosystem Services, LLC (Ecos or ecos) was retained by ROI Property Group, LLC (ROI or Applicant) to perform a natural resource assessment for the proposed Saddlehorn Ranch Subdivision project (Project) in Peyton, Colorado (Site) and to prepare this Natural Features and Wetland Report (Report).

The contact information for the Applicant and ecos representatives for this Report is provided below:

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1.1 Purpose

The purpose of this Report is to identify and document the natural resources, ecological characteristics and existing conditions of the Project site (Site); identify potential ecological impacts associated with Site development; and provide current regulatory guidance related to potential development-related impacts to natural resources. The specific resources and issues of concern addressed in this Report are in conformance with the El Paso County requirements (refer to Section 2.0), and include:

- Mineral and Natural Resource Extraction;
- Vegetation;
- Wetland Habitat and Waters of the U.S.
- Weeds;
- Wildfire Hazard;
- Wildlife;
- Federal and State Listed Candidate, Threatened and Endangered Species; and
- Raptors and Migratory Birds.

1.2 Site Location and Project Description

The Site lies approximately 3 miles east/northeast of the town of Falcon, Colorado, and about 16 miles northeast of Colorado Springs in Peyton, CO (refer to Figure 1). The Site is comprised of 824-acres of undeveloped land and lies within Section 3 and the northern ½ of the northern ½ of Section 10 in Township 13 South, Range 64 West of the 6th Principal Meridian in El Paso County. The center of the Site is located at approximately Latitude 38.944756 degrees north, Longitude -104.543257 degrees west at an elevation of approximately 6,729 feet above mean sea level. Refer to Figure 1.

The Applicant proposes to develop the 824-acre Site as a residential community consisting of 149 2.5-acre single-family detached rural-residential lots within 609.54

acres; roads and rights-of -way on 109.4 acres; a 20.23-acre commercial lot; and 84.83 acres of open space, including all onsite drainages, wetland and floodplains. Refer to Figure 2.

Figure 1

USGS SITE LOCATION MAP

Figure 2
SITE PLAN WITH TOPOGRAPHY

2.0 METHODOLOGY

Ecos performed an office assessment in which available databases, resources, literature and field guides on local flora and fauna were reviewed to gather background information on the environmental setting of the Site. We consulted several organizations, agencies, and their databases, including:

- Colorado Department of Agriculture (CDA) Noxious Weed List;
- Colorado Natural Heritage Program (CNHP);
- Colorado Oil and Gas Conservation Commission (COGCC) GIS Online;
- Colorado Parks and Wildlife (CPW);
- El Paso County Master Plan;
- El Paso County, Sub-Area Plan (provided by Client);
- Federal Emergency Management Agency (FEMA);
- Google Earth current and historic aerial imagery;
- Survey of Critical Biological Resources, El Paso County, Colorado;
- Survey of Critical Wetlands and Riparian Areas in El Paso and Pueblo Counties, Colorado;
- U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetlands Delineation Manual;
- USACE 2010 Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region;
- U.S. Department of Agriculture (USDA) PLANTS Database;
- U.S. Fish and Wildlife Service (USFWS) Region 6;
- USFWS National Wetland Inventory (NWI);
- USFWS IPaC database search; and
- U.S. Geological Survey (USGS).

Ecos also reviewed pertinent, site-specific background data provided by ROI and their consulting Team, including: topographic base mapping, site development plans, and other data pertinent to the assessment.

Ecos reviewed, and incorporated the requirements of the following regulations into, this Report:

- 1) Chapter IV. Zoning Regulations, Section 35.13 – Development Requirements for Mineral and Natural Resource Extraction Operations;
- 2) Chapter V. Subdivision Regulations:
 - a. Section 51.5 – Wildlife Hazard and Vegetation Reports; and
 - b. Section 51.6 – Streams, Lakes, Physical Features and Wildlife Habitats.
- 3) Chapter 6 - General Development Standards:
 - a. Section 6.3.3 - Wildfire Protection and Wildfire Mitigation;
 - b. Section 6.3.7 - Noxious Weeds;

- c. Section 6.3.8 – Wetlands; and
 - d. Section 6.3.9 – Wildlife.
- 4) Chapter 8 - Subdivision Design, Improvements and Dedications:
- a. Section 8.4.2 Environmental Considerations:
 - i. Item A.4. – Threatened and Endangered Species Compliance; and
 - ii. Item B.1. - Hazards
 - 1. 100-year floodplain as identified by the applicant, review agency, or the Floodplain Administrator; and
 - 2. Wildfire hazards as identified on the County and State wildfire hazard inventory or maps.
- 5) El Paso County Master Plan: Pertinent Maps and descriptors to append all of the topics, regulations and guidance referenced above, including:
- a. Wetland Habitat Maps and descriptors; and
 - b. Wildlife Habitat Maps and descriptors.

Following the collection and review of existing data and background information, ecos conducted a field assessment of the Site on October 16 and 17, 2018 to identify any potential impacts to natural resources associated with the Project. Field reconnaissance concentrated on identification of wildlife habitat (including habitat suitable to support threatened and endangered wildlife) significant topographic features, noxious weeds and vegetation. Wildlife habitat, major vegetation communities, and significant weed stands were sketched on topographic and aerial base maps and located using a hand-held Global Positioning System as deemed necessary. Representative photographs were taken to assist in describing and documenting Site conditions and potential ecological impacts.

ROI would like to clarify the presence/absence of jurisdictional Waters of the U.S. (WOUS), including wetland habitat, such that development may proceed in compliance with the Clean Water Act (CWA). Therefore, Ecos conducted a field assessment of the Site and potential offsite, downstream connections to WOUS on September 19 and 20, 2018. The purpose of the assessment was to verify non-jurisdictional areas/drainage features; and delineate jurisdictional wetland habitat and WOUS boundaries. Refer to the *Jurisdictional Determination Request for the 824 Acre Curtis Road Subdivision Project, Peyton, Colorado* dated October 17, 2018 which was submitted to El Paso County under separate cover.

