

# CDOT PROJECT IM 0703-294

## I-70/32<sup>nd</sup> AVENUE INTERCHANGE BIOLOGICAL SURVEY

### TECHNICAL REPORT

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## **ABBREVIATIONS AND ACRONYMS**

BA	Biological Assessment
BCC	Bear Canyon Consulting, LLC
CDOT	Colorado Department of Transportation
CDOW	Colorado Division of Wildlife
CITES	Convention on International Trade in Endangered Species
CNHP	Colorado Natural Heritage Program
CO	Colorado
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DDT	Dichloro-diphenyl-trichloroethane
EA	Environmental Assessment
ERO	ERO Resources Corporation
ESA	Endangered Species Act of 1973 as Amended
FC	Federal Candidate
FE	Federal Endangered
FHWA	Federal Highway Administration
FP	Federal Proposed
FR	Federal Register
FT	Federal Threatened
I-70	Interstate Highway 70
Inc.	Incorporated
LLC	Limited Liability Corporation
LRT	Golden Light Rail
MBTA	Migratory Bird Treaty Act of 1918
msl	Mean Sea Level
NDIS	Natural Diversity Information Source
NEPA	National Environmental Policy Act of 1969 as Amended
NMFS	National Marine Fisheries Service
NRSI	Natural Resource Services, Inc.
OSMP	Open Space and Mountain Parks
PMJM	Preble's Meadow Jumping Mouse ( <i>Zapus hudsonius preblei</i> )
RMBO	Rocky Mountain Bird Observatory
RTD	Regional Transportation District
SC	State Species of Concern
SE	State Endangered
SH 58	State Highway 58
ST	State Threatened
URL	Uniform Resource Locator
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator

## **1.0 INTRODUCTION**

In accordance with the National Environmental Policy Act of 1969 (NEPA) and its related regulations, the Federal Highway Administration (FHWA), as the Lead Agency, in cooperation with the Colorado Department of Transportation (CDOT) as the Applicant Agency, is preparing an Environmental Assessment (EA) for proposed improvements to the Interstate Highway 70 (I-70)/32nd Avenue Interchange (the Proposed Action) and associated local agency projects. The project is proposed by the City of Wheat Ridge. Natural Resource Services, Inc. (NRSI) was contracted on August 30, 2005 by Felsburg Holt & Ullevig (FHU), acting on behalf of CDOT and the City of Wheat Ridge, to conduct a biological survey for the I-70/32nd Avenue Interchange EA. The detailed information included in this report will be incorporated into the EA.

The purpose of this biological survey report is to review the proposed I-70/32nd Avenue Interchange Improvements Project in sufficient detail to determine to what extent the Proposed Action may affect any threatened, endangered, proposed, or sensitive species. This report is prepared in accordance with legal requirements set forth under NEPA as amended (42 U.S.C. 4321 et seq.), Section 7 of the Endangered Species Act (ESA) of 1973 as amended [16 U.S.C. 1536(c)] and follows standards established in U.S. Fish and Wildlife Service (USFWS), FHWA, and CDOT NEPA and ESA guidance documents. The following report describes the methods used and the results of the biological survey.

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## 2.0 PROJECT LOCATION

The I-70/32nd Avenue Interchange project is located in the western part of the Denver metropolitan area, as shown in **Figure 2-1**. The project area falls partially within the cities of Wheat Ridge and Lakewood and within unincorporated Jefferson County (see **Figures 2-1** and **2-2**). The City of Arvada is located north of the study area, and the City of Golden is located to the west.

The project area is shown in **Figure 2-2**. It is bounded on the north by Colorado State Highway 58 (SH 58) and its associated frontage road immediately to the south; on the east by I-70, Youngfield Street, and Ward road; on the south by 32nd Avenue, and on the west by McIntyre Street. The general coordinates are 39° 46' 00" N latitude and 105° 09' 00" W longitude (UTM Zone 13 487,500E and 4,402,000N). The project area can be found on the U.S. Geological Survey (USGS) Golden, CO 7.5 minute topographic quadrangle at the following locations:

- ▶ SE1/4 of Section 24 in Township 3 South, Range 70 West of the 6th Prime Meridian, Golden, Colorado quadrangle
- ▶ NE1/4 of Section 25 in Township 3 South, Range 70 West of the 6th Prime Meridian, Golden, Colorado quadrangle
- ▶ S1/2 of Section 19, Township 3 South, Range 69 West of the 6th Prime Meridian Golden, Colorado quadrangle
- ▶ NW1/4SW1/4 of Section 20, Township 3 South, Range 69 West of the 6th Prime Meridian Golden, Colorado quadrangle
- ▶ W1/2 of section 29, Township 3 South, Range 69 West of the 6th Prime Meridian, Golden Colorado quadrangle
- ▶ N1/2 of Section 30, Township 3 South, Range 69 West of the 6th Prime Meridian Golden, Colorado quadrangle
- ▶ NW1/4 of Section 32, Township 3 South, Range 69 West of the 6th Prime Meridian, Golden, Colorado quadrangle

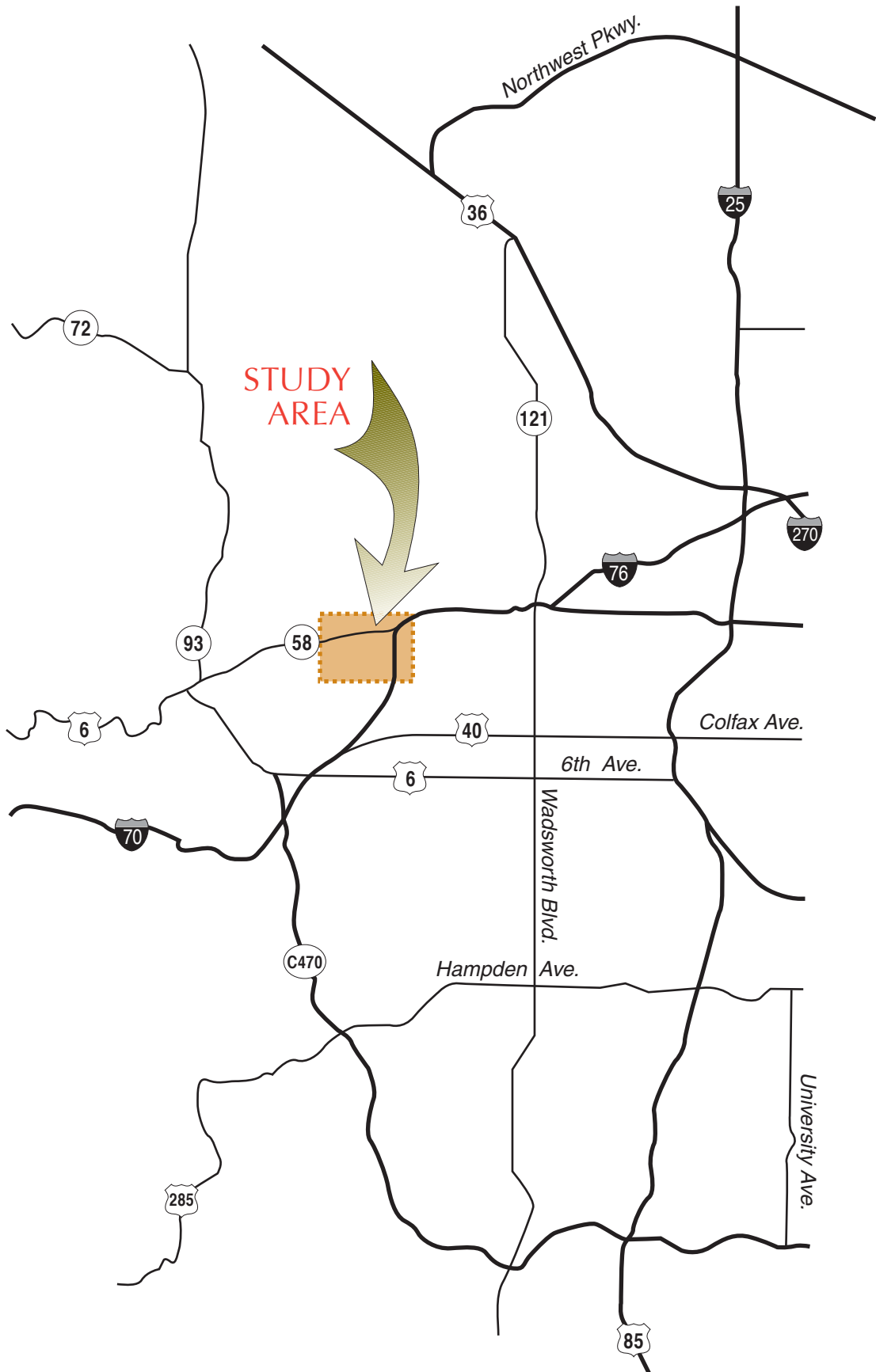


Figure 2-1

**Project Location**



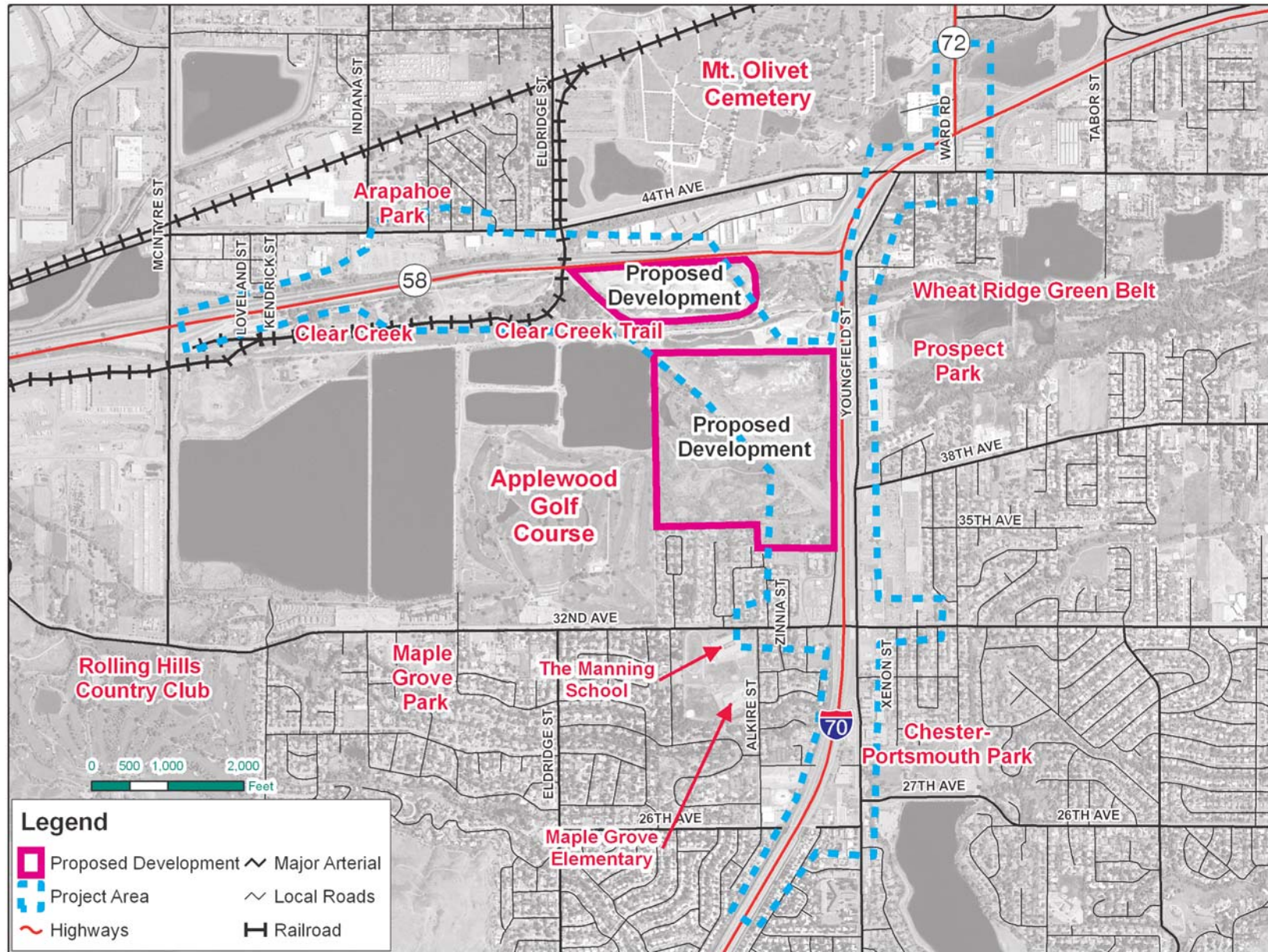


Figure 2-2  
Project Area

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## 3.0 PROJECT DESCRIPTION

The I-70/32<sup>nd</sup> Avenue Interchange improvement process began with the development of a broad range of alternatives. The *I-70/32<sup>nd</sup> Avenue Interchange System Level Feasibility Study* (FHU 2005) examined 21 alternatives and nine sub-alternatives. The System Level Feasibility Study, which was approved by the Colorado Transportation Commission in September 2005, advanced three alternative packages for further study in the EA. Technical screening and evaluation narrowed down the list of alternatives and resulted in identification of the Proposed Action. Prior to the initiation of the EA, a system level feasibility study was conducted (FHU 2005), which considered numerous alternatives within this study area. The system level feasibility study recommended three alternative packages (alternative packages 1, 2, and 3) for further consideration as part of the EA based on the design and traffic analysis and public input received.

### 3.1 Proposed Action

The Proposed Action is shown on **Figure 3-1** and consists of the following series of elements:

- ▶ **New I-70/32<sup>nd</sup> Avenue Interchange Hook Ramps**
  - Construction of off-set hook ramps at the I-70/32<sup>nd</sup> Avenue interchange with the westbound hook ramps located north of 32<sup>nd</sup> Avenue at approximately 38<sup>th</sup> Avenue and the eastbound hook ramps located at Youngfield Street and 27<sup>th</sup> Avenue
  - Construction of a third I-70 bridge over 32<sup>nd</sup> Avenue for the I-70 westbound ramp traffic
  - Closure of the existing westbound I-70 off-ramp that exits to 32<sup>nd</sup> Avenue. The existing westbound I-70 on-ramp would remain open but access would be limited to eastbound 32<sup>nd</sup> Avenue traffic only
  - Reconstruction and restriping of Youngfield Street between 27<sup>th</sup> Avenue and approximately 30<sup>th</sup> Avenue to achieve a 5-lane roadway section
- ▶ **32<sup>nd</sup> Avenue Improvements**
  - Widening of 32<sup>nd</sup> Avenue between approximately Alkire Street and approximately Xenon Street and the widening of Youngfield Street between approximately 35<sup>th</sup> Avenue and 30<sup>th</sup> Avenue in the vicinity of the I-70/32<sup>nd</sup> Avenue interchange
  - Connection of Cabela Drive with 32<sup>nd</sup> Avenue west of I-70 (40<sup>th</sup> Avenue to 32<sup>nd</sup> Avenue)
- ▶ **New SH 58/Cabela Drive Interchange**
  - Construction of a new diamond interchange on SH 58 west of Eldridge Street and connection of Cabela Drive to this interchange
  - Connection of Cabela Drive with 44<sup>th</sup> Avenue north of the new interchange on SH 58
- ▶ **I-70/Ward Road Interchange**
  - the Ward Road and westbound I-70 on-ramp intersection to add an additional southbound left turn lane onto the ramp and widen the ramp to receive this lane
  - Addition of a second right-turn lane for the eastbound I-70/Ward Road off-ramp