The office and onsite assessment data, the pertinent El Paso County regulations outlined above, and Natural Resource Assessment and Wetland Report examples used in previous County land development review submittals (provided by El Paso County) were used in the preparation of the Report.

3.0 ENVIRONMENTAL SETTING

The Site is located in the Southwestern Tablelands Ecological Region (Chapman et al, 2006), which is primarily comprised of sub-humid grassland and semiarid rangeland. More specifically, the Site is located in the Foothills Grassland sub-region (26j) which

contains a mix of grassland types with some small areas of isolated tallgrass prairie species that are more common much farther east. The proximity to runoff and moisture from the Front Range and the more loamy, gravelly, and deeper soils are able to support more tallgrass and midgrass species than neighboring ecoregions. Big and little bluestem and switchgrass occur, along with foothill grassland communities. The annual precipitation of 14 to 20 inches tends to be greater than in regions farther east. Soils are loamy, gravelly, moderately deep, and mesic. Rangeland and pasture are common, with small areas of cropland. Urban and suburban development has increased in recent years, expanding out from Colorado Springs and the greater Denver area.

3.1 Topography

The Site is generally characterized as gently sloping from northwest to southeast with Site topography ranges from a high elevation of 6783 feet above mean sea level (AMSL) in the northwestern corner to a low elevation of 6662 feet above AMSL in the southeast corner; for a total elevation drop of 121 feet. A man-made pit was excavated in the southwest corner and the soil was stockpiled adjacent to the pit, creating a topographic irregularity. Please refer to Figure 1 for the USGS Topographic Map and Figure 2 for the base topographic mapping illustrated on the Site Plan.

3.2 Soils

Ecos utilized the U.S. Department of Agriculture, Natural Resource Conservation Service Web Soil Survey (USDA, NRCS, 2018) to identify the soils within the Site. The Site is underlain by the following soil types:

- Blakeland loam sand, 1 to 9 percent slopes;
- Columbine gravelly sandy loam, 0 to 3 percent slopes;
- Fluvaquent Haploquolls, nearly level; and
- Stapleton sandy loam, 3 to 8 percent slopes.

Please refer to Appendix A for the USDA Soil Map and additional information.

Additional, detailed soil data for the Project are presented in the Soils & Geology Report that will be included in the Project submittal.

3.3 Vegetation

The vegetation within the Site is primarily comprised of herbaceous prairie species with herbaceous wetland vegetation in the swales and sloughs. Given the presence of certain tallgrass prairie species mixed throughout the shortgrass prairie, we have referred to the vegetation community as “short and mixed grass prairie” (refer to Figure 3). The dominant species are blue grama (*Bouteloua gracilis*) and little bluestem (*Schizachyrium scoparium*). The other most common species are fringed sage (*Artemisia frigida*), buffalograss (*Bouteloua dactyloides*), Western wheatgrass (*Pascopyrum smithii*), switchgrass (*Panicum virgatum*), and prickly pear cactus (*Opuntia sp.*). Other species include prairie sandreed (*Calamovilfa longifolia*), broom snakeweed (*Gutierrezia sarothrae*), yucca (*Yucca glauca*), Wood’s rose (*Rosa woodsii*), bottlebrush squirreltail (*Elymus elymoides*) and yarrow (*Achillea millefolium*). The Site is heavily grazed and there are scattered weeds throughout, including Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), Scotch thistle (*Onopordum acanthium*), common mullein (*Verbascum thapsus*), and common burdock (*Arctium minus*).

Hydrophytic vegetation (wetland vegetation) is present within the discontinuous wetland patches in the central ephemeral drainage and the northeastern, intermittent drainage. Dominant wetland vegetation includes Baltic rush (*Juncus balticus*), Torrey’s rush (*Juncus torreyi*), poverty rush (*Juncus tenuis*), redtop (*Agrostis gigantea*), Nebraska sedge (*Carex nebrascensis*), and three square bulrush (*Schoenoplectus americanus*). Willow is notably absent. Dominant upland vegetation at the margin of the wetland boundary includes little bluestem and blue grama grasses, fringed sage and other miscellaneous upland weeds.

Figure 3
Vegetation Community Map

3.4 Wetland Habitat and Waters of the U.S.

3.4.1 Methodology

Ecos utilized the National Wetland Inventory (NWI) Wetlands Mapper (USFWS 2018); Colorado Wetland Inventory Mapping Tool (CNHP, 2018); historic and current Google Earth aerial photography; USGS 7.5-minute topographic mapping; and detailed Project topographic mapping to screen the Site for potential wetland habitat and waters of the U.S. Additionally, ecos performed a jurisdictional delineation to identify the Waters of the United States (WOUS), including wetlands.

The mapping data above were proofed during the filed assessment and a wetland delineation was conducted to determine the presence/absence of potential WOUS, including wetland habitat. Once a feature was verified to be present, ecos determined whether it is a jurisdictional wetland/waters under the Clean Water Act. The USACE wetland delineation methodology was employed to document the 3 field indicators (parameters) of wetland habitat (i.e., wetland hydrology, hydric soils and a predominance of hydrophytic vegetation as explained in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and supplemented by the Regional Supplement to the *Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2)* (USACE, 2010). The wetland delineation was surveyed by the project team surveyor

Consistent with the NWI and Colorado Wetland Inventory Mapping Tool (Figure 4) and topographic mapping, the wetland/waters delineation revealed the presence of two drainages with the potential to support wetland habitat (Figure 5). Discontinuous wetland patches are present in the central ephemeral drainage (Drainage A/B) and in the northeastern, intermittent drainage (Drainage C/D). Project Plans illustrate the wetland and waters delineation in detail.

3.4.2 Field Assessment Findings

Ecos has preliminarily determined that Drainage A/B is non-jurisdictional under the CWA based on its isolated status; and Drainage C/D is jurisdictional as it has a downstream connection to an un-named tributary of Black Squirrel Creek immediately offsite. This determination must however be verified by the USACE. The results of the onsite assessment for each potential wetland and waters area are summarized in the Jurisdictional Determination Request report (submitted to the County under separate cover), with an explanation of the field indicators (parameters) of wetland habitat/waters that were observed, and an explanation as to how ecos determined jurisdictional and non-jurisdictional status under Section 404 of the Clean Water Act. Jurisdictional features are mapped on Figure 5.

Figure 4
National Wetland Inventory & CNHP Wetland and Riparian Areas Map

Figure 5
ECOS Wetland and Waters Sketch Map

3.5 Weeds

3.5.1 Regulatory Background

The Colorado Department of Agriculture maintains a list of noxious weed species (CDA, 2018a) and works with counties to manage noxious weeds. Weed management on Site must follow County requirements, including the “El Paso County Noxious Weeds and Control Methods” report (El Paso County, 2015b).

There are four CDA categories of noxious weeds:

- List A: Rare noxious that are designated for eradication statewide.
- List B: Discretely distributed noxious weeds that must be eradicated, contained, or suppressed, depending on their location, to stop their continued spread.
- List C. These species are well-established in Colorado. Species management plans are designed to support the efforts of local governing bodies to facilitate more effective integrated weed management. The goal of such plans is not to stop the continued spread of these species, but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species.
- Watch List Species are those may pose a potential threat to the agricultural productivity and environmental values. The Watch List is intended to serve advisory and educational purposes only. Its purpose is to encourage the identification and reporting of these species to the Commissioner in order to assist in determining which species should be designated as noxious weeds.

3.5.2 Noxious Weed Survey Results

No noxious weed species on the Colorado Department of Agriculture List A or the Watch List (CDA, 2018a) were observed on the Site.

Three List B noxious weed species (CDA, 2018a) were observed on the Site:

- musk thistle (*Carduus nutans*);
- Canada thistle (*Cirsium arvense*); and
- Scotch thistle (*Onopordum acanthium*)

Two List C noxious weed species (CDA, 2018a) were observed on Site:

- common mullein (*Verbascum thapsus*);
- common burdock (*Arctium minus*).

3.5.3 Noxious Weed Management Plan

All of the List B species on the Site are designated for suppression (CDA, 2018a). The Colorado Noxious Weed Act defines suppression as “*reducing the vigor of noxious weed populations within an infested region, decreasing the propensity of noxious weed species to spread to surrounding lands, and mitigating the negative effects of noxious weed populations on infested lands.*” Suppression efforts may employ a wide variety of

integrated management techniques. Per the El Paso County Noxious Weed and Control Methods document (El Paso County, 2018a): *“The most effective way to control noxious weeds is through Integrated Pest Management (IPM). IPM incorporates weed biology, environmental information, and available management techniques to create a management plan that prevents unacceptable damage from pests, such as weeds, and poses the least risk to people and the environment. IPM is a combination of treatment options that, when used together, provide optimum control for noxious weeds; however, IPM does not necessarily imply that multiple control techniques have to be used or that chemical control options should be avoided.*

- *Prevention: The most effective, economical, and ecologically sound management technique. The spread of noxious weeds can be prevented by cleaning equipment, vehicles, clothing, and shoes before moving to weed free areas; using weed-free sand, soil, and gravel; and using certified weed free seed and feed.*
- *Cultural: Promoting and maintaining healthy native or other desirable vegetation. Methods include proper grazing management (prevention of overgrazing), re-vegetating or re-seeding, fertilizing, and irrigation.*
- *Biological: The use of an organism such as insects, diseases, and grazing animals to control noxious weeds; useful for large, heavily infested areas. Not an effective method when eradication is the objective but can be used to reduce the impact and dominance of noxious weeds.*
- *Mechanical: Manual or mechanical means to remove, kill, injure, or alter growing conditions of unwanted plants. Methods include mowing, hand pulling, tilling, mulching, cutting, and clipping seed heads.*
- *Chemical: The use of herbicides to suppress or kill noxious weeds by disrupting biochemical processes unique to plants.”*

The following information provides general measures to prevent introducing new weeds and spreading existing weeds during construction:

Prior to Construction:

1. Create a native habitat restoration and weed control plan for the Open Space areas. Since there is such dense knapweed mixed with other weeds along the Creek, total re-vegetation of some areas may be necessary. One option in the weediest areas would be to remove the top three to six inches of topsoil and replace it with topsoil from the non-weedy short grass prairie north of the Creek that will be developed. If topsoil can be transferred directly, or is only briefly stockpiled, then re-seeding may not be needed. Planning topsoil management ahead of construction may decrease costs for weed control, restoration, and grading.
2. Biological control is a low cost and non-invasive way to begin controlling weeds. Optimum results take 3-5 years. Contact the Colorado Department of Agriculture Request-A-Bug program at 970-464-7916 to reserve insects, determine the

species/quantity needed, and discuss release schedules (CDA, 2018b). At a minimum, species should be introduced to control the knapweed. Biological control may also be available for yellow toadflax, musk thistle, and Canada thistle; with the dense patches of yellow toadflax in the northwest corner of the Site being the highest priority of these three.