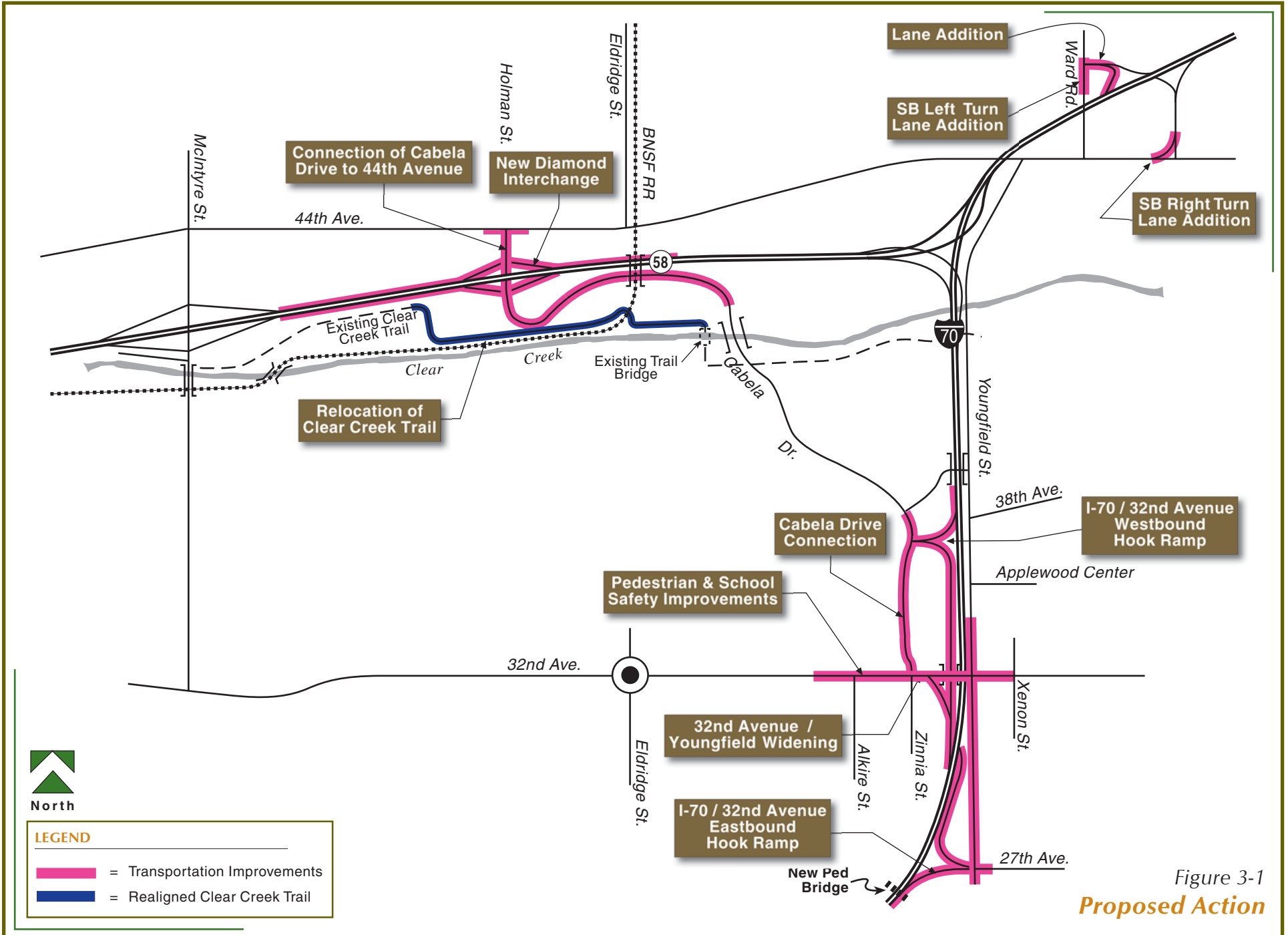


Figure 3-1  
Proposed Action

▶ **Bicycle/Pedestrian Improvements**

- Relocation of the Jefferson County Open Space Clear Creek trail in the vicinity of the new SH 58/Cabela Drive interchange
- Replacement of the 32<sup>nd</sup> Avenue trail detached sidewalk along the south side of 32<sup>nd</sup> Avenue from Alkire Street to Cabela Drive with an attached sidewalk
- Improvements to pedestrian and school safety along 32<sup>nd</sup> Avenue
- Construction of an Americans with Disabilities Act (ADA) compliant pedestrian bridge at 27<sup>th</sup> Avenue to replace the existing pedestrian bridge at 26<sup>th</sup> Avenue as part of the eastbound I-70 hook ramps
- Provisions for Jefferson County Open Space Clear Creek trail access through the development site from 32<sup>nd</sup> Avenue
- Wider sidewalks under I-70 on the south side of 32<sup>nd</sup> Avenue to better accommodate bicycles and pedestrians

### **3.2 Local Agency Projects**

The City of Wheat Ridge submitted an application to CDOT for construction of a series of local agency projects that are common to each of the three alternative packages presented in the System Level Feasibility Study and that would be independent and stand on their own merits should no other improvements take place. The local agency projects do not preclude any of the alternatives evaluated in this EA. The local agency projects include:

- ▶ Construction of the 40<sup>th</sup> Avenue underpass of I-70
- ▶ Widening of Youngfield Street from 38<sup>th</sup> Avenue to 44<sup>th</sup> Avenue
- ▶ Construction of Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek

These local agency projects are to be completed by the City of Wheat Ridge as separate projects that are not dependent on the interchange improvements or on federal funding and thus are included in the travel demand forecasting for the traffic analysis. Access approval through a Categorical Exclusion allowed access to interstate right-of-way to accommodate the 40<sup>th</sup> Avenue underpass of I-70 and the widening of Youngfield Street from 38<sup>th</sup> Avenue to 44<sup>th</sup> Avenue. Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek is a local agency project and can proceed without FHWA and CDOT approval. As a local agency action not requiring CDOT right-of-way, FHWA/CDOT approval for construction of Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek is not required; however, environmental permitting for these projects such as the Clean Water Act and other relevant environmental regulations will be the responsibility of the local agency or developer.

#### **3.2.1.1 Youngfield Street Widening from 38<sup>th</sup> Avenue to 44<sup>th</sup> Avenue**

The widening of Youngfield Street would occur from 38<sup>th</sup> Avenue north to 44<sup>th</sup> Avenue. From 32<sup>nd</sup> Avenue north to 38<sup>th</sup> Avenue, Youngfield Street is already a five lane facility; the widening

of Youngfield Street would extend this cross-section further north to its terminus at 44<sup>th</sup> Avenue. The widening of Youngfield Street from 38<sup>th</sup> to 44<sup>th</sup> Avenue, from its current two lane configuration, would incorporate two additional through lanes in each direction and a center left turn lane at intersections.

The bridge over Clear Creek on Youngfield Street is wide enough for four lane usage, but currently only two lanes are being used. The barriers blocking the additional two lanes on the bridge would be removed and the bridge would begin to function as four 12-foot lanes.

The Youngfield Street improvements would also incorporate needed turn lanes at the 44<sup>th</sup> Avenue intersection such that double left turn lanes from westbound 44<sup>th</sup> Avenue and double right turn lanes from northbound Youngfield Street can be accommodated. These turn lane additions are also a common element to the three short-listed alternative packages.

### *3.2.1.2 40<sup>th</sup> Avenue Underpass of I-70*

The 40<sup>th</sup> Avenue underpass of I-70 is proposed to be four lanes with a 10-foot sidewalk on the north side. Three lanes and the sidewalk would be initially constructed: one inbound to the proposed development and two outbound to Youngfield Street. Depending on the final extension of Cabela Drive to 32<sup>nd</sup> Avenue, this design could change slightly. The underpass would be designed to accommodate the potential future widening of I-70 and would accommodate all the improvements planned for the I-70 and SH 58 build out project by CDOT.

The 40<sup>th</sup> Avenue underpass would intersect with the Youngfield Service Road, creating an at-grade signed “T” intersection with the segment north of 40<sup>th</sup> Avenue. The southern segment of the Youngfield Service Road would not connect to 40<sup>th</sup> Avenue, but would continue to provide access to businesses located immediately north of 32<sup>nd</sup> Avenue on the service road. Access to the Jefferson County Open Space Clear Creek Trail would occur from the east via Youngfield Street through the 40<sup>th</sup> Avenue underpass to the northern portion of the Youngfield Service Road, and from the west via the proposed development roadway network.

### *3.2.1.3 Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek*

The construction of Cabela Drive would include a portion of 40<sup>th</sup> Avenue extending from the 40<sup>th</sup> Avenue underpass to the west where 40<sup>th</sup> Avenue would intersect with Cabela Drive, which is a north-south roadway. 40<sup>th</sup> Avenue is proposed to be a four lane facility with adjacent sidewalks through the proposed development site. From the Cabela Drive/40<sup>th</sup> Avenue intersection to the proposed development just north of Clear Creek, Cabela Drive would consist of four through lanes with a center turn lane and adjacent sidewalks. The Clear Creek bridge crossing of Cabela Drive would include three through lanes transitioning to a three through lane facility with a center turn lane north of Clear Creek. The proposed crossing of the Jefferson County Open Space Clear Creek Trail, south of Clear Creek, would be grade separated.



## 4.0 BIOLOGICAL SURVEY STUDY AREA

The biological survey study area is located in a matrix of land which has been put to a variety of commercial uses including aggregate mining, soil and equipment storage, and water storage. As a result, the area has been significantly altered from natural conditions (Arbogast et al. 2000). It does include, however, several areas of habitat that are used by a variety of wildlife species. The site is also adjacent to the Wheat Ridge Greenbelt which is centered on Clear Creek and which is home to a large number of terrestrial and aquatic species (Anderson and Stevens 2000). It is located just northeast of several large protected natural habitats including Denver Mountain Park, South Table Mountain Park, North Table Mountain, and adjacent undeveloped land south of Rolling Hills Country Club.

The study area includes a long section of Clear Creek, a major tributary of the South Platte River, and associated irrigation and drainage ditches as well as several large holding ponds for water used by the Coors Brewing Company (see **Figure 2-2**). Clear Creek parallels SH 58 to the south through the study area, crossing beneath I-70 south of the I-70/SH 58 Interchange.

Some mature riparian forest dominated by an overstory of cottonwood (*Populus sp.*), boxelder (*Acer negundo*), Siberian elm (*Ulmus pumila*), and willow (*Salix spp.*) species exists in the area adjacent to Clear Creek. Forested, scrub-shrub and emergent wetlands are also scattered throughout the area. Upland vegetation consists of a combination of small patches of reseeded native shortgrass prairie species surrounded by large areas which are dominated by non-native grasses and a large variety of native and non-native forbs and noxious weed species. The dominant upland shrub is rubber rabbitbrush (*Chrysothamnus nauseosus*) while the dominant riparian and wetland shrub is coyote willow (*Salix exigua*).

Highway rights-of-way in the study area have been highly disturbed in the past and are dominated by non-native grasses and weedy forbs. The southwestern portion of the study area has been developed as a golf course while the southeastern portion consists primarily of residential development. The study area is surrounded on the north by industrial development on the north side of SH 58 and on the east by residential and light commercial development on the east side of I-70. A railroad line supplying the Coors Brewing Company enters the study area from the north and parallels the north side of Clear Creek. The railroad line services a grain elevator complex located in the northwest corner of the study area which is owned by Coors Brewing Company as well as the primary Coors Brewing Company industrial complex which is located immediately west of McIntyre Street.

If constructed, the proposed project would primarily impact weedy grassland which has already been severely impacted by mining and industrial uses in the past. Some mature hardwoods may be impacted along the frontage road south of SH 58, especially if the Cabela's Drive interchange with SH 58 is selected. Some wetlands associated with the SH 58 roadway drainage system may also be impacted by all alternatives. Wetlands associated with Clear Creek would probably not be affected by permanent impacts associated with bridge

construction, other than some shading. Construction access for any of the construction would probably not require any new road construction and, therefore, probably would not impact any significant habitat areas. Permanent and temporary impacts to wildlife in the area would primarily include noise and disturbance impacts evidenced during construction and subsequently from increased highway traffic activity and associated highway noise.

## 5.0 LEGAL CONTEXT

Threatened, endangered, and special status species that are addressed in this section include: 1) species which are federally listed as threatened or endangered and those that are proposed or are candidates for listing under the ESA; 2) species listed by the Colorado Division of Wildlife (CDOW) as threatened, endangered, or as species of special concern pursuant to the Colorado Wildlife Commission Regulations, Chapter 10; and 3) species of special status identified by the Colorado Natural Heritage Program (CNHP). CNHP has developed categories of imperilment for species and vegetative communities not appearing on federal or state lists.

### 5.1 *Federal Threatened Or Endangered Species*

The ESA provides protection to designated species and includes protection of critical habitat necessary for a species' persistence. Critical habitat is defined as "areas of a listed species' habitat that are designated as essential for the conservation of that species and which may require special management considerations or protection" [16 USC § 1532(5A)]. A government action that "may affect" a threatened or endangered species or its critical habitat requires consultation with the USFWS pursuant to Section 7 of the ESA. Federally listed threatened or endangered species are defined as follows:

- ▶ **Federal Endangered (FE)** species are species which are in danger of extinction throughout all or significant portions of their range [16 USC § 1532(6)]
- ▶ **Federal Threatened (FT)** species are species which are likely to become an endangered species within the foreseeable future throughout all or a significant portion of their range [16 USC § 1532(20)]
- ▶ **Federal Proposed (FP)** species are those for which the USFWS has received adequate information for listing as either threatened or endangered and for which a proposed rule has been published in the Federal Register
- ▶ **Federal Candidate (FC)** species for listing are species for which the USFWS has on file sufficient information on biological vulnerability or threats to support a proposal to list as endangered or threatened, but for which development of a proposed listing regulation is precluded by other higher priority listing activities (USFWS 1983)

### 5.2 *State Threatened, Endangered, Or Species Of Special Concern*

The State of Colorado designates threatened and endangered animal species under the authority of CRS 33-2-105 and Colorado Wildlife Commission Regulations Ch. 10, Article IIA. The List is compiled by CDOW biologists and automatically includes species listed under the ESA. Colorado listed species are defined as follows:

- ▶ **State Endangered (SE)** species or subspecies are those whose prospects for survival or recruitment within the state are in jeopardy
- ▶ **State Threatened (ST)** species or subspecies are those not in immediate jeopardy of extinction but which are vulnerable because there are small numbers, restricted ranges, low recruitment, or low survival
- ▶ **State Species of Concern (SC)** are species that have been removed from state listing within the last five years, are proposed for federal listing or as candidates, or have experienced a decline in distribution or density

### **5.3**     *CNHP Ranked Species*

CNHP has developed its own ranking system with global imperilment ranks that are based on the range-wide status of a species and state imperilment ranks based on the status of a species within the state of Colorado. CNHP global/state imperilment ranks are listed as follows:

- ▶ **G1/S1** – Critically imperiled globally/statewide because of rarity (5 or fewer occurrences in the world/state; or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction
- ▶ **G2/S2** – Imperiled globally/statewide because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range
- ▶ **G3/S3** – Vulnerable throughout its range or found locally in a restricted range (21 to 100 occurrences)
- ▶ **G4/S4** – Apparently secure globally/statewide, though it might be quite rare in parts of its range, especially at the periphery
- ▶ **G5/S5** – Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery

## 6.0 BIOLOGICAL SURVEY AND EVALUATION PROCESS

### 6.1 Methods

Bear Canyon Consulting, LLC (BCC) and Natural Resource Services, Inc. (NRSI) conducted a review of the literature and interviews with USFWS, CDOW, and CNHP officials, the results of which were used to develop a list of threatened, endangered, and special concern species that might be found in the study area. The likelihood of occurrence of each of these species in the Project Area during the survey period was determined by the presence of suitable habitat, known distribution records, and relative abundance. No trapping or photo surveys were undertaken.