3. Reduce grazing overall. Eliminate cattle grazing in knapweed-infested areas, unless using grazing for weed control. Cattle will eat young knapweed prior to bolting but avoid it once the plant matures and develops spines. Thus, targeted grazing can reduce knapweed, but prolonged heavy grazing increases it. Cattle grazing in areas of diffuse knapweed twice in spring may decrease seed by 50%. If cattle are being used for weed control, grazing should consist of two, 10-day intervals in the spring when diffuse knapweed is bolting and about 6 to 12 inches tall (see CSU, 2013). Grazing may reduce the efficacy of biological control.
4. Develop a mowing program to control weeds. This will be most effective for the large areas of common mullein, but may also be used for Canada thistle, musk thistle, and cheatgrass. Mowing in the knapweed areas may reduce the efficacy of biological control for this species.

During construction staging:

1. Fence off all the open space areas to prevent vehicles from driving through them and spreading knapweed, etc. to new areas (Note: fencing will also prevent unpermitted wetland impacts and likely be required by the stormwater management plan).
2. Designate a minimal number of vehicle crossings of the Open Space areas. Construct crossings with weed free soil so that noxious weed seeds are not tracked into new areas.

During construction:

1. Prior to any grading of the non-weedy areas on the slopes north of the Creek, salvage the top six inches of topsoil so that it can be used to construct vehicle crossings and for re-vegetation of natural areas. If possible, immediately move soil to re-vegetation areas. If soil must be stockpiled, minimize the time in order to maintain native seed viability. Excess topsoil may be used for development areas.
2. Do not move weedy soil to new areas within the Site or import weedy soil from other Sites.
3. Control weeds within staging areas and along construction access roads on an ongoing basis.
4. Noxious weeds are most likely to become established in areas where the native vegetation and soil have been disturbed by construction. Thus, maintaining and then quickly re-establishing desirable vegetation post-construction will minimize

weed infestations. Desirable vegetation may consist of native plant communities or landscaped areas.

The Site development plan should include measures to prevent introducing new weeds and spreading existing weeds during construction (including prevention measures above). Following construction, the Homeowner’s Association (HOA) will be responsible for weed control. Weed management recommendations for the species observed on the Site are summarized in Table 1. Refer to the El Paso County “Noxious Weed and Control Methods” booklet for additional detail (El Paso County, 2018a).

TABLE 1 – NOXIOUS WEED MANAGEMENT SUMMARY		
Species	Occurrence	Management^{1,2,3}
LIST B⁴		
Canada thistle (<i>Cirsium arvense</i>)	Uncommon. Individual plants are scattered throughout areas disturbed by heavy grazing.	Mowing combined with herbicide treatment. Mow every 10 to 21 days during the growing season to prevent seeding. Spot treatment with herbicide will likely be needed in open space areas.
Musk thistle (<i>Carduus nutans</i>)	Uncommon. Individual plants are scattered throughout areas disturbed by heavy grazing.	Severing the root below the soil surface is effective. Mowing is most effective at full bloom, but flowering plant parts must be disposed of properly to prevent seed development. Spring herbicide treatment is also effective.
Scotch thistle (<i>Onopordum acanthium</i>)	Uncommon. Individual plants are scattered throughout areas disturbed by heavy grazing.	Severing the root below the soil surface is effective. Flowering plant parts must be disposed of properly to prevent seed development. Spring and fall herbicide treatments are also effective during the rosette stage.
LIST C		

TABLE 1 – NOXIOUS WEED MANAGEMENT SUMMARY		
Species	Occurrence	Management ^{1,2,3}
Common mullein (<i>Verbascum thapsus</i>)	Uncommon. Individual plants are scattered throughout Site.	Reduce grazing to increase density of other vegetation. Mow in the bolting to early flowering stage to reduce seed production. Use herbicide to kill existing rosettes. Hand-pulling is effective, but likely not feasible for such large areas. Establish other vegetation and minimize disturbance to prevent existing seeds from sprouting in bare soil.
common burdock (<i>Arctium minus</i>)	Uncommon. Individual plants are scattered adjacent to onsite drainages	Hand pull or dig when soil is moist, but make sure to wear gloves. Bag specimens carefully so as not to scatter seeds. Mowing is also effective, cutting the top growth of the plant. The key to effective control is to prevent seed production and/or spread.

¹Refer to the El Paso County “Noxious Weed and Control Methods” booklet for additional detail (El Paso County, 2018a).

²When using herbicides, always read and follow the product label to ensure proper use and application.

³If near water or wetlands, only use herbicides and formulations approved for use near water.

⁴All of the List B species on the Site are designated for suppression (CCR, 2018).

3.6 Wildfire Hazard

The stated purpose and intent of the 2018 El Paso County Development Standards” for “Fire Protection and Wildfire Mitigation” is to ensure that proposed development is reviewed for wildfire risks and adequate fire protection. No permit or approval associated with development, construction or occupancy shall be approved or issued until the provisions of these standards are satisfied.

The El Paso County Wildfire Hazard Map is based on the existing vegetation and classifies the grassland areas that comprise the Site as “Low Hazard – Non Forested”. [Note: the Vegetation Map required to be referenced in the current Land Development

Code is not available, therefore we used the most current map (Figure 7).] “Wildland areas” include land shown as “High Hazard – Forested” or areas identified as such in the “Wildland Fire Risk and Hazard Mitigation Plan.” Since the Site does not include forested (high hazard) areas, it is not subject to the wildland areas requirements and does not require the preparation of a Wildland Fire and Hazard Mitigation Plan.

3.6.1 Fire Protection

The Site is located within the jurisdiction and boundaries of the Falcon Fire Protection District (FFPD). The FFPD has provided a letter dated October 11, 2018 to confirm its commitment to provide fire suppression, fire prevention, emergency rescue, ambulance, hazardous materials and emergency medical services (collectively, "Emergency Services") to the property, subject to the following conditions:

- All new construction, renovations or developments within the Fire Department’s jurisdiction must comply with the applicable fire code and nationally recognized life-safety standards adopted by the El Paso County Board of County Commissioners and the FFPD’s Board of Directors, as amended from time to time;
- All development, water and construction plans must be reviewed and approved by the Fire Department for compliance with the applicable fire code and nationally recognized life-safety standards prior to final plat or construction permit being issued; and,
- All development or construction projects shall meet the fire code and nationally recognized standards' pertaining to fire protection water. Please note that approved and inspected fire cisterns are permitted by the Fire Department in an attempt to help the property owner/developer meet these requirements (Appendix B).

The three staffed FFPD stations are:

- Station 1, 12072 Royal County Down Road, Peyton (3.0 miles from Site)
- Station 3, 7030 Old Meridian Road, Peyton (4.2 miles from Site)
- Station 4, 2710 Capital Drive, Colorado Springs, CO (10.7 miles from Site)

The closest station to the Site is Station 1. Equipment at Station 1 includes an engine, a water tender (water truck), a brush truck, an AMR ambulance, a utility truck, and a command vehicle (FFPD, 2018). Equipment at Station 2 includes a 4-wheel drive engine, a water tender, and a brush truck.

Figure 6
El Paso County Wildfire Hazards Map

3.7 Wildlife Communities

The stated purpose and intent of the “El Paso County Development Standards” section on wildlife is to ensure that proposed development is reviewed in consideration of the impacts on wildlife and wildlife habitat, and to implement the provisions of the Master Plan (El Paso County, 2018b). Ecos has determined that the wildlife impact potential for development of the Site is expected to be low.

The Site currently provides poor to moderate habitat for wildlife. The two primary vegetation types within the Site are herbaceous prairie and wetlands.

The project proposes to develop most of the prairie, however the drainages and immediately adjacent prairie would be preserved as Open Space. A noxious weed management plan will be implemented per State and County requirements to improve wildlife habitat; and a native plant re-vegetation plan for the Open Space is recommended to provide additional benefit to wildlife habitat.

The habitat preferences of the observed species are reflective of the habitat on Site. Two species of raptors were observed and appear to either be residents or frequent hunters to this Site: ferruginous hawk (*Buteo regalis*) and Northern harrier (*Circus hudsonius*). Prairie species such as jackrabbit (*Lepus townsendii*), pronghorn (*Antilocapra americana*), black-tailed prairie dog (*Cynomys ludovicianus*) and thirteen-lined ground squirrel (*Ictidomys tridecemlineatus*) were present. The remaining species are considered generalists and included mourning doves (*Zenaida macroura*) and American crows (*Corvus brachyrhynchos*). The Site provides very limited tree nesting habitat for raptors; however, ferruginous hawks may also use ground nests. No existing nest sites for any raptors were noted during the Site visit.

The Site provides habitat for mammals including rodents, antelope, and carnivores. The site provides foraging and breeding habitat for predators such as coyote and fox. The Site also provides good habitat for reptiles but limited habitat for amphibians due to the lack of persistent standing and flowing water. No other species were observed by ecos during our field assessment.

The Site contains no Wildlife Refuges or Hatcheries according to the USFWS IPaC Trust Resources Report (USFWS, 2018b) (Appendix C).

4.0 FEDERAL LISTED SPECIES

A number of species that occur in El Paso County are listed as candidate, threatened or endangered by the USFWS (USFWS, 2018b) under the Endangered Species Act (ESA). Ecos compiled the Federally-listed species for the Site in Table 2 based on the Site-specific, USFWS IPaC Trust Resources Report we ran for the Project (Appendix C); and our onsite assessment. Ecos has provided our professional opinion regarding the probability that these species may occur within the Site and their probability of being impacted by the Project.

The likelihood that the Project would impact any of the species listed below is very low to none. Most are not expected occur in the Project area or on the Site; nor will they be affected by the indirect effects of the project. The Preble’s meadow jumping mouse is discussed in more detail below because there is USFWS designated Critical Habitat in the County.

TABLE 2 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
FISH			
Greenback cutthroat trout <i>(Oncorhynchus clarki stomias)</i>	Threatened	Cold, clear, gravely headwater streams and mountain lakes that provide an abundant food supply of insects.	None. Suitable habitat does not exist on the Site.
Pallid sturgeon <i>(Scaphirhynchus albus)</i>	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed project is not in the watershed for any of the listed river basins.
BIRDS			
Least tern <i>(Sternula antillarum)</i>	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed project is not in the watershed for any of the listed river basins.
Mexican spotted owl <i>(Strix occidentalis lucida)</i>	Threatened	Mature, old-growth forests of white pine, Douglas fir, and ponderosa pine; steep slopes and canyons with rocky cliffs. The closest USFWS designated Critical habitat is over 15 miles southwest of the Site in mountainous terrain (USFWS, 2018).	None. Suitable habitat does not exist on the Site.
Piping plover <i>(Charadrius melodus)</i>	Threatened	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed project is not in the watershed for any of the listed river basins.

TABLE 2 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT

Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
Whooping crane <i>(Grus americana)</i>	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed project is not in the watershed for any of the listed river basins.
MAMMALS			
North American Wolverine <i>(Gulo gulo luscus)</i>	Proposed Threatened	Occur in select high elevation areas that are cold and receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season.	None. Suitable habitat does not exist on the Site.
Preble's meadow jumping mouse <i>(Zapus hudsonius prebleii)</i>	Threatened	Inhabits well-developed riparian habitat with adjacent, relatively undisturbed grassland communities, and a nearby water source. Well-developed riparian habitat includes a dense combination of grasses, forbs and shrubs; a taller shrub and tree canopy may be present. Has been found to regularly use uplands at least as far out as 100 meters beyond the 100-year floodplain.	None. Unlikely to occur on Site due to: 1) the absence of habitat required to support the life requisites of the species; 2) negative trapping results reported by USFWS adjacent to the Site; 3) 4.47-mile distance from closest CPW "Potential" Occupied Habitat (northeast of the Site in Peyton); 4) 11.98-mile distance from closest USFWS Critical Habitat (west/northwest of the Site along Black Squirrel); and 5) lack of habitat connection corridor from known habitat to the Site.