Records of rare plants exist only in areas where efforts to find a particular plant have been conducted, thus many areas in the state have not been surveyed. Therefore, habitat distribution was used as the primary tool for determining the possible occurrences of plant species in unsurveyed areas. Field surveys were conducted between August 30, 2005 and September 30, 2005 for the Ute's Ladies-tresses orchid (*Spiranthes diluvialis*) and the Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) (Johnson and Ruggles 2005). Although the optimal survey window was missed for these species, USFWS accepted the findings from this survey (USFWS 2005d, see **Appendix A**) which are also supported by other similar findings in the immediate area (CH2M HILL 2001b, Larson and Mangle 1998, Savage and Savage, Inc. 2004a, Ibid 2004d, USFWS 2002b, Ibid 2004c, Ibid 2004d, Weiland Sugnet, Inc. 2001b). Systematic surveys were also completed by NRSI and BCC during that time period for fork-tipped three-awn grass (*Aristida basiramea*). The chances of rare plants occurring within the study area are limited since this is an area that has been historically developed for industrial uses – primarily aggregate extraction – and is highly disturbed (Arbogast et al. 2000), whereas, most rare plant species are associated with undisturbed, mature seral stage habitats which possess unique features.

Species which were initially considered for evaluation are listed (see **Table 6-1**). Species which were evaluated and resulting conclusions are listed (see **Table 6-2**).

### 6.2 Considered Species

Initially considered species included federally listed threatened, endangered and candidate species identified by the USFWS (USFWS 2002c), state listed species identified by CDOW (CDOW 2003) and special status species listed by the CNHP (CNHP 2004, CNHP 2005) which potentially may be found in Jefferson County, Colorado. The current federal, state and CNHP status for each species. Species that are listed as federally threatened or endangered, but that have been extirpated from Colorado, were not included in this analysis (see **Table 6-1**). These include the brown bear (*Ursus arctos*), gray wolf (*Canis lupus*), and bison (*Bison bison*). Wolves may migrate into Colorado from the reintroduced populations in the northern Rocky Mountains (as evidenced by a female wolf radio collared in Yellowstone and found dead along I-70 near Dumont in June 2004) but are not now known to occur in Colorado (Skiba, CDOW, personal communication 2005).

**Table 6-1 Federal, State and CNHP Special Status Species**

Common Name	Scientific Name	Status	Evaluated?	Reason for Evaluation or No Evaluation
<b>Birds</b>				
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FT	Yes	Observed in vicinity.
Eskimo curlew	<i>Numenius borealis</i>	FE	No	Occurrence very unlikely.
Ferruginous hawk	<i>Buteo regalis</i>	CO-SC G4/S3	Yes	Observed in vicinity.
Mexican spotted owl	<i>Strix occidentalis lucida</i>	FT	No	No habitat in study area.
Western burrowing owl	<i>Athene cucicularia</i>	CO-ST G4/S3	No	No habitat (prairie dogs) in the study area.
<b>Mammals</b>				
Black-footed ferret	<i>Mustela nigripes</i>	FT	No	No habitat (prairie dogs) in the study area.
Canada lynx	<i>Lynx canadensis</i>	FT	No	No habitat in the study area.
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	FT	Yes	Verified in the county.
<b>Herpetofauna</b>				
Common garter snake	<i>Thamnophis sirtalis</i>	CO-SC	Yes	Verified in vicinity.
Northern leopard frog	<i>Rana pipiens</i>	CO-SC G5/S3	Yes	
<b>Fish</b>				
Common shiner	<i>Luxilus cornutus</i>	CO-ST	Yes	Verified stocked in small pond within the study area.
Iowa darter	<i>Etheostoma exile</i>	CO-SC	Yes	Verified in the county.
Northern redbelly dace	<i>Phoxinus eos</i>	CO-SE	Yes	Verified stocked in small pond within the study area.
Pallid sturgeon	<i>Scaphirhynchus albus</i>	FT	No	No habitat in study area.
<b>Insects</b>				
Hops Feeding Azure	<i>Celastrina humulus</i>	CNHP G2/S2	Yes	Potential habitat in vicinity.
Pawnee montane skipper	<i>Hesperia leonardus montana</i>	FT	No	No habitat in study area.
<b>Plants</b>				
Colorado Butterfly Plant	<i>Gaura neomexicana ssp. coloradensis</i>	FT	Yes	Potential habitat in vicinity.
Fork-tip Three Awn	<i>Aristida basiramea</i>	CNHP G5/S1	Yes	Potential habitat in vicinity.
Ute Ladies' tresses orchid	<i>Spiranthes diluvialis</i>	FT	Yes	Potential habitat in vicinity.

Common Name	Scientific Name	Status	Evaluated?	Reason for Evaluation or No Evaluation
<b>Plant Communities</b>				
Cottonwood/snowberry	<i>Populus deltoides/ Symphoricarpos occidentalis</i>	CNHP G2/G3	Yes	Potential habitat in vicinity.
<p>Status Codes (see pages 9 and 10 of the report text for a full description):                      FE - Federal Endangered                      FT - Federal Threatened                      CO-SE – Colorado State Endangered                      CO-ST – Colorado State Threatened                      CO-SC – Colorado Species of Concern</p> <p>Federal, State and CNHP special status species listed as potentially found in Jefferson County, Colorado (USFWS 2002c, CDOW 2003, CNHP 2004, CNHP 2005) which were considered for potential presence/absence within the I-70/32nd Avenue Interchange Project study area by Natural Resource Services, Inc. and Bear Canyon Consulting, LLC in September 2005.</p>				

**Table 6-2 Presence/Absence Status of Evaluated Special Status Species**

Common Name	Scientific Name	Status	Occurrence in the Study Area	Comments
<b>Birds</b>				
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FT	Occasional	Observed in vicinity
Ferruginous hawk	<i>Buteo regalis</i>	CO-SC G4/S3	Occasional	
<b>Mammals</b>				
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	FT	None	Habitat survey completed. Suitable habitat not present.
<b>Herpetofauna</b>				
Common garter snake	<i>Thamnophis sirtalis</i>	CO-SC	Possible Verified in the vicinity.	Suitable habitat present.
Northern leopard frog	<i>Rana pipiens</i>	CO-SC G5/S3	Possible	
<b>Fish</b>				
Common shiner	<i>Luxilus cornutus</i>	CO-ST	Stocked	Verified stocked in small pond within the study area since 2000.
Iowa darter	<i>Etheostoma exile</i>	CO-SC	None Known	Verified in Clear Creek but not in the study area.
Northern redbelly dace	<i>Phoxinus eos</i>	CO-SE	Stocked	Verified stocked in small pond within the study area since 2000.
<b>Insects</b>				
Hops Feeding Azure	<i>Celastrina humulus</i>	CNHP G2/S2	None Known	Potential habitat verified in the study area.

Common Name	Scientific Name	Status	Occurrence in the Study Area	Comments
<b>Plants</b>				
Colorado Butterfly Plant	<i>Gaura neomexicana</i> <i>ssp. coloradensis</i>	FT	None Known	Survey completed in the study area. Potential habitat verified.
Ute's Ladies Tresses	<i>Spiranthes</i> <i>divalvualis</i>	FT	None Known	Survey completed in the study area. Potential habitat verified.
<b>Plant Communities</b>				
Cottonwood/snowberry	<i>Populus deltoides</i> / <i>Symphoricarpos</i> <i>occidentalis</i>	CNHP G2/G3	Yes	Potential habitat in vicinity.
<p>Note :Status Codes (see pages 9 and 10 of the report text for a full description)</p> <p style="padding-left: 40px;">FE - Federal Endangered                      FT - Federal Threatened                      CO-SE – Colorado State Endangered                      CO-ST – Colorado State Threatened                      CO-SC – Colorado Species of Concern</p> <p>Presence/absence status of evaluated special status species which potentially may be found in the I-70/32nd Avenue Interchange Project study area, Jefferson County, Colorado (USFWS 2002c, CDOW 2003, CNHP 2004, CNHP 2005) as determined by Natural Resource Services, Inc. and Bear Canyon Consulting, LLC during September 2005.</p>				

Several species were excluded from consideration in this survey for reasons provided in column five of the table and as follows (see **Table 6-1**).

The black-footed ferret (*Mustela nigripes*) is listed as a federally endangered species under the ESA with potential to occur in Jefferson County, Colorado (see **Table 6-1**). The ferret is dependent on prairie dog (*Cynomys spp.*) colonies for food, shelter and kit rearing, but a prairie dog colony averaging 80 acres is required to support a viable population of ferrets (CDOW 2003). There are no prairie dog colonies in or adjacent to the study area, thus the Proposed Action will have no effect on the species.

The Canada lynx (*Lynx canadensis*) is also listed as a federally threatened species with potential to occur in Jefferson County, Colorado. The lynx requires sub-alpine forested areas (CDOW 2003). Suitable habitat does not exist within the study area; therefore, there will be no effect on the lynx.

The western burrowing owl (*Athene cunicularia hypugaea*) is a grassland species which is listed as threatened by the state of Colorado (CDOW 2003). This small long-legged owl is dependent on the presence of burrowing mammals, especially the prairie dog (*Cynomys spp.*), for nesting locations (Haug and Oliphant 1990, Pezolesi 1994, Wellicome 1994). There are no burrowing mammals within or adjacent to the study area. Therefore, no suitable habitat exists for the burrowing owl. The project will have no effect on the species.



The Mexican spotted owl (*Strix occidentalis lucida*) is also a federally listed threatened species with potential to occur in Jefferson County. The species prefers heavily forested mountainous areas and rocky canyons (CDOW 2003). Since no suitable habitat exists within the study area, there will be no effect on the Mexican spotted owl.

The pallid sturgeon (*Scaphirhynchus albus*), while federally listed as an endangered species (USFWS 2002c), is found in the larger turbid stream channels of the Missouri/Mississippi River drainage system of which the South Platte River is a part (Dryer and Sandvol 1993). The species is highly unlikely to be found in Clear Creek within the study area, however. The pallid sturgeon along with the least tern (*Sterna antillarum*), the piping plover (*Charadrius melodus*), and the whooping crane (*Grus americana*) are provided federal legal protection from water flow depletions to the South Platte River under the ESA. The I-70/32nd Avenue Interchange project will not affect water flow within Clear Creek and, therefore, will not affect the viability of any of these species.

The Pawnee montane skipper (*Hesperia leonardus montana*) is listed as federally threatened (USFWS 1987) and is also listed as a species which could potentially be found in Jefferson County (USFWS 2002c). The study area is located outside the very restricted habitat (Pikes Peak granite outcroppings) of this butterfly.

### 6.3 Analysis Of Effects

The evaluation of direct, indirect, and cumulative effects is included for each species and culminates with a biological determination of the likely effects of the project on each species. Direct effects are those occurring simultaneously with the Proposed Action. Indirect effects occur later in time or at a different location than a Proposed Action. Cumulative effects result from the incremental effects of Proposed Actions and other past, present and foreseeable future actions regardless of the action. Cumulative effects can derive from minor insignificant actions collectively occurring over a period of time.

The primary purpose of this document is not to reiterate the life history of each species, but rather to document the most relevant information needed to make the determinations. The determinations made for species protected under ESA have been defined by the USFWS and the National Marine Fisheries Service (NMFS) (USFWS and NMFS 1998) and are based on the assumption that “best management practices” are in place. Where a determination of “may adversely impact individuals but not likely to result in loss of viability” is made, it does not necessarily imply mortality, but rather, that there may be an indirect or temporary impact on individuals.

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## 7.0 CRITICAL HABITAT

Final ruling on critical habitat for the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) (PMJM), a federally listed threatened species, was published in the Federal Register on June 23, 2003 (USFWS 2003). The project area does not occur within nor will it indirectly affect designated critical habitat for PMJM (see **Figure 7-1**). No other designated critical habitat exists in the vicinity of the project area.

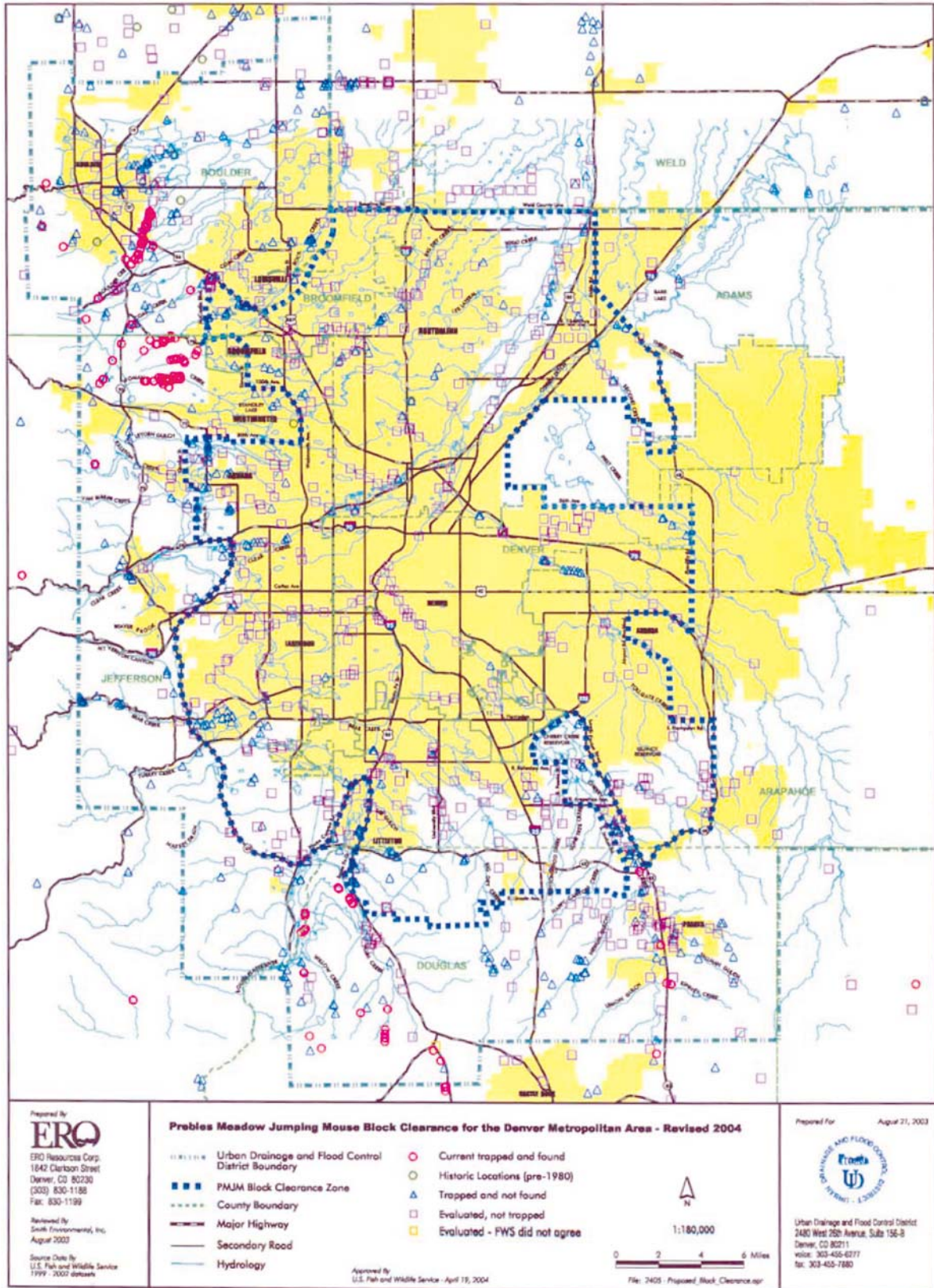


Figure 7-1

**Preble's Meadow Jumping Mouse  
Denver Metropolitan Area Block Clearance Zone**



## 8.0 CONSULTATION TO DATE

A number of biological surveys within the study area and subsequent consultations have been completed in the last several years. The following is a list of these:

- ▶ ERO Resources Corporation (ERO) (Larson and Mangle 1998) thoroughly surveyed the area immediately south of Clear Creek and immediately west of I-70 in 1998 [Lakes A5-E and A5-W subsequently known as the Everist parcel (see **Figure 8-1**) for the federally threatened Ute Ladies'-tresses orchid. Potential habitat was identified but no evidence of the orchid could be located.
- ▶ DA TI MBI Environmental (Beane 1998) also thoroughly surveyed the area immediately south of Clear Creek and immediately west of I-70 in 1998 [Lakes A5-E and A5-W subsequently known as the Everist parcel (see **Figure 8-1**) for the federally threatened Preble's Meadow Jumping Mouse. A trapping survey was conducted during that survey. Some potential habitat was identified during that survey but the researchers concluded that it was highly unlikely that the mouse occurred within the project area. The USFWS issued a letter of concurrence on December 22, 1998 (USFWS 1998a) (see **Appendix A**).
- ▶ The area immediately southwest of the I-70 and SH 58 interchange was surveyed for federally threatened and endangered species in 2001 (CH2M HILL 2001a, 2001b) (Weiland Sugnet, Inc. 2001a, 2001b, 2001c, and 2001d) as part of a comprehensive Environmental Assessment (EA) of the I-70/SH 58 Interchange Realignment Project. An EA report was completed in June of 2002 by CH2M HILL for the CDOT (CH2M HILL 2002). From the results of these studies, CDOT concluded that, while potential habitat for some listed species was present in the study area, the project would have no impact on federally listed threatened or endangered species (Powell 2001 and **Appendix A**). Letters of concurrence were issued by the USFWS on February 4, 2002 (USFWS 2002a and 2002b, see **Appendix A**).
- ▶ In 2004, an environmental constraints analysis was completed by Savage and Savage, Inc. (2004c) for the area known as the Mount Olivet South parcel (see **Figure 8-1**) immediately north of Clear Creek. The 43 acre parcel is the site of an aggregate mine cell which was mined in the past for alluvial sand and gravel. The constraints analysis included an assessment of the occurrence of federally listed threatened and endangered plant and wildlife species. The analysis concluded that redevelopment of the site would result in no adverse impacts to sensitive species [Ibid 2004a, 2004b and 2004c (see **Appendix A**)]. The USFWS issued letters of concurrence of no impact on September 9, 2004 (USFWS 2004b) and November 23, 2004 (Ibid 2004c) for PMJM and the Ute Ladies'-tresses orchid, respectively (see **Appendix A**).
- ▶ Also in 2004, an EA (Savage and Savage, Inc. 2004f) and an environmental constraints analysis (Ibid 2004e) were completed for Cabela's for the area previously surveyed in 1998 by ERO and Ronald Beane, and now known as the Coors Everist Parcel. During these assessments, the area was again surveyed for the Ute Ladies'-tresses orchid (Ibid 2004d) and the PMJM. Again, no orchids or PMJM were found within the parcel and letters of concurrence of no adverse affects from proposed development of the site were issued by the USFWS on November 23, 2004 for the orchid (USFWS 2004d) (see **Appendix A**) and on May 11, 2005 for Preble's (USFWS 2005b) (see **Appendix A**).

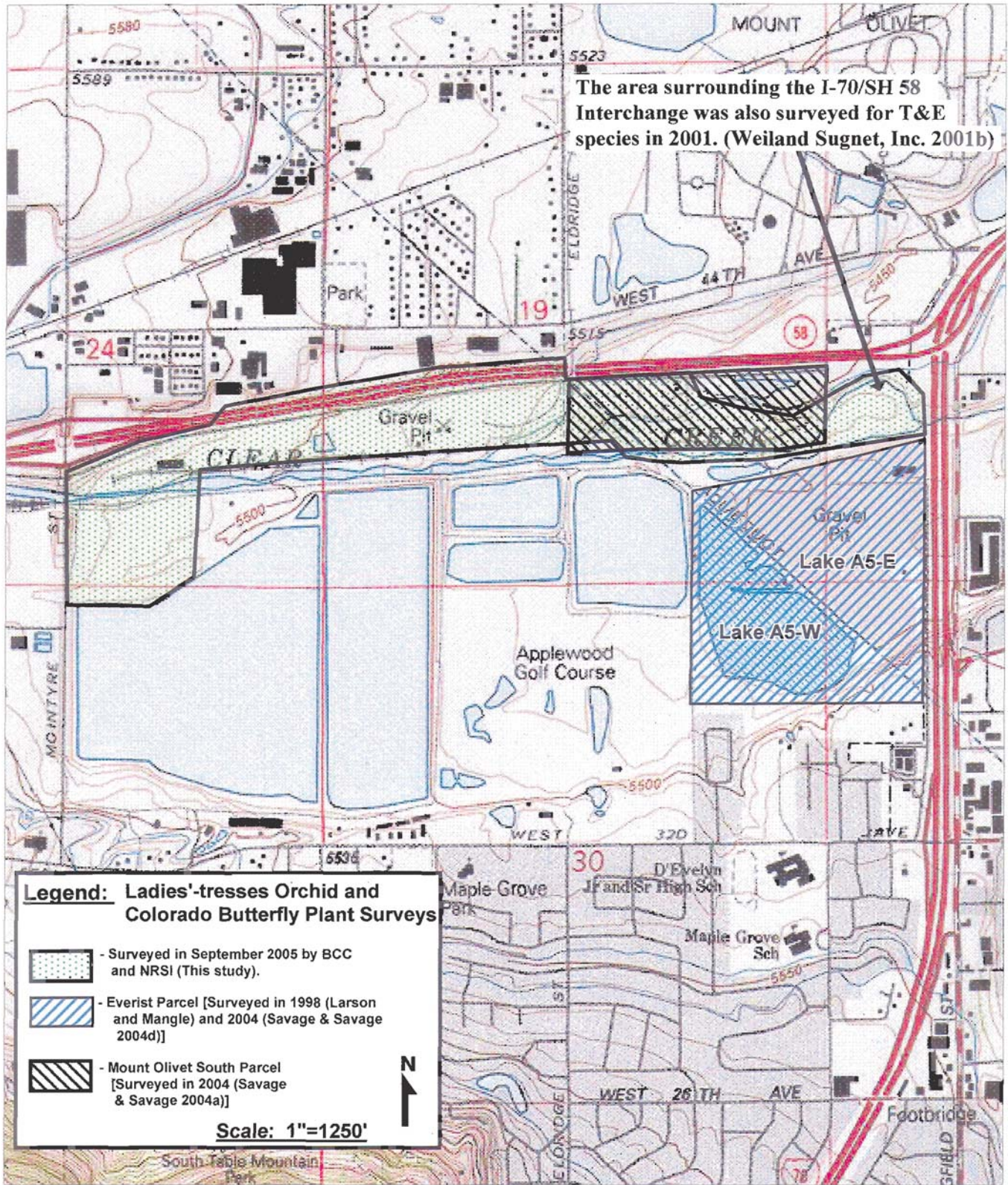


Figure 8-1

*Survey Areas for Ute Ladies'-tresses Orchid*



In April of 2005, the USFWS responded to a letter of concern regarding possible destruction of Ute Ladies'-tresses orchid habitat within the development area proposed by Cabela's (Browne, Griswold and Teitlebaum 2005; USFWS 2005a) (see **Appendix A**).

- ▶ An email response to an inquiry from Anne Ruggles of BCC, about possible fish species likely to occur within the I-70/32nd Avenue Interchange Project study area was received on November 3, 2005 by Ms. Ruggles from Paul Winkle, Fisheries Biologist, CDOW (Winkle 2005) (see **Appendix A**).
- ▶ The area immediately southwest of the I-70/SH 58 Interchange was again surveyed for the Ute Ladies'-tresses orchid and its potential habitat by NRSI in 2005 as part of this project (Johnson 2005, Johnson and Ruggles 2005). As a result of that most recent survey, most of the potential habitat identified in that area in 2001 was deemed unsuitable for both the orchid and for the Colorado butterfly plant since waters impounded behind beaver ponds on the site had flooded much of the previously identified habitat and a very thick understory of reed canarygrass, coyote willow, and other tall herbaceous plants had developed. Small areas of previously identified potential orchid and butterfly plant habitat continued to be present along the edge of Clear Creek, however. These areas would not be impacted by proposed road construction associated with the I-70/32nd Avenue Interchange Project, however. A clearance survey report for the orchid and the butterfly plant, which included the above described assessment, was submitted to the USFWS on October 19, 2005 (Johnson and Ruggles 2005) (see **Appendix A**). The area surveyed by NRSI and assessed in that report also included an extensive area paralleling Clear Creek (see **Figure 8-1**). No Ute Ladies'-tresses orchids or Colorado butterfly plants were identified within the area surveyed by NRSI in 2005, although some potential habitat was identified along Clear Creek. The USFWS issued a letter of concurrence of no likely impacts to either species on November 10, 2005 (USFWS 2005d) (see **Appendix A**).
- ▶ In 2005, a site assessment for the presence of the PMJM and its habitat was completed by BCC and NRSI for the study area associated with this project (Ruggles 2005). No PMJM or its suitable habitat were identified within the study area. The results were submitted to the USFWS in the form of a request for concurrence (Johnson 2005, Ruggles 2005) (see **Appendix A**). A letter of concurrence of no adverse impacts was issued by the USFWS on November 1, 2005 (USFWS 2005a) (see **Appendix A**).

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## 9.0 CURRENT MANAGEMENT DIRECTION

There are several programs at the federal and state level that influence the management of several of the species included in this report. However, there are no state strategies or plans which address non-listed bird, herpetofauna, or mollusk species nor does the state address plants or insects (Skiba, CDOW, personal communication 2005).

### 9.1 Existing Management Strategies

#### 9.1.1 Bird Species

Migratory Bird Treaties and Conventions: The U.S. Government has signed several treaties with its neighbors for the conservation of migratory birds. In 1916, the Secretary of State negotiated the Convention for the Protection of Migratory Birds with Great Britain on behalf of Canada that provided protection to birds migrating between Canada and the United States (39 Stat. 1702, T.S. No. 628). The Canadian Convention was supplemented in 1936 by the Convention for the Protection of Migratory Birds and Game Mammals-Mexico (50 Stat. 1311, T.S. No 912). The Convention for the Protection of Birds in Danger of Extinction and Their Environment was implemented with Japan in 1972 (25 U.S.T. 3329, T.I.A.S. No. 7990) and the Convention Concerning the Conservation of Migratory Birds and Their Environment was implemented with the Union of Soviet Socialist Republics in 1976 (19 U.S.T. 4647, T.I.A.S. No. 5604). These treaties provide for the regulation of hunting and for conservation through the enhancement of habitat. The treaties are implemented by the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§703-712 [Supp. III 1979]) which makes it unlawful, inter alia, “to hunt, take, capture, kill, . . . [or] possess” any bird protected by the Convention except as permitted (MBTA, 16 U.S.C. §703). The treaties provide for protecting migratory bird habitat from pollution, conversion and degradation as well as “. . . establish(ing) preserves, refuges, protected areas . . . intended for the conservation of migratory birds and their environments, and to manage such areas so as to preserve and restore the natural ecosystems” (Convention Between the United States of America and the Union of Soviet Socialist Republics 1978). As amended in the 1972 and 1979 treaties with Mexico and the Soviet Union, all of the treaties apply to raptors including bald eagles.

The Bald and Golden Eagle Protection Act: The Bald and Golden Eagle Protection Act (16 USC 668 et. seq.) and its associated regulations govern the taking, possession, and transportation of eagles. (§ 668c defines “take” to include “. . . or molest or disturb . . .”)

Northern States Bald Eagle Recovery Plan: This plan, established in 1983 defines the actions the federal government will take to facilitate the recovery of the Bald Eagle in the northern states (Grier et al. 1983).

Bald Eagle--Colorado: Each January CDOW, in cooperation with the USGS Snake River Field Station in Boise, Idaho, conducts wintering bald eagle surveys. The surveys are part of a nationwide effort to index the total wintering bald eagle population in the lower 48 states and to identify previously unrecognized areas of winter habitat. Colorado has been conducting bald eagle mid-winter surveys since 1987 providing critical information on eagle population trends,

distribution, and habitat in Colorado. In 2001, the total number of nesting pairs of bald eagles counted was 51 (CDOW 2002).

### **9.1.2 Fish Species**

#### **9.1.2.1 South Platte River Basin Program**

Historically 31 native fish species were found in the South Platte. Today there are 28 native and 44 nonnative species (Nesler et al. 1997). Nine of the native species are considered species of special concern due to their rare or declining status (Nesler et al. 1997). Reduced stream flows in tributaries due to irrigation and urban water projects, increased turbidity from agricultural runoff, pollution from agricultural and urban development, and stream channelization and reservoir construction have been implicated in native fish declines (Clausen et al 1989; Sidle and Faanes 1997).

In 1994, the Department of the Interior entered into a Memorandum of Agreement with Colorado, Nebraska, and Wyoming to establish the Platte River Basin Program (Sidle and Faanes 1997). Its primary focus is to address the needs of federally-listed species along the central Platte River. However, another goal is to protect and improve habitats of non-listed species of concern to try to prevent the possibility of future listings (Sidle and Faanes 1997).

## 10.0 SPECIES ASSESSMENTS AND ANALYSIS OF EFFECTS

### 10.1 Federally Listed Species

#### 10.1.1 Bald Eagle (*Haliaeetus leucocephalus*)

[Federal Threatened]

##### 10.1.1.1 Species Description

Bald eagles are large long-lived raptors that nest in the tops of large trees near bodies of water. Nests are reused annually. The reproductive rate is low. The age of first reproduction is probably 4-5 years, clutches are small, and incubation and rearing periods are long (Austin 1971, Green 1985, Grier et al. 1983). Nest sites are protected by the Eagle Protection Act (16 USC 668 et. seq.). Bald eagles are opportunistic feeders, though fish are the primary diet (Green 1985). In winter, eagles congregate in areas characterized by abundant food and perches (Grier et al. 1983, Lingle and Krapu 1986).

##### 10.1.1.2 Habitat

Access to roosts and food are critical elements of bald eagle habitat. Proximity to water, the presence of large trees with a clear flight path to one side of the tree, and excellent visibility are key features of nesting habitat (Green 1985). Nocturnal roosts consist primarily of large cottonwoods (*Populus* sp.) that offer protection from the elements and that are apparently used year after year (Green 1985, Lingle and Krapu 1986). Trees used for roosting are usually the largest and oldest in a stand and have robust horizontal limbs and open branching that facilitates landing and taking off by large birds.

##### 10.1.1.3 Distribution and Status

Bald eagles occur throughout North America. During the nesting season, they are sparsely distributed (Fuller et al. 1995). They congregate in large numbers at winter roosts (Winternitz 1998). Over the last thirty years, the factor most consistently associated with population declines has been the loss or degradation of nesting and wintering habitat (Green 1985).

Little is known about historical nesting in Colorado. In 2001, there were 51 nesting pairs and approximately 1,000 wintering individuals in Colorado (CDOW 2005a). Along Clear Creek, they have been sighted feeding on fish in former gravel pits (Gillihan, Rocky Mountain Bird Observatory [RMBO], personal communication, November 18, 2005).

##### 10.1.1.4 ESA Status and Other Organizational Rankings

The bald eagle was federally listed as an endangered species on March 11, 1967 (32 FR 4001). Since listing, populations and the number of occupied nesting territories have increased throughout much of the United States. As a result, in 1995, the bald eagle was downlisted to threatened, and in 1999, it was proposed for delisting. CNHP ranks the bald eagle G4S1BS3N

(apparently secure rangewide; breeding birds in Colorado are very rare; Colorado's winter population is vulnerable). The Bald Eagle is listed as threatened by CDOW (CDOW 2005a).

#### *10.1.1.5 Conservation Planning*

Bald eagles are protected at the national level by several federal laws and treaties in addition to the ESA. The Eagle Protection Act (16 USC 668 et. seq.) and its associated regulations govern the taking, possession, and transportation of eagles. The MBTA and associated regulations (16 USC 703-711) and treaties with Great Britain (for Canada), Russia, and Mexico provide for migratory bird conservation through the enhancement of habitat. As amended in the 1972 treaty with Mexico, all of the treaties apply to raptors including bald eagles.