TABLE 2 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
PLANTS			
Ute ladies'-tresses orchid <i>(Spiranthes diluvialis)</i>	Threatened	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands.	Very Low. Unlikely to occur and wetland impacts will be minimal. However, ULTO surveys should be implemented during the blooming period (i.e., August) for all wetland areas to be impacted by road crossings.
Western prairie fringed orchid <i>(Platanthera praeclara)</i>	Threatened	Occurs in tallgrass prairie in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. Upstream depletions to the Platte River system in Colorado and Wyoming may affect the species in Nebraska.	None. The proposed project will not alter or deplete flows to the South Platte.

4.1 Preble's meadow jumping mouse

4.1.1 Natural History

The Preble's meadow jumping mouse (PMJM) is a small mammal approximately 9-inches in length with large hind feet adapted for jumping, a long bicolor tail (which accounts for 60% of its length), and a distinct dark stripe down the middle of its back, bordered on either side by gray to orange-brown fur (USFWS, 2016). This largely nocturnal mouse lives primarily in the foothills of southeastern Wyoming, and south to Colorado Springs, along the eastern edge of the Front Range of Colorado. PMJM are true hibernators. They usually enter into hibernation in September or October and emerge in May of the following spring.

PMJM typically inhabits areas characterized by well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity (Armstrong et al. 1997). PMJM regularly range into adjacent uplands to feed, hibernate, and avoid flooding. Radio-tracking studies conducted by CPW have documented PMJM using upland habitat adjacent to wetlands and riparian areas (Shenk and Sivert 1999).

Additional research by CPW has suggested that habitat quality for PMJM can be predicted by the amount of shrub cover available at a site (White and Shenk 2000).

4.1.2 Threats

Threats to PMJM and their habitat include habitat alteration, degradation, loss, and fragmentation resulting from human land uses including urban development, flood control, water development, and agriculture. Habitat destruction may impact individual PMJM directly or by destroying nest sites, food resources, and hibernation sites; by disrupting behavior; or by forming a barrier to movement. Invasive non-native and noxious weeds can alter habitat and decrease its value.

4.1.3 Critical Habitat

Critical habitat is specific areas identified by the USFWS as being essential to the conservation of PMJM (USFWS, 2016). In determining which areas to designate as critical habitat, the USFWS must use the best scientific and commercial data available and consider physical and biological features (primary, constituent elements) that are essential to conservation of the species, and that may require special management consideration and protection. The primary constituent elements for the PMJM include those habitat components essential for the biological needs of reproducing, rearing of young, foraging, sheltering, hibernation, dispersal, and genetic exchange. Thus, critical habitat includes riparian areas located within grassland, shrub land, forest, and mixed vegetation types where dense herbaceous or woody vegetation occurs near the ground level, where available open water exists during their active season, and where there are ample upland habitats of sufficient width and quality for foraging, hibernation, and refugia from catastrophic flooding events. Section 7 of the Endangered Species Act prohibits destruction or adverse modification of a critical habitat by any activity funded, authorized, or carried out by any Federal agency, and Federal Agencies proposing actions affecting areas designated as critical habitat must consult with the USFWS on the effects of their proposed actions, pursuant to Section 7(a)(2) of the Act.

4.1.4 Occupied Range

Colorado Parks and Wildlife (CPW) mapped areas of “potential” PMJM occupied range (CPW, 2005). The occupied range mapping is based on proximity to known occurrences of PMJM (i.e., USFWS trapping data) and mapped riparian vegetation (i.e., potential habitat that was not necessarily trapped or verified). For each known PMJM location (i.e., trapped found), a one-mile buffer is applied to riparian areas both upstream and downstream. This includes both the main channel and side channels. Additionally, a 100-meter lateral buffer is applied which, in general, represents foraging and hibernaculum habitat. This buffer serves as a general guideline. Site specific topographic and vegetative features may increase or decrease the area considered locally as foraging and hibernaculum habitat. Where riparian vegetation maps don't exist, the stream centerline is buffered laterally by 100 meters.

4.1.5 Summary

PMJM are very unlikely to occur on the Site or be affected by the Project due to: 1) the absence of habitat required to support the life requisites of the species; 2) negative trapping results reported by USFWS adjacent to the Site; 3) 4.47-mile distance from closest CPW “Potential” Occupied Habitat (northeast of the Site in Peyton); 4) 11.98-mile distance from closest USFWS Critical Habitat (west/northwest of the Site along Black Squirrel); and 5) lack of habitat connection corridor from known habitat to the Site. Refer to Figure 7 – USFWS PMJM Trapping Map and Figure 8 – PMJM Habitat Map.

Figure 7
USFWS PMJM Trapping Location Map

Figure 8
PMJM Habitat Map

5.0 RAPTORS AND MIGRATORY BIRDS

Raptors and most birds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act. No raptor nests have been mapped within one mile of the Site (COGCC, 2018). No raptor nests were observed during the site visit. However, the short grass prairie and wetland habitats are valuable nesting and foraging habitat for birds.

6.0 SUMMARY OF IMPACTS

6.1 Mineral and Natural Resource Extraction

William Guman researched the records of the El Paso County Clerk and Recorder and established that there was a mineral estate owner on the Site (Appendix D). Pursuant to C.R.S. 24-65.5-103)4) a notice of an initial public hearing was mailed via U.S. Certified Mail to the mineral estate owners (refer to Appendix D).