Each January, CDOW, in cooperation with the USGS Snake River Field Station in Boise, Idaho, conducts wintering bald eagle surveys. The surveys are part of a nationwide effort to index the total wintering bald eagle population in the lower 48 states and to identify previously unrecognized areas of winter habitat. Colorado has been conducting bald eagle mid-winter surveys since 1987, providing critical information on eagle population trends, distribution, and habitat in Colorado. In 2001, the total number of bald eagles counted was 545 (CDOW 2002).

#### *10.1.1.6 Direct and Indirect Effects*

Roosting and future potential nest sites in deciduous forests along streams and rivers may be impacted if project activities prevent tree regeneration and/ or accelerate tree declines.

#### *10.1.1.7 Cumulative Effects*

Reduction in the threats to bald eagles across their range, especially suspension of the use of dichloro-diphenyl-trichloroethane (DDT), has reversed the population declines that triggered the ESA listing (Ostlie et al. 1997). This is reflected in their downlisting from endangered to threatened. In Colorado, there were 6 occupied nests in 1982 (Green 1985) and between 1987 and 1995, 38 active nest sites were identified (Winternitz 1998). A total of 51 active eagle nests were located in 2001 (CDOW 2002).

Construction or development activities near active bald eagle nests or winter roosts may lead to abandonment.

#### *10.1.1.8 Biological Determination*

Eagles use the Project Area opportunistically and sporadically. There are no identified eagle nests or roosts in the vicinity of the Project Area (Bibles, personal communication with Anne Ruggles, October 4, 2005). The primary impacts to bald eagles from the Proposed Action and the associated local agency projects would include construction activity visual and noise disturbances and the possible loss of potential roost trees if large cottonwood trees were to be removed. Neither the Proposed Action nor the local agency projects are likely to adversely impact bald eagles.

### 10.1.2 Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)

[Federal Threatened]

#### 10.1.2.1 Species Description

The PMJM is a rare sub-species of meadow jumping mouse whose distribution is limited to portions of Colorado and Wyoming. PMJM is a riparian obligate with very specific active season and hibernation habitat requirements (Ruggles et al. 2004).

#### 10.1.2.2 Habitat

The preferred habitat of the PMJM consists of drainages with well-developed vegetation characterized by high plant species richness and structural diversity (Bakeman 1997, Clippinger 2002). Such areas include feeding and daybed sites consisting of grassland communities with adjacent dense riparian shrubs (Choate et al. 1991, Tester et al. 1993). The riparian corridor not only supports necessary plant communities but also serves as a route of movement (Choate et al. 1991, Tester et al. 1993) and is connected to upland that provides hibernation habitat (Meaney et al. 2004, Ruggles et al. 2004).

#### 10.1.2.3 Distribution And Status

The PMJM is known, historically, from eight counties along the South Platte River and the Arkansas River drainages (Armstrong 1972, Warren 1942) though it once had a wider distribution in the tallgrass prairie across the eastern plains of Colorado and Wyoming (Fitzgerald et al. 1994). Jefferson County has been included in the Preble's overall range and areas along Clear Creek below 7,600 feet may contain suitable habitat.

#### 10.1.2.4 Esa Status And Other Organizational Rankings

The PMJM was listed as threatened under the ESA on May 13, 1998 (USFWS 1998b). It is listed as state threatened in Colorado and has a global rank of G5T2S1 (the species is demonstrably secure globally; the subspecies is imperiled globally; critically imperiled in Colorado due to extreme rarity) (CNHP 2005). On February 2, 2005, the mouse was proposed for delisting (USFWS 2005e). Until a final determination is made, PMJM remains protected as a threatened species under the ESA.

#### 10.1.2.5 Conservation Planning

The PMJM is protected as a listed threatened species at the federal level by the ESA. Critical Habitat for the mouse was designated by the USFWS and published in the Federal Register on June 23, 2003 (USFWS 2003). Use restrictions apply to critical habitat. No Critical Habitat has been designated within Project Area for this project. No other designated critical habitat exists in the vicinity of the project area.

#### 10.1.2.6 Direct and Indirect Effects

Previous and current surveys for this species yielded no individuals or recent suitable potential habitat in the Project Area (Beane 1998, Johnson and Ruggles 2005, Ruggles 2005, Savage and Savage, Inc. 2004b, Weiland Sugnet, Inc. 2001c). Therefore, this project is not likely to adversely impact the Preble's meadow jumping mouse.

#### 10.1.2.7 Cumulative Effects

The primary threats to this species are loss of wetlands and herbaceous/shrubby buffer areas surrounding them. Little suitable habitat exists in the Project Area (Ruggles 2005).

#### 10.1.2.8 Biological Determination

The study area is located adjacent to and just west of the Denver Metropolitan Area Block Clearance Zone (ERO Resources Corporation 2003, USFWS 2003) (see **Figure 7-1**). A clearance from the USFWS was previously issued for portions of the Project Area concluding that development or other actions on these portions of the site should not have direct adverse affects to PMJM (USFWS 1998a, 2002b, 2004b, and 2005b) (see **Figure 10-1**) and **Appendix A**). A clearance for the portion of the study area surveyed by BCC and NRSI in 2005 was issued by the USFWS on November 1, 2005 (USFWS 2005c) (see **Figure 10-1**) and **Appendix A**). The Proposed Action is, therefore, not likely to adversely impact the subspecies. Also, the proposed local agency projects planned for areas east of I-70 are included in the Preble's Mouse Denver Metropolitan Area Block Clearance Zone (ERO Resources Corporation 2003, USFWS 2003) (see **Figure 7-1**). Areas encompassing proposed local agency projects planned for areas to the west of I-70 have been determined by the USFWS as not anticipated to have direct adverse affects to PMJM (USFWS 1998a, 2002b, 2004b, 2005b, and 2005c) (see **Figure 10-1** and **Appendix A**).

#### 10.1.3 Colorado Butterfly Plant (*Gaura neomexicana* ssp. *coloradensis*)

[Federal Threatened]

##### 10.1.3.1 Species Description

The Colorado butterfly plant is a short-lived, early successional, perennial herb of the evening primrose family (*Onagraceae*) that grows for several years before bearing fruit once and then dying. Flowering stems are 50-80 cm tall and non-flowering plants consist of a stemless basal rosette of leaves (Marriott 1987, Fertig 1994).

##### 10.1.3.2 Habitat

The butterfly plant occurs on sub-irrigated, alluvial soils on level to slightly sloping floodplains and in drainage bottoms or along bends in wide, active meandering stream channels just upslope of the channel and requires early to mid-succession riparian habitat (USFWS 2000a). Typical habitat is open, periodically disturbed (flooded) and without dense vegetation.

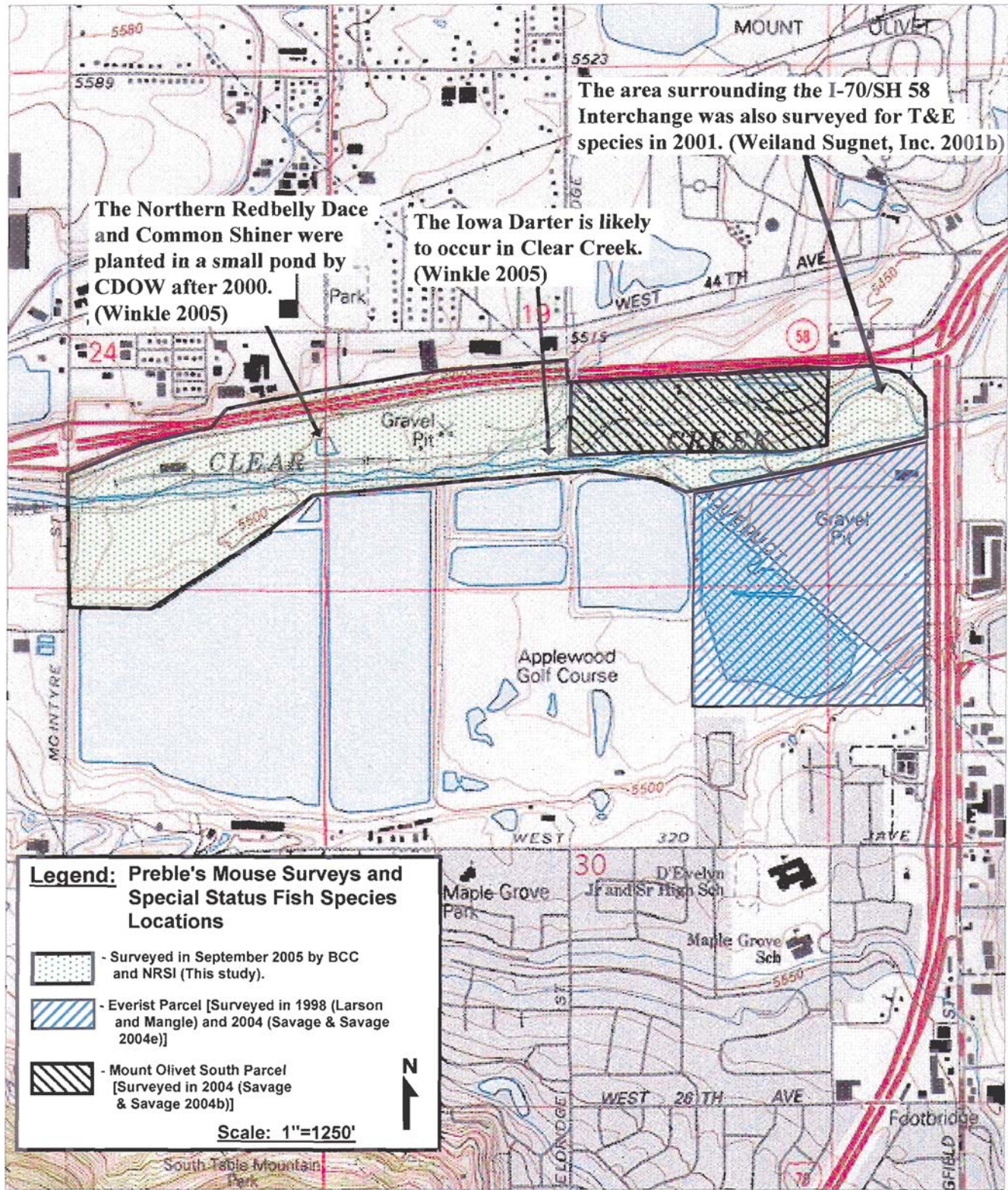


Figure 10-1

**Special Status Species Survey Area**



### *10.1.3.3 Distribution and Status*

Little is known about the historical distribution of the butterfly plant (Fertig 1994). Intensive range-wide surveys made from 1984-1986 resulted in the identification of more than 20 populations in Wyoming, Colorado and Nebraska with approximately 20,000 flowering individuals (Marriott 1987). Populations have been confirmed in an area of 6880 hectares (17000 acres) in northcentral Colorado, extreme western Nebraska, and southeastern Wyoming (Fertig 1996, USFWS 2000). Most are on private land (USFWS 2000a).

### *10.1.3.4 ESA Status and Other Organizational Rankings*

The Colorado butterfly plant was listed as threatened under the ESA (50 CFR Part 17) in 2000 (USFWS 2000). It has a global rank of G3T2S1 (the species is vulnerable through its range; the subspecies is imperiled globally; critically imperiled in Colorado due to extreme rarity) (CNHP 2005, Spackman et al. 1999).

### *10.1.3.5 Conservation Planning*

The Colorado butterfly plant is protected as a listed threatened species at the federal level by the ESA. Critical Habitat for the plant has not been designated by the USFWS. Occurrences of the plant are being monitored by the CNHP and the USFWS.

### *10.1.3.6 Direct and Indirect Effects*

A survey for this species yielded no plants in the study area (Johnson and Ruggles 2005). Therefore, this project is not likely to adversely impact the butterfly plant.

### *10.1.3.7 Cumulative Effects*

The primary threats to this species are indiscriminate use of broadleaf herbicides and disturbance of riparian areas containing native grasses. Water development, land conversion, competition from non-natives and the non-selective use of herbicides also pose threats to the plant.

Because this species exists as small, isolated populations with few individuals per population, it is susceptible to stochastic events that may cause extirpation of a population.

### *10.1.3.8 Biological Determination*

A survey for this species in 2005 yielded no plants within the study area although potential habitat was identified (Johnson and Ruggles 2005). A concurrence of no significant impact to the species was issued for the Project Area by the USFWS on November 10, 2005 (USFWS 2005d) (see **Appendix A**). The Proposed Action is, therefore, not likely to adversely impact the butterfly plant. Local agency projects which impact the Clear Creek channel may, however, impact potential Colorado butterfly plant habitat unless protective measures are implemented.



#### 10.1.4 Ute Ladies'-tresses Orchid (*Spiranthes diluvialis*)

[Federal Threatened]

##### 10.1.4.1 Species Description

The Ute-Ladies'-tresses orchid is a small, cryptic perennial, terrestrial orchid. The flowering stalk consists of few to many small white or ivory flowers clustered into a spike arrangement at the top of the stem. It blooms, generally, from late July through August (USFWS 1995).

##### 10.1.4.2 Habitat

Suitable habitat includes sub-irrigated soils along streams and open wet meadows in floodplains (Spackman et al. 1999) where the vegetation is relatively open (Jennings 1989, 1990). It typically occurs in stable wetland and seepy areas associated with old landscape features within historical floodplains of major rivers and in wetland and seepy areas near freshwater lakes or springs (USFWS 1995).

##### 10.1.4.3 Distribution and Status

The species is known to occur in Colorado, Idaho, Montana, Nebraska, Utah, Washington, and Wyoming. The populations in Colorado are in mesic riparian meadows in relict tallgrass prairie in the Fort Collins-Denver area (Jennings 1989, Spackman et al. 1999). It has been found in Jefferson County along Clear Creek; one population upstream of the study area and one downstream (Anderson and Stevens 2000, CNHP 2005).

##### 10.1.4.4 ESA Status and Other Organizational Rankings

The Ute ladies'-tresses Orchid was listed as threatened under the ESA in 1992 (USFWS 1992). It has a global ranking of G2S2 (imperiled globally; imperiled in the state because of rarity) (CNHP 2005, Spackman et al. 1999).

##### 10.1.4.5 Conservation Planning

The Ute Ladies'-tresses orchid is protected as a listed threatened species at the federal level by the ESA. Critical Habitat for the plant has not been designated by the USFWS. Occurrences of the plant are being monitored by the CNHP and the USFWS.

##### 10.1.4.6 Direct and Indirect Effects

A survey for this species, conducted within the study area by BCC and NRSI in August and September 2005, yielded no plants but potential habitat was identified within the Clear Creek channel (Johnson and Ruggles 2005). Suitable habitat for this species, therefore, occurs within the Project Area. This suitable habitat could provide future areas for population expansion of the species, if left undisturbed. Construction activities associated with the Proposed Action will not impact the Clear Creek channel so identified potential habitat will not be affected by the proposed project. The local agency project which entails the construction of Cabela Drive, to

include a bridge crossing over Clear Creek, could impact the identified potential habitat, however, unless protective measures are integrated into the construction plans.

#### *10.1.4.7 Cumulative Effects*

The primary threats to this species are indiscriminate use of broadleaf herbicides and disturbance of riparian areas and wet meadows containing native grasses. Some agricultural practices may also threaten the plant. Mowing when the plant is flowering can prevent seed set as can intensive grazing during the flowering period (USFWS 1992). Water development, land conversion, competition from non-natives, and the non-selective use of herbicides pose threats to the plant.

Because this species exists as small, isolated populations with few individuals per population, it is susceptible to stochastic events that may cause extirpation of a population.

#### *10.1.4.8 Biological Determination*

A survey of the study area was completed in August and September 2005 as a part of this work and no plants were found, although suitable habitat was identified (Johnson and Ruggles 2005). A concurrence of no significant impact to the Ute Ladies'-tresses orchid was issued for the study area by the USFWS on November 10, 2005 (USFWS 2005d) (see **Appendix A**). No work associated with the Proposed Action is planned to occur in the areas that appear to provide suitable habitat, i.e. the Clear Creek channel. Therefore, this project is not likely to adversely impact the Ute's Ladies'-tresses orchid or potential habitat. The Proposed Action is, therefore, not likely to adversely impact the butterfly plant. Local agency projects which impact the Clear Creek channel may, however, impact potential Colorado butterfly plant habitat unless protective measures are implemented.

## *10.2 Colorado Division of Wildlife Listed Species*

### *10.2.1 Ferruginous Hawk (*Buteo regalis*)*

[Colorado Species of Concern]

#### *10.2.1.1 Species Description*

The ferruginous hawk is an uncommon, locally distributed hawk common to grasslands, sagebrush, and desert scrub habitats in the Great Plains and Great Basin (Gilmer and Stewart 1983; Ehrlich et al. 1988). It is an opportunistic nester that will use trees, ledges, rock or dirt outcrops, the ground, haystacks, nest platforms, power poles, or other man-made structures (Olendorff 1973, Gilmer and Stewart 1983, Ehrlich et al. 1988, MacLaren et al. 1988, Finch 1991, Faanes and Lingle 1995). In Colorado, ferruginous hawks feed most often on prairie dogs (Kingery 1998, Preston and Beane 1996; Preston 1998) and wintering populations seem to be associated with prairie dog colonies. The ferruginous hawk feeds primarily on prairie dogs, ground squirrels, jackrabbits, and less frequently on locusts, crickets, birds, amphibians, and reptiles (Weston 1968, Gilmer and Stewart 1983, Ehrlich et al. 1988, Finch 1991, Dechant et al. 2001, Gillihan and Hutchings 2000).

#### *10.2.1.2 Habitat*

The ferruginous hawk is a bird of open grasslands and shrub steppe communities (Leslie 1992, Bechard and Schmutz 1995, Faanes and Lingle 1995, Houston 1995, Leary et al. 1998, Gillihan and Hutchings 2000). Prey availability also influences habitat selection.

#### *10.2.1.3 Distribution and Status*

Ferruginous hawks are found in Colorado year-round (Gillihan and Hutchings 2000, Kingery 1998, Preston 1998) though they are most common in winter in eastern Colorado. Johnsgard (1990) estimated that about 1,200 birds winter in Colorado, which comprises about 20 percent of the total winter population in the United States, and there are about 150 nest sites in Colorado, primarily on the eastern plains (Kingery 1998, Preston 1998).

#### *10.2.1.4 ESA Status and Other Organizational Rankings*

The ferruginous hawk is a USFWS Species of Concern (USFWS 1996) and is listed on the Convention on International Trade in Endangered Species (CITES) Appendix II species list (species which are not necessarily now threatened with extinction but which may become so unless trade is closely controlled) (CITES 2005). It is a species of special concern in Colorado (CDOW 2003) and it has a global rank of G4S3BS4N (apparently secure globally) (CNHP 2005).

#### *10.2.1.5 Conservation Planning*

Because ferruginous hawks are one of the species for which federal banding data in Colorado are inadequate, they are a priority species for the count-based monitoring plan by the Rocky Mountain Bird Observatory (Leukering et al. 2000).

#### *10.2.1.6 Direct and Indirect Effects*

There is no suitable habitat on or adjacent to the Project Area.

#### *10.2.1.7 Cumulative Effects*

Loss of nesting sites (Dobkin 1994, Commission for Environmental Cooperation 2000) and lack of prey have negatively affected ferruginous hawk populations (eradication of prairie dogs, other mid-sized rodents and rabbits have been identified as a source of negative impact on the hawk) (Commission for Environmental Cooperation 2000, Gillihan and Hutchings 2000).

#### *10.2.1.8 Biological Determination*

There is no suitable habitat on or adjacent to the Project Area, therefore, the Proposed Action and the local agency projects are not likely to adversely affect this species.

## 10.2.2 Northern Leopard Frog (*Rana pipiens*)

[Colorado Species of Concern]

### 10.2.2.1 Species Description

The northern leopard frog is a small frog in the Ranidae – the true frogs. In eastern Colorado, it is active from March through October or November and breeds in the non-flowing portions of permanent water bodies (Hammerson 1986). They hibernate underwater (Hammerson 1982, 1986; Livo 1981), forage on land or in shallow water (Hammerson 1982, Post 1972), and bask on shorelines or in shallow water. Egg masses are attached to vegetation just below the water surface in shallow, relatively warm water (Hammerson 1999). Individuals gather during breeding and at over-wintering sites (Post 1972, Gillis 1975, Livo 1981).

### 10.2.2.2 Habitat

The northern leopard frog is a wetland obligate that typically uses the banks and shallow portions of marshes, ponds, lakes, reservoirs, beaver ponds, streams, and other bodies of permanent water, including irrigation ditches and wet meadows (Hammerson 1986, 1999).

### 10.2.2.3 Distribution and Status

The northern leopard frog ranges across much of the northern continental United States and southern Canada. In Colorado, it occurs throughout the state except in the Republican River drainage and south of the Arkansas River in southeastern Colorado (Hammerson 1986, 1999).

### 10.2.2.4 ESA Status and Other Organizational Rankings

The northern leopard frog has been designated a Forest Service sensitive species in Region 3 (New Mexico and Arizona) and in Region 2 (Colorado). It is a species of special concern in Arizona and Colorado and has been assigned a global rank of G5S3 (demonstrably secure globally; rare in Colorado) (CNHP 2005).

### 10.2.2.5 Conservation Planning

There are no conservation plans in place for the northern leopard frog.

### 10.2.2.6 Direct and Indirect Effects

Roads (through direct mortality) have been identified as among the most significant threats to local amphibian populations (Grunau and Lavendar 2002, Grunau et al. 2003), and could have an effect on this frog if present in the area. Due to the highly disturbed nature of the study area and the lack of any identified northern leopard frog populations in the area, this potential indirect effect is not expected to be notable.

#### 10.2.2.7 Cumulative Effects

The primary threats to this species are loss of wetlands, deterioration of water quality, and the introduction of competitive and predatory species such as the bullfrog. Suitable habitat exists in the Project Area (Ruggles 2005). Water quality and fill impacts to riparian and palustrine wetland habitat could affect this species.

#### 10.2.2.8 Biological Determination

No individuals were found during field work within the study area although a search was not made specifically for this species. In 2000, CNHP carried out an intensive biological inventory of the Wheat Ridge Open Space Greenbelt (immediately downstream of the Project Area on Clear Creek) during which they specifically searched for the leopard frog with no success (CNHP 2000). Given the highly disturbed nature of the study area, the lack of occurrences in adjacent areas, and the proposed use of best management practices during the proposed construction to minimize impact on wetland habitat, neither the Proposed Action nor the proposed local agency projects are likely to adversely impact the frog.

### 10.2.3 Common Garter Snake (*Thamnophis sirtalis*)

[Colorado Species of Concern]

#### 10.2.3.1 Species Description

The common garter snake is a small snake up to four feet long with pale stripes on the sides of the body, a pale unmarked belly, and red and black blotches between stripes on the back (CDOW 2005d). It prefers to eat small fish, toads, frogs, tadpoles, salamanders, small birds, small mammals, reptiles, earthworms, slugs, leeches, and insects (Hammerson 1999, Stebbins 1985). It is live-bearing with 3-85 young born between May and October (Stebbins 1985).

#### 10.2.3.2 Habitat

Common garter snakes inhabit many environments including grassland, woodland, farms, city lots, scrub, and chaparral, but are most frequently found near water in marshes, ponds, prairie swales, roadside ditches, streams, sloughs, and damp meadows (Stebbins 1985). They are seldom found away from water or at isolated ponds (Hammerson 1999).

#### 10.2.3.3 Distribution and Status

The common garter snake occurs in northeast Colorado along the South Platte River and its tributaries at elevations below 6,000 feet and at 3500-3600 feet in the North Fork Republican River drainage in Yuma County. The species is distributed along the base of the Front Range where it was once common, but appears to have been extirpated from some localities including the Denver metro area (Hammerson 1999, CDOW 2005d).

#### **10.2.3.4 ESA Status and Other Organizational Rankings**

The common garter snake is a CDOW Species of Special Concern.

#### **10.2.3.5 Conservation Planning**

There are no conservation plans in place for the common garter snake.

#### **10.2.3.6 Direct and Indirect Effects**

Road mortality could potentially affect this species indirectly. However, the Proposed Action is not affecting riparian wetlands directly so the effect is not expected to be notable.

#### **10.2.3.7 Cumulative Effects**

The primary threats to this species are loss of wetland and mesic habitats, mortality from busy highways and roads, and human predation. Suitable habitat exists in the Project Area (Ruggles 2005). Construction activities fill impacts to riparian and palustrine wetland habitat (by the local agency projects) and subsequent highway mortality could adversely affect this species.

#### **10.2.3.8 Biological Determination**

No individuals were found during field work, however, a search was not made specifically for this species. Given the existing highly disturbed nature of the Project Area and the proposed use of best management practices to minimize impacts on wetland and riparian habitat during the proposed construction of the Proposed Action and the proposed local agency projects, these projects are not likely to adversely impact the common garter snake.

### **10.2.4 Northern Redbelly Dace (*Phoxinus eos*)**

[Colorado Endangered Species]

#### **10.2.4.1 Species Description**

The northern redbelly dace is a small member of the minnow and carp family (Cyprinidae) that attains an adult size of less than 2 inches (CDOW 2005c). The fish feeds on plant material as well as drift organisms, invertebrates and occasionally fish that are associated with aquatic vegetation (CDOW 2005c, Kraft et al. 2003).

#### **10.2.4.2 Habitat**

The northern redbelly dace requires cool, clear, vegetated ponds or slow moving streams with a sand substrate (Kraft et al 2003, CDOW 2005c). Populations in Colorado are found in ponds with a sand substrate along the shoreline and submerged vegetation (CDOW 2005c).

#### *10.2.4.3 Distribution and Status*

The overall range of the northern redbelly dace extends across the northern U.S. and southern Canada from Nova Scotia and Prince Edward Island west to British Columbia and the Northwest Territories (Kraft et al. 2003). In Colorado, the species was found to be native to the South Platte River basin (CDOW 2005c). In recent years, the species has been collected only from the Plum Creek drainage in the foothills south of Denver (2 specimens) and one pond associated with a tributary of Plum Creek (3 specimens) (Ibid 2005c). The fish was planted into a small isolated pond within the I-70/32nd Avenue Interchange area between 2000 and 2005 (Winkle 2005) (see **Appendix A**). This pond is part of a wetland pilot project by Coors and will reportedly be removed at the end of the pilot project.

#### *10.2.4.4 ESA Status and Other Organizational Rankings*

The Northern redbelly dace is a state listed endangered species. It is listed globally as G5S1 (demonstrably secure globally; critically imperiled in the state) (CNHP 2005).

#### *10.2.4.5 Conservation Planning*

There are no formal conservation plans in place for the Northern redbelly dace.

#### *10.2.4.6 Direct and Indirect Effects*

The Proposed Action and local agency projects are not expected to have any effects on this habitat.

#### *10.2.4.7 Cumulative Effects*

Habitat loss and alteration caused by dewatering, channelization, siltation (which covers spawning substrates), and urbanization in the Front Range corridor along with competition with introduced species have been identified as the primary causes of population declines in Colorado (CDOW 2005c).

Project activities, as proposed to be mitigated through the use of best management practices, are not likely to result in a loss of viability in Colorado or loss of species viability rangewide.

#### *10.2.4.8 Biological Determination*

No individuals were found during fieldwork, however, a search was not made specifically for this species. The proposed project locations for the Proposed Action and the local agency projects are not likely to impact the small pond in the study area where the northern redbelly dace was stocked.

## **10.2.5 Common Shiner (*Luxilus cornutus*)**

[Colorado Threatened Species]

### **10.2.5.1 Species Description**

The common shiner is a medium-sized member of the minnow and carp family (*Cyprinidae*) that attains an adult size of 4 to 6 inches in length (CDOW 2005b, NatureServe 2005). The species feeds mostly on aquatic insects (adults and larvae), algae, and other plant material (NatureServe 2005).

### **10.2.5.2 Habitat**

Common shiners prefer streams of moderate gradient with cool, clear water, and gravel bottoms which are shaded by brush or trees (CDOW 2005b, NatureServe 2005, Trautman 1957). Most streams in Colorado are silted and sedimented to some degree. Populations in Colorado may only be able to survive in transition zone streams, such as Plum Creek, where silt loads are still low (CDOW 2005b).

### **10.2.5.3 Distribution and Status**

The common shiner is found from New England and Nova Scotia, south to Virginia and west to Saskatchewan and Colorado (CDOW 2005b). The species is native to the South Platte River drainage in Colorado (Ibid 2005b). The common shiner is currently not very abundant in the state. Some individuals were planted in a small pond in the I-70/32nd Avenue study area between 2000 and 2005 (Winkle 2005) (see **Appendix A**). This pond is part of a wetland pilot project by Coors and will reportedly be removed at the end of the pilot project.

### **10.2.5.4 ESA Status and Other Organizational Rankings**

The common shiner is listed by Colorado as a state threatened species but does not have a global listing.

### **10.2.5.5 Conservation Planning**

There are no conservation plans in place for the common shiner in Colorado.

### **10.2.5.6 Direct and Indirect Effects**

The Proposed Action and local agency projects are not expected to have any effects on this habitat.



#### 10.2.5.7 Cumulative Effects

Habitat loss and alteration caused by dewatering, channelization, siltation (which covers spawning substrates), and urbanization in the Front Range corridor; and competition with introduced species have been identified as the primary causes of population declines in Colorado (CDOW 2005b).

Project activities, as mitigated, are not likely to result in a loss of viability in Colorado or loss of species viability rangewide.

#### 10.2.5.8 Biological Determination

No individuals were found during fieldwork. A search was not made specifically for this species, however. The proposed project locations for the Proposed Action and the local agency projects are not likely to impact the small pond in the study area where the common shiner was stocked.

### 10.2.6 Iowa Darter (*Etheostoma exile*)

[Colorado Species of Concern]

#### 10.2.6.1 Species Description

The Iowa darter is a small member of the perch family that attains an adult size of 2-3 inches. The fish feeds on drift organisms and invertebrates that are associated with aquatic vegetation (Copes 2005).

#### 10.2.6.2 Habitat

Iowa darters prefer cool, clear, slow moving water over a sand or organic matter substrate (Li 1968, Trautman 1957 cited in Woodling 1985). Populations in Colorado are found in lakes, over mats of rooted aquatic plants and in streams with vegetation along the stream bank extending into the water (Propst 1982). Stream specimens are normally collected from undercut banks. The species is absent in reaches lacking undercut banks (Woodling 1985).

#### 10.2.6.3 Distribution and Status

The range of the Iowa darter extends from New York to Illinois and westward to Wyoming and Montana. The species distribution in Colorado is limited to some plains streams in northeastern Colorado. Populations or specimens are known from Plum Creek, Clear Creek (Winkle 2005) (see **Appendix A**), single locations on the Saint Vrain and Big Thompson rivers (Propst 1982), the Cache la Poudre River, Lone Tree Creek, Crow Creek (Li 1968), and Eleven Mile Reservoir in South Park. Iowa darters have been introduced to the upper Colorado River Basin (Shadow Mountain Reservoir) through a bait bucket transfer or other inadvertent introduction (CDOW 2005e).

#### *10.2.6.4 ESA Status and Other Organizational Rankings*

The Iowa darter is a state listed species of concern in Colorado.

#### *10.2.6.5 Conservation Planning*

There are no conservation plans in place for the Iowa darter in Colorado.

#### *10.2.6.6 Direct and Indirect Effects*

The proposed Action is not going to affect Clear Creek so no negative effect to the Iowa darter is expected.

#### *10.2.6.7 Cumulative Effects*

Habitat loss and competition with introduced species have been identified as the primary causes of rangewide population declines (Lynch 1988). In Colorado, habitat loss has resulted from dewatering, channelization, siltation (which covers spawning substrates), and urbanization in the Front Range corridor (Nesler et al. 1997).