6.2 Vegetation

There are two main types of vegetation on Site: wetlands and short-grass prairie. Long-term cattle grazing has degraded vegetation by increasing weeds in many areas and severely reducing woody riparian vegetation along the drainages. Direct negative impacts to vegetation will result from the construction of roads, trails, and homes; and indirect negative impacts will result such as spreading weeds to new areas or alteration of wetland hydrology. Since the project will preserve the onsite drainages and an open space area, there is good potential to improve vegetation in these areas. The following recommendations are intended to minimize negative impacts and increase positive impacts:

1. Create a habitat restoration and management plan for the Open Space areas that begins as soon as possible, continues through construction, and is taken over and implemented by the Metropolitan District following construction.
2. Increase native vegetation in the disturbed prairie areas by seeding with native species. Another option would be to spread ~1" of salvaged topsoil obtained/stockpiled from any non-weedy prairie that would be impacted by infrastructure construction, such as roads and associated disturbances.
3. Include requirements in the CCRs to preserve native vegetation and minimize non-native landscaping and irrigation.
4. Implement a stormwater management system that does not significantly increase flows into the drainages and prepare a natural channel stabilization plan for all drainages.

6.3 Wetland Habitat and Waters of the U.S.

Drainage C/D is a jurisdictional WOUS, including adjacent wetlands. Lot layout has been planned to avoid both jurisdictional and non-jurisdictional wetlands and waters to the extent feasible. A majority of the wetlands and waters on Site will be set aside and included in Open Space. Site-wide over-lot grading is not proposed. Any proposed impacts to wetlands or waters resulting from road or utility crossings and associated grading operations will be avoided or minimized to the extent feasible. If impacts cannot be avoided or minimized, ROI Property Group, LLC will obtain Clean Water Act (CWA) Section 404 Permit authorization from the USACE prior to construction. Any wetlands or waters that occur within private lots will be protected by easements, codes, covenants and restrictions (CCR's) and therefore impacts by private land owners will be prohibited.

6.4 Weeds

Weeds observed on Site included three List B noxious weed species and two List C noxious weed species (CDA, 2018a). Suppression is required for all List B species. Site development typically causes weeds to increase due to increased earth disturbance and new weeds being brought in (on vehicles, on shoes, in fill material, in landscaping supplies, etc.). The following recommendations are intended to minimize negative impacts and increase positive impacts:

1. Introduce biological control agents for weed control as soon as possible.
2. Implement an integrated noxious weed management plan that begins as soon as possible, continues through construction, and is taken over and implemented by the Metropolitan District following construction. Control of List B species should be the highest priority.
3. Include requirements in the CCRs that landowners manage weeds on their property per the Colorado Noxious Weed Act and El Paso County guidelines.
4. Prohibit importation of fill dirt and landscaping material from other locations unless it is certified as weed free.

6.5 Wildfire Hazard

The Site is comprised entirely of herbaceous prairie and wetland vegetation designated as "Low Hazard – Non Forested" and has no forested (high hazard) areas. Therefore, it is not subject to the wildland areas requirements and does not require the preparation of a Wildland Fire and Hazard Mitigation Plan (Figure 6).

6.6 Wildlife Communities

The impact to wildlife is similar to that for vegetation. Species that occur in wetland and riparian habitat are expected to benefit from Open Space protection. Implementation of the stormwater management plan will assist in protecting water quality in the drainages, to ameliorate development impacts on aquatic wildlife species. Many prairie specialist species avoid areas with buildings, overhead powerlines, and trees; thus, the

project is expected to have the most significant negative impact on these species. The following, additional recommendations are intended to reduce impacts to wildlife:

1. Limit the use of herbicides, pesticides, and fertilizers as they can negatively impact aquatic wildlife species.
2. Minimize the installation of fencing. When fencing is needed, use wildlife friendly fences or include specific wildlife crossings along fence lines. Pronghorn are of particular concern because they do not jump over fences and can be injured by barbed-wire fences.
3. Road crossings over the drainages should be designed to enable wildlife underpass and allow use the drainages as movement corridors to reduce collisions with vehicles.
4. Dogs should be kept in fenced pens and be leashed when on walks. At least one designated off-leash area for dogs should be provided, as this will increase compliance with leash rules in other areas.
5. Cats should no be allowed outdoors because they kill birds and native rodents. Cats may also be eaten by foxes and coyotes.

6.7 Federal Listed Species

The Site is not located within any USFWS designated critical habitat known occupied habitat for federally designated threatened or endangered species, including the Preble's meadow jumping mouse. Therefore, no direct or indirect impacts to federally designated threatened or endangered species are expected to occur from the Project.

6.8 Raptors and Migratory Birds

The Project is expected to have mixed impacts on raptors and migratory birds. Preservation of Open Space along the Creek and an expected increase in woody riparian vegetation once cattle are removed will likely have a positive impact on the birds that use this habitat. The project is expected to have slight negative impact on forest birds and prairie birds due to habitat alteration and increased disturbance by people, dogs, and cats. Negative impacts can be minimized by following the recommendations in the vegetation and wildlife sections.

7.0 REGULATIONS AND RECOMMENDATIONS

7.1 Clean Water Act

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into waters of the U.S. (including wetland habitat) protected by the Act without a valid permit. Ecos identified jurisdictional wetland habitat and WOUS along Drainage C/D. The current site plan indicates that impacts to jurisdictional wetlands and waters will be avoided (refer to Figure 2). However, if the Site plan is revised and impacts to any

wetlands or waters are deemed unavoidable after impact minimization efforts, a Clean water Act, Section 404 Permit must be authorized by the USACE prior to construction.