Project activities, as mitigated, may adversely impact individuals of the species, but are not likely to result in a loss of viability in Colorado or loss of species viability rangewide.

#### *10.2.6.8 Biological Determination*

No individuals were found during fieldwork in the project study area. A search was not made specifically for this species, however. Given the highly disturbed nature of the study area and the use of best management practices to minimize impacts on wetland and riparian habitat, neither the Proposed Action nor the proposed local agency projects are likely to adversely impact the Iowa darter.

### *10.3 Colorado Natural Heritage Program Tracked Species*

#### *10.3.1 Hops-feeding Azure (*Celastrina humulus*)*

[CNHP Tracked Species]

##### *10.3.1.1 Species Description*

The hops-feeding azure is a colonial species of butterfly found in the Front Range of Colorado (Pineda and Ellingson 1997, Scott and Wright 1998, Pineda 2002). They emerge in late May and early June (Wright 1995, Royer 2001). The sole caterpillar host is hops (*Humulus lupulus*) and adult food is flower nectar (Royer 2001).

### ***10.3.1.2 Habitat***

The hops-feeding azure has been found in mountain foothill canyons, valleys, and gulches from about 5300-6500 feet and is always associated with permanent water and patches of hops (Opler 1999, Pineda and Ellingson 1997). Hops – a disturbance tolerant species that requires open, sunny areas in canyon habitats – are the larval food. Adults sip nectar from waxflower (*Jamesia americana*) or from coyote willow (*Salix exigua*) catkins (Pineda 2002).

### ***10.3.1.3 Distribution and Status***

The hops-feeding azure is probably endemic to the Front Range of Colorado. It has been documented from Adams, Arapahoe, Boulder, Douglas, El Paso, Elbert, Jefferson, and Larimer Counties (CNHP 1996, Opler 1995, Pineda and Ellingson 1997, Stanford and Opler 1993) above 5300 feet (Pineda 2002).

### ***10.3.1.4 ESA Status and Other Organizational Rankings***

The hops-feeding azure has a global rank of G2G3S2 (imperiled globally; imperiled in Colorado) (CNHP 2005).

### ***10.3.1.5 Conservation Planning***

There are no conservation plans in place for the hops-feeding azure butterfly. However, The Nature Conservancy has developed a conservation plan for the Central Shortgrass Prairie ecoregion and Southern Rocky Mountain ecoregion that identified areas important for the conservation of native populations of the hops feeding azure in Colorado (The Nature Conservancy 1998).

### ***10.3.1.6 Direct and Indirect Effects***

This low-mobility species requires specific habitats and plant species. Elimination of hops found in the riparian areas in the study area may affect the species. No adults were observed either during fieldwork for this study or during other work in nearby areas (Anderson and Stevens 2000, City of Wheat Ridge and ERO Resources Corporation 2002). Hops-feeding azures are typically found in steep ravines at somewhat higher elevations than the study area. However, there are abundant hops vines growing in the study area. These may very likely be hops that have escaped from the Coors facility and which now thrive along all riparian areas in the study area.

### ***10.3.1.7 Cumulative Effects***

Loss of habitat due to urbanization and the spread of non-native plants both threaten the persistence of the hops-feeding azure (Pineda and Ellingson 1997). Fire suppression may also pose a threat because the larval host plant is an early-successional plant requiring sunny, open areas in canyons of the foothills.

### ***10.3.1.8 Biological Determination***

There will likely be no adverse impacts from Proposed Action or proposed local agency project activities because typical hops-feeding azure habitat occurs at somewhat higher elevations in steep canyons and the species is not likely to occur within the Project Area.

### ***10.3.2 Fork-tip three awn (*Aristida basiramea*)***

[CNHP Tracked Species]

#### ***10.3.2.1 Species Description***

The fork-tipped three-awn grass is an annual plant that grows 30 to 60 centimeters tall and which flowers well into the fall. The leaves are very narrow and mostly involute. The panicles are slender and narrow. The lemmas have three parted awns, the central one being coiled at the base when dry (Weber and Wittmann 1996, Ibid 2000). Lateral awns are curved but not coiled (Gleason and Cronquist 1963, Weber and Wittmann 1996, Wingate 1994). The seeds are dispersed by wind and animals

#### ***10.3.2.2 Habitat***

The fork-tipped three-awn grass is an early successional species that is restricted to areas that are dry, open, and sandy or disturbed. It has been found along roadsides, in pastures, and on waste ground (McGregor et al. 1986). This grass is apparently intolerant of competition from other plants and is unable to survive in areas of dense plant cover or shade.

#### ***10.3.2.3 Distribution And Status***

The fork-tipped three-awn grass is restricted to eastern North America with a primarily mid-western range. There are outlying populations west to the Front Range of Colorado, south to Texas, and east to Maine (COSEWIC 2002, Wingate 1994).

#### ***10.3.2.4 ESA Status and Other Organizational Rankings***

The fork-tipped three awn has a global status of G5S1 (stable globally and imperiled in the state because of rarity) (CNHP 2005).

#### ***10.3.2.5 Conservation Planning***

There are currently no conservation plans in place for the forked three-awn grass.

#### ***10.3.2.6 Direct and Indirect Effects***

A survey for this species conducted within the study area in August and September 2005 yielded no plants. Potential habitat was identified in the upland areas, however (Johnson and Ruggles 2005), but the habitat was dominated by weedy and invasive exotic species. Suitable habitat for this species, therefore, occurs within the project area but is marginal and not

occupied by the species. Searches by other entities immediately downstream of the study area also failed to find the species (Anderson and Stevens 2000).

#### 10.3.2.7 Cumulative Effects

Losses due to disturbance and increased shading and competition with non-native species appear to be major threats to this species (COSEWIC 2002).

#### 10.3.2.8 Biological Determination

Suitable habitat in the study area is dominated by weedy and invasive species. A search was made for this species in suitable habitat within the study area. Several small populations of three-awn were located, but these were another species, purple three-awn (*Aristida purpurea*). Because this species was not found and suitable habitat is occupied by other species, there will likely be no effect on the species from the Proposed Action or from local agency projects.

### 10.3.3 Cottonwood/Western Snowberry Plant Association (*Populus deltoides* ssp. *monilifera*/*Symphoricarpos occidentalis*)

[CNHP Tracked Community]

#### 10.3.3.1 Species Description

This plant association is typically found in low elevation floodplains between 3600 and 4200 feet (1000-1300 meters) above mean sea level (msl). It appears to be one of the last stages of cottonwood dominance on the floodplain. The trees are large and widely spaced. As they die, western snowberry becomes the remaining dominant woody species. This late-seral plant association tends to be found on the highest surfaces within the floodplain (Anderson and Stevens 2000, CNHP 1997).

#### 10.3.3.2 Habitat

This plant association has 30-90% cover of mature, widely spaced plains cottonwood (*Populus deltoides*). Peach-leaf willow (*Salix amygdaloides*) is also usually present (Anderson and Stevens 2000). Other trees that may be present include: green ash (*Fraxinus pennsylvanica*), Siberian elm (*Ulmus pumilla*), crack willow (*Salix fragilis*), and box elder (*Acer negundo*) (Anderson and Stevens 2000). The shrub canopy is low-stature, with 3 to 65% cover of western snowberry (*Symphoricarpos occidentalis*) (Anderson and Stevens 2000). Poison ivy (*Toxicodendron rydbergii*) may also be present. The herbaceous cover is low in undisturbed stands, and in disturbed stands is dominated by introduced species.

#### *10.3.3.3 Distribution and Status*

This plant association occurs in eastern Montana, Wyoming and Colorado. In Colorado, this plant association occurs in the South Platte drainage (CNHP 1997).

#### *10.3.3.4 ESA Status and Other Organizational Rankings*

The CNHP status for this plant association is G2G3S2 (Imperiled globally to vulnerable throughout its range; imperiled statewide) (CNHP 2005).

#### *10.3.3.5 Conservation Planning*

There are currently no conservation plans in place for the Cottonwood/Western Snowberry Plant Association.

#### *10.3.3.6 Direct and Indirect Effects*

A specific survey for the plant association was not conducted within the study area in 2005, but the community was noted while completing surveys for other species. A few tiny (<0.01 acre) stands which resembled the cottonwood/snowberry association were located along the unnamed ditch on the northwest side of the study area between the recreational path and SH 58, but the habitat was dominated by non-native weedy species. Completion of the project may directly affect some of these communities through the removal of an undetermined number of mature cottonwood trees during the construction of the Cabela Drive/SH 58 interchange.

#### *10.3.3.7 Cumulative Effects*

Losses due to construction clearing, project construction and increased competition with non-native species appear to be the major threats to this species.

#### *10.3.3.8 Biological Determination*

There were a few very small stands that resemble this plant community within the Proposed Action study area. They are located along the unnamed ditch on the northwest side of the study area between the recreational path and SH 58 and would be impacted by construction of the Cabela Drive/SH 58 interchange. These sites are highly disturbed areas, however, with a high proportion of non-native and weedy species present. These stands are also isolated and are found along a ditch rather than in an active floodplain and thus probably have relatively little ecological value as representatives of the plant association. No examples of this plant community were identified in areas which may be impacted by the associated proposed local agency projects.

## 11.0 SUMMARY

In accordance with NEPA and its related regulations, the FHWA, as the Lead Agency, in cooperation with CDOT as the Applicant Agency, is preparing an EA for proposed improvements to the I 70/32nd Avenue Interchange in Jefferson County, Colorado. The project is proposed by the City of Wheat Ridge. NRSI was contracted on August 30, 2005 by FHU, acting on behalf of CDOT and the City of Wheat Ridge, to conduct environmental assessments for the I-70/32nd Avenue Interchange EA. In September, 2005, BCC, under contract to NRSI, conducted an assessment of special status and sensitive plant and wildlife species identified by federal and state agencies as potentially found in Jefferson County.

BCC and NRSI conducted a review of the existing literature and interviews with USFWS, CDOW, and CNHP officials, the results of which were used to develop a list of threatened, endangered, and special concern species that might be found in the study area. The likelihood of occurrence of each of these species in the Project Area during the survey period was determined by the presence of suitable habitat, known distribution records, and relative abundance. A number of sensitive species surveys and biological assessments (BA) have been completed within or adjacent to the study area since 1998. These have included several presence/absence surveys for the Preble's Meadow Jumping Mouse and the Ute Ladies'tresses orchid as well as several general surveys for sensitive wildlife and plant species (Anderson and Stevens 2000, Beane 1998, CH2M HILL 2001a, CH2M HILL 2001b, ERO Resources Corporation 2003, Johnson 2005, Johnson and Ruggles 2005, Ruggles 2005, Savage and Savage, Inc. 2004a, Ibid 2004c, Ibid 2004d, Ibid 2004f, Weiland Sugnet, Inc. 2001d, Winkle 2005).

Clear Creek and associated ditches are part of a continuous movement corridor from upstream mountain habitat downstream into the Wheat Ridge Greenbelt. Portions of the study area provide feeding and loafing habitat for a number of wildlife species. Habitat types present within the study area include riparian wetlands, beaver ponds, cattail/emergent wetlands, upland grassland-forb communities, upland shrub communities, hardwood forest communities, and large open water ponds and lakes. Most of the proposed Project Area, especially the upland, is occupied by a mix of non-native noxious weed species and native species.

Each of the three project alternative packages crosses Clear Creek with at least one new roadway and could be expected to impact, to some degree, wetlands and habitat connectivity along Clear Creek (FHU 2005). Disturbance of riparian habitats in the Project Area is possible along Clear Creek, Juchem Ditch, and Bayou Ditch.

Eleven sensitive wildlife and plant species and one sensitive plant community (see **Table 6-2**) were identified during the survey as having the potential to occur within the Project Area. These species and communities are discussed below to include a biological determination of potential impacts which may be incurred by the Proposed Action and local agency projects.

### 11.1 *Bald Eagle (Haliaeetus leucocephalus)*

Bald eagles are a federally listed threatened species which are opportunistic feeders, fish being the primary diet. Access to food and roosts in large mature trees are critical elements of bald eagle habitat. The Project Area contains large ponds and lakes and a number of large mature trees which provide potential habitat. Eagles have been sighted in the Project Area sporadically in the recent past (Gillihan 2005). Since eagles utilize the Project Area sporadically and opportunistically and no active roosting and nesting sites are present, the Proposed Action and associated local projects are not likely to adversely impact bald eagles even though a few large cottonwoods may be removed.

### 11.2 *Preble's Meadow Jumping Mouse (Zapus hudsonius preblei)*

The PMJM is a rare subspecies of jumping mouse whose distribution is limited to portions of Colorado and Wyoming. The mouse is listed as federally threatened by the USFWS. The range of the PMJM includes most of Jefferson County. Several surveys for the PMJM and potential habitat have been conducted in and adjacent to the Project Area since 1998 with negative results (Anderson and Stevens 2000, Beane 1998, Ruggles 2005, Savage and Savage, Inc. 2004b, USFWS 2005c, Weiland Sugnet, Inc. 2001c). The USFWS has concurred on several occasions that projects within the Project Area are not likely to have any impact on the Preble's mouse (USFWS 1998a, Ibid 2004b, Ibid 2005b, Ibid 2005c). Impacts associated with local agency projects proposed for implementation within or immediately adjacent to the Proposed Action Project Area have also been determined by the USFWS as not likely to have any impact on the species (USFWS 1998a, Ibid 2004b, Ibid 2005b, Ibid 2005c).

### 11.3 *Colorado Butterfly Plant (Gaura neomexicana coloradensis)*

The Colorado butterfly plant is a federally listed threatened species which occurs in habitat associated with the floodplains of wide stream channels in eastern Colorado and Wyoming and western Nebraska. The Project Area is located at the southern end of the accepted range. A survey was conducted in the Project Area for the Colorado butterfly plant and, while no plants were identified, potential habitat was found along the channel of Clear Creek (Johnson and Ruggles 2005). A concurrence of no significant impact to the species within the Proposed Action was issued by the USFWS in 2005 (USFWS 2005d).

### 11.4 *Ute Ladies'-tresses Orchid (Spiranthes diluvialis)*

The Ute Ladies'-tresses orchid is a listed federally threatened plant which occurs on sub-irrigated soils along streams and in wet meadows in floodplains in Colorado, Idaho, Montana, Nebraska, Utah, Washington, and Wyoming. Populations have been located along Clear Creek to the west and east of the Project Area (Anderson and Stevens 2000). No plants were identified within the Project Area during surveys conducted between 2000 and 2005 (CH2M HILL 2001b, Johnson and Ruggles 2005, Savage and Savage, Inc. 2004a, Ibid 2004d, Weiland Sugnet 2001b), but potential habitat was identified along Clear Creek in 2001 (Weiland Sugnet 2001b) and 2005 (Johnson and Ruggles 2005). The USFWS issued several letters of concurrence of no significant impacts to the Ute Ladies'-tresses orchid for projects within the



Proposed Action Project Area and the area of associated local projects between 2002 and 2005 (USFWS 2002b, Ibid 2004c, Ibid 2004d, Ibid 2005d).

### 11.5 *Ferruginous Hawk (Buteo regalis)*

The ferruginous hawk is listed as a Colorado Species of Concern by CDOW. The hawk is an uncommon, locally distributed hawk which utilizes grasslands, sagebrush and desert scrub habitats in the Great Plains and the Great Basin. In Colorado, ferruginous hawks are most often associated with prairie dogs as a food source (Kingery 1998, Preston and Beane 1996, Preston 1998). While the project area is located within the range of the species, no suitable habitat or prairie dog towns were identified at the site by BCC or NRSI in 2005. Therefore, the Proposed Action and local agency projects are not likely to adversely affect this species.