7.2 Endangered Species Act

The Site is not located within any USFWS designated critical habitat or known occupied habitat for federally designated threatened or endangered species, including the Preble's meadow jumping mouse. Therefore, no direct or indirect impacts to federally designated threatened or endangered species are expected to occur from the Project. Therefore, the ROI Property Group, LLC is not required to initiate consultation with the USFWS under the ESA, unless a federal authorization/permit is required, or federal funding is received for the Project. However, to ensure impact avoidance and ESA compliance, Ute ladies'-tresses orchid (*Spiranthes diluvialis*) surveys should be implemented during the blooming period (i.e., August) for all wetland areas to be impacted, including road and trail crossings, utility installation areas, and stormwater outfalls.

7.3 Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

No raptor nests have been mapped within one mile of the Site (COGCC, 2018) and no migratory bird nests were observed within the Site. However, given the transitory nature of these species ecos recommends a nesting bird inventory immediately prior to construction to identify any new nests within the Site or within the CPW recommended buffers of the Site. If these species are found to be present, construction activities should be restricted during the breeding season near any newly identified nests.

7.4 Colorado Noxious Weed Act

In order to ensure Project compliance with the Act, the Noxious Weed Management Plan referenced in Section 3.5.3 of this Report should be implemented, and further site-specific weed management should be implemented on an ongoing basis, starting as soon as feasible.

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Appendix A
USDA Soil Data

Appendix B

Commitment Letter to Provide Fire and Emergency Services

Appendix C
USFWS IPaC Trust Resources Report

Appendix D
Mineral Estate Owner Certification
and
U.S. Mail Receipts

Appendix E
Professional Qualifications

Figure 8

PMJM Habitat Map

Legend

-  2005 CPW PMJM Potentially Occupied Range
-  2010 USFWS PMJM Critical Habitat
-  Saddlehorn Ranch Site

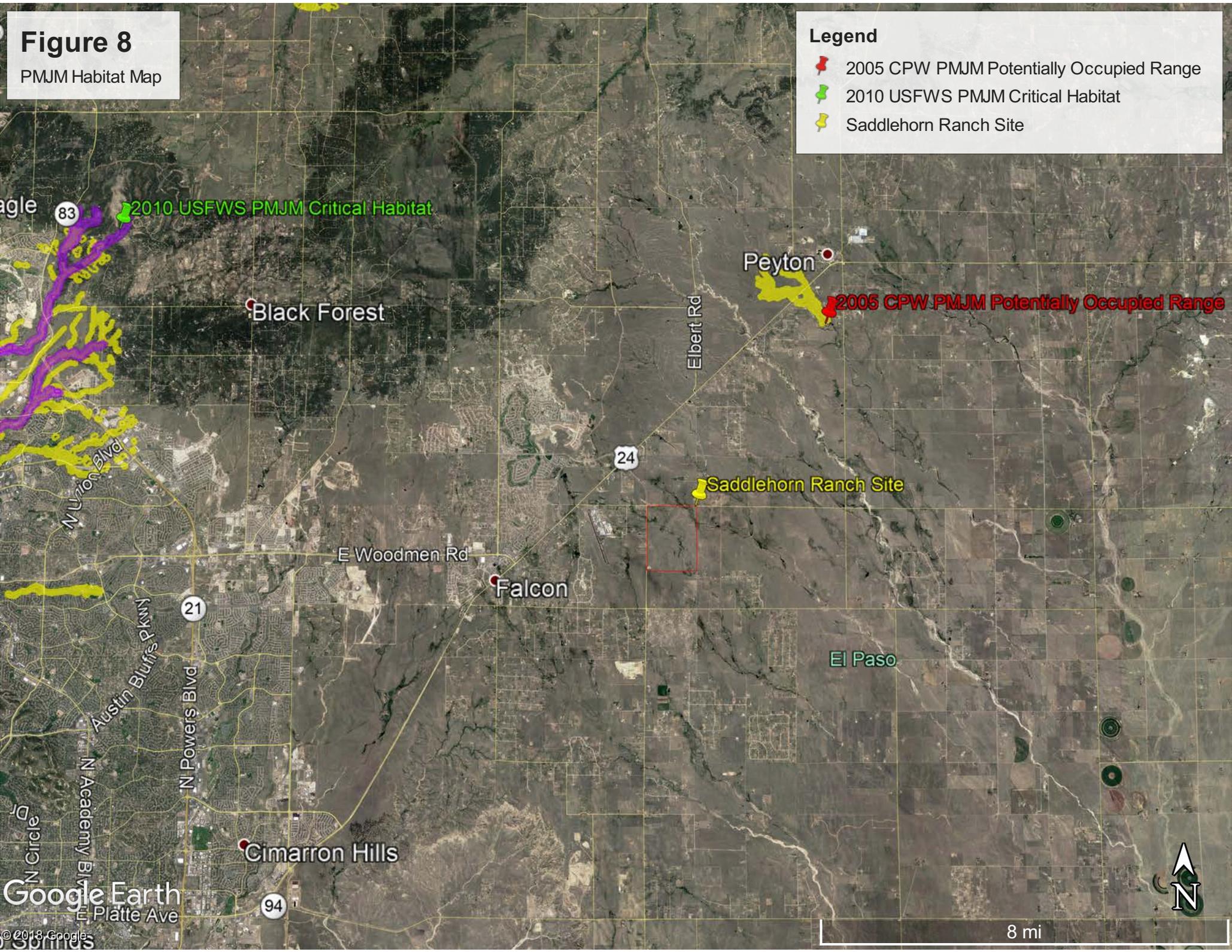


Figure 7

USFWS PMJM Trapping
Location Map

Legend

-  Saddlehorn Ranch Site
-  Trapped Not Found