### 11.6 *Northern Leopard Frog (Rana pipiens)*

This species is a small frog which inhabits permanent water bodies in eastern Colorado. The frog is listed as a Colorado Species of Concern by CDOW and as a U.S. Forest Service sensitive species in Colorado. No individuals were identified in the vicinity of the Project Area in 2002 (Anderson and Stevens 2000) or during surveys conducted in the Project Area in 2001 (CH2M HILL 2001a) and by BCC and NRSI in 2005. Potential habitat was located in the area, however. Given the highly disturbed nature of the study area, the lack of occurrences in the area, and the proposed use of best management practices during project construction, the Proposed Action and local agency projects are not likely to adversely impact the frog.

### 11.7 *Common Garter Snake (Thamnophis sirtalis)*

The common garter snake is listed by CDOW as a Colorado Species of Concern. The species inhabits many environments including grassland, woodland, farms, city lots, scrub, and chaparral, but is most frequently found near wet areas and streams. The common garter snake occurs in northeast Colorado along the South Platte River and its tributaries below 6000 feet and in Yuma County (CDOW 2005d). While the species was not confirmed in the Project Area by BCC or NRSI in 2005, potential habitat exists. Given the highly disturbed nature of the Project Area and the use of best management practices during construction, however, the Proposed Action and local agency projects should not adversely impact the species.

### 11.8 *Northern Redbelly Dace (Phoxinus eos)*

This small fish species is listed as a Colorado Endangered Species by CDOW. The northern redbelly dace requires cool, clear vegetated ponds or slow moving streams with a sand substrate. The range of the species extends across the northern U.S. and southern Canada to the South Platte River basin in eastern Colorado (Winkle 2005). Between 2000 and 2005, the fish was stocked by CDOW in a small isolated pond owned by Coors in the project area. However, the fish has not been identified in Clear Creek. This pond is part of a wetland pilot project by Coors and will be reportedly removed at the end of the pilot project. The Proposed Action and local agency projects are not likely to result in a loss of viability for this species in Colorado.

### 11.9 Common Shiner (*Luxilus cornutus*)

The common shiner is a small minnow which prefers shaded streams of moderate gradient with cool, clear water and gravel bottoms. It is listed by CDOW as a Colorado Threatened Species. The species is found from New England and Nova Scotia, south to Virginia and west to Colorado. It is native to the South Platte River drainage in Colorado. Some individuals were planted in a small pond in the Project Area between 2000 and 2005, but the species has not been identified in Clear Creek (Winkle 2005). This pond is part of a wetland pilot project by Coors and will be reportedly removed at the end of the pilot project. The Proposed Action and local agency projects are not likely to impact the viability of the species in Colorado.

### 11.10 Iowa Darter (*Etheostoma exile*)

The Iowa darter is a small perch species which is listed as a Colorado Species of Concern by CDOW. The fish prefers cool, clear, slow moving water over a sand or organic matter substrate. Populations in Colorado are found in lakes and in streams with vegetation along the bank extending into the water. The species range extends from New York westward to Colorado, Wyoming and Montana. The range in Colorado is limited to some plains streams in northeastern Colorado. The Iowa darter has been captured in Clear Creek in the vicinity of the Project Area (Winkle 2005). Given the highly disturbed nature of the Clear Creek riparian corridor in the Project Area and proposed avoidance of construction in Clear Creek, the Proposed Action and local agency projects are not likely to adversely impact the Iowa darter.

### 11.11 Other Sensitive Species

- ▶ Hops Feeding Azure (*Celastrina humulus*)
- ▶ Fork-tip Three Awn (*Aristida basiramea*)
- ▶ Cottonwood/Western Snowberry Plant Association (*Populus deltoides/Synphoricarpos occidentalis*)

These species and plant communities are listed as sensitive by CNHP. The hops feeding azure is a rare butterfly which is found in mountain foothill canyons along the Front Range of Colorado and is associated with permanent water and patches of hops. Since the species prefers more mountainous habitat at higher elevations than the Project Area and has not been identified at the site, there will likely be no adverse impact to the species. The fork-tip three awn is uncommon in Colorado but is found throughout eastern North America. It is intolerant of competition from other plants and is unable to survive in areas of dense plant cover or shade. The species has not been identified during searches in the vicinity of the Project Area (Anderson and Stevens 2000, Ruggles 2005). Because the species has not been located in the Project Area and suitable habitat is heavily occupied by competitive species, there likely will be no adverse effects to the Colorado population by the Proposed Action. The Cottonwood/Western Snowberry Plant Association is a sensitive vegetative community which is tracked by CNHP. It is typically found in Colorado in low elevation floodplains. Several very small isolated patches of this community were located along drainage ditches within the Project Area. Some of these areas would probably be impacted by the Proposed Action, but since they are so small and are isolated, they represent very little ecological value.

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**APPENDIX A    CORRESPONDENCE ASSOCIATED WITH  
SECTION 7 CONSULTATIONS**





## **APPENDIX A**

### **Correspondence Associated with Section 7 Consultations I-70/32<sup>nd</sup> Avenue Interchange EA Study Area Jefferson County, Colorado**



Letter of concurrence of no impacts to Preble's meadow jumping mouse (*Zapus hudsonius preblei*) in the Coors Brewing Company, Eastern Parcel.(Everist Parcel), Jefferson County, Colorado prepared by Leroy W. Carlson, Colorado Field Supervisor, USFWS for Ronald D. Beane, DA TI MBI Environmental, December 22, 1998 (USFWS 1998a).



**United States Department of the Interior**

**FISH AND WILDLIFE SERVICE**

Ecological Services  
Post Office Box 25486, DFC  
Denver, Colorado 80225-0207



ES/CO: T&E/PMJM/Survey  
Mail Stop 65412

DEC 22 1998

Ronald D. Beane  
DA TIMBI Environmental  
181 Plum Creek Place  
Littleton, Colorado 80126

Dear Mr. Beane :

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed the Preble's meadow jumping mouse, *Zapus hudsonius preblei*, (Preble's) survey report submitted with your letter of October 16, 1998. This report regards **Coors Brewing Company, Eastern Parcel** in Jefferson County, Colorado (Sections 19, 20, 29 and 30, Township 3 South, Range 69 West). The project, as proposed, may disturb wetlands and other riparian habitats.

Given your compliance with the Preble's survey guidelines, the Service finds the report acceptable and agrees that a population of Preble's is not likely to exist within the subject area. Thus, the Service concludes that development or other actions on this site should not directly affect the continued existence of Preble's. Should Preble's populations exist downstream from the site, actions on the site that result in significant modification of Preble's habitat downstream (for example, through alteration of existing flow regimes, or sedimentation) may be subject to provisions of the ESA.

If the Service can be of further assistance, please contact Peter Plage of my staff at (303) 275-2370.

Sincerely,

  
LeRoy W. Carlson  
Colorado Field Supervisor

cc: U.S. Army COE, Littleton, CO  
Reading file  
Project file  
Plage

Reference: Peter/PMJM/1998.186



Cover letter and request for concurrence to the USFWS from CDOT for the Final Threatened, Endangered and Sensitive Species Report for the I-70/SH 58 Interchange realignment project, CDOT Project No. NH 0703-246. November 2, 2001 (Powell 2001).

3037579907 REGION 6 TRAFFIC

551 P03 NOV 06 '01 12:01

## STATE OF COLORADO

### DEPARTMENT OF TRANSPORTATION

4301 East Adams Avenue  
Denver, Colorado 80222  
(303) 757-6011



## Memorandum

RECEIVED  
NOV 02 2001

BY: \_\_\_\_\_

**To:** LeRoy Carlson, USFWS  
Attention Alison Michael

**CC:** Becky Vickers CDOT, Chris Paulsen CDOT, Edric Vinson FHWA

**From:** Jerry Powell

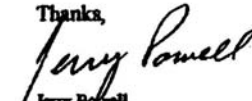
**Date:** 11/1/2001

**Re:** Threatened, Endangered, And Sensitive Species Report, I70/SH58  
Interchange, Jefferson County, Colorado; CDOT Project No. NH  
0703-246

Dear Mr. Carlson:

Enclosed are two copies of the Final Threatened, Endangered, and Sensitive Species Report for the Interstate 70 and Colorado State Highway 58 realignment project. This report is the final assessment of potential impacts to threatened, endangered or sensitive plant and wildlife species that could exist within the project limits. Based on the analysis of this report and field visits, CDOT has determined that this project will have no effect on any threatened, endangered or sensitive plant or wildlife species. CDOT is in receipt of your office's letter (BS/CO: T&E/PMJM/Jefferson County, Mail Stop 65412) of 24 October 2001 concurring that the project will have no effect on the threatened Preble's meadow jumping mouse (*Zapus hudsonius preblei*). Please provide a concurrence letter at your earliest opportunity that the project will have no effect on other threatened, endangered or sensitive plant or wildlife species.

Thanks,

  
Jerry Powell

1



Letter of concurrence from the USFWS to CDOT regarding the presence/absence of federally listed threatened and endangered species within the I-70 and State Highway 58 Interchange realignment project area, Jefferson County, Colorado. Prepared for Jerry Powell, CDOT, by Leroy W. Carlson, Colorado Field Supervisor, USFWS. February 4, 2002 (USFWS 2002a).

3037579907 REGION 6 TRAFFIC

949 P02 FEB 13 '02 12:18



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: T&E/  
Mail Stop 65412

FEB 4 2002

Jerry Powell  
Colorado Department of Transportation  
4201 East Arkansas Avenue, Empire Park B 400  
Denver, Colorado 80222

Dear Mr. Powell,

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed the threatened and endangered species habitat assessment and survey report submitted with your letter of November 2, 2001. This report regards the I-70 and State Highway 58 Interchange in Jefferson County, Colorado. The proposed project involves the construction of a new ramp and flyover at the intersection of the above-mentioned highways. Ramp construction could potentially impact habitat for species listed under the ESA. Specifically, your report addresses the endangered black-footed ferret (*Mustela nigripes*), the threatened Bald Eagle (*Haliaeetus leucocephalus*), Preble's meadow jumping mouse (*Zapus hudsonius preblei*), Ute ladies'-tresses orchid (*Spiranthes diluvialis*), and Colorado butterfly plant (*Gaura neomexicana coloradensis*).

The Service has already concurred with your determinations regarding the Ute ladies'-tresses orchid and the Preble's meadow jumping mouse. In addition, the Service finds your current report acceptable and concurs that flyover and ramp construction as described in the report should not directly affect the continued existence of any of the listed species likely to occur in or adjacent to the project area.

We appreciate your submitting this report to our office for review and comment. If the Service can be of further assistance, please contact Alison Deans Michael of my staff at (303) 275-2370.

Sincerely,

LeRoy W. Carlson  
Colorado Field Supervisor

pc: U.S. Army COE, Littleton, CO  
Michael

Ref: Alison/CDOT2001/Region 6/

Post-it® Fax Note	7671	Date	2-13-02	# of pages	2
To	Chris Paulsen	From	Anderson Swartz		
Co/Dept.	R6	Co	OES		
Phone #		Phone #	3035724954		
Fax #		Fax #			



Letter of concurrence regarding the presence/absence of *Spiranthes diluvialis* within the I-70 and State Highway 58 Interchange realignment project area, Jefferson County, Colorado. Prepared for Jerry Powell, Colorado Department of Transportation by Leroy W. Carlson, Colorado Field Supervisor, USFWS. February 4, 2002 (USFWS 2002b).





United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: T&E/*Spiranthes*/Denver County  
Mail Stop 65412

FEB 4 2002

Jerry Powell  
Colorado Department of Transportation  
4201 East Arkansas Avenue, Empire Park B-400  
Denver, Colorado 80222

Dear Mr. Powell,

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed the Ute ladies'-tresses orchid, *Spiranthes diluvialis* (orchid), survey report dated October 31, 2001, and received December 5, 2001. This report regards the I-70 and State Highway 58 project in Jefferson County, Colorado. The southwest quadrant of these two highways was surveyed for the orchid. The proposed project includes construction of new flyovers and ramps between the two highways, and construction of the ramp from eastbound State Highway 58 to westbound I-70 would affect potential orchid habitat.

Given your compliance with the orchid survey guidelines, the Service finds the report acceptable and agrees that the orchid is not present within the surveyed area. Thus, the Service concurs with the determination that the impacts resulting from the proposed project are not likely to adversely affect the continued existence of the orchid.

We appreciate your submitting this report to our office for review and comment. If the Service can be of further assistance, please contact Alison Deans Michael of my staff at (303) 275-2370.

Sincerely,

LeRoy W. Carlson  
Colorado Field Supervisor

pc: U.S. Army COE, Littleton, CO  
Michael

Ref: Alison/CDOT2001/Reg6/orchid/

Concurrence request for Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) disqualification within the Coors Brewing Company Mount Olivet South Parcel, Jefferson County, Colorado. Report letter from Michael S. Savage to Mr. Peter Plage, U.S. Fish and Wildlife Service, Colorado Field Office, Denver, Colorado. August 23, 2004 (Savage and Savage 2004b).

## Savage and Savage ENVIRONMENTAL

*practical solutions for environmental issues*

4610 Haystack Drive  
Windsor, Colorado 80550

970 674 8080 telephone  
970 674 8088 facsimile  
savageandsavage@earthlink.net



August 23, 2004

Mr. Peter Plage  
U.S. Fish and Wildlife Service  
Colorado Field Office  
755 Parfet, Suite 361  
Denver, Colorado 80215

Re: Concurrence Request for *Zapus hudsonius preblei* Disqualification -  
Coors Brewing Company Water Resources and Real Estate  
Mount Olivet South Parcel, Jefferson County, Colorado

Dear Mr. Plage:

Savage and Savage conducted a field investigation at the Mount Olivet South parcel on August 12, 2004 in order to assess the potential for the presence of critical habitat for the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), a federally listed threatened species. The parcel contains approximately 43 acres located within the S½SE¼ of Section 19 in Township 3 South, Range 69 West of the 6<sup>th</sup> Prime Meridian, Jefferson County, Colorado. The parcel is bounded on the north by Colorado State Highway 58, on the east by Interstate Highway 70, on the south by the Bayou Ditch and Clear Creek, and on the west by a fence line. The parcel is depicted on the attached general location map. (General site location map)

The Mount Olivet South parcel is situated at the transition zone between the foothills and the eastern plains along the primary alluvial terrace of Clear Creek between North Table Mountain and South Table Mountain east of Golden, Colorado. Given the location of the property along Clear Creek, the site was shaped by way of deposition of sandy and gravelly alluvium along the drainage.

Taken as a whole the property slopes gently from northwest to southeast toward Clear Creek with a change in elevation of approximately 36 feet. A former aggregate mining cell accounts for more than half of the Mount Olivet South parcel. Clear Creek forms most of the south boundary of the parcel. Located between the mined cell and Clear Creek is the Bayou Ditch, that for the most part, parallels Clear Creek.

The original topography of the property has been altered by historic mineral extraction. Elevation within the mined cell is approximately 38 feet below the mean site elevation. Side slopes around the perimeter of the cell are steep sided. The bottom of the cell is relatively level.

Based on a field investigation conducted by Savage and Savage on August 12, 2004 and current U.S. Fish and Wildlife Service (USFWS) interim survey guidelines dated April 27, 2004 we believe this site is exempt from the necessity to conduct Preble's trapping and has very low potential to harbor individuals or a population of *Zapus hudsonius preblei* for the following reasons.

At least six sites immediately adjacent to the parcel were trapped or evaluated and disqualified for Preble's. A trapping survey and habitat evaluation conducted immediately south of Clear Creek on another Coors property in 1998 by Ronald Beane (DA TI MBI Environmental, 1998) found no Preble's. The current block clearance area for Preble's borders the parcel on two sides, Colorado Highway 58 and Interstate 70.

For the above reasons we request a concurrence for disqualification of this site for further consideration as Preble's habitat and exclude the site from the trapping requirements. If you have any questions, or we can provide additional supporting information regarding this concurrence request for disqualification for the *Zapus hudsonius preblei* on the Mount Olivet South parcel, please contact us.

Sincerely,



Michael S. Savage  
Principal

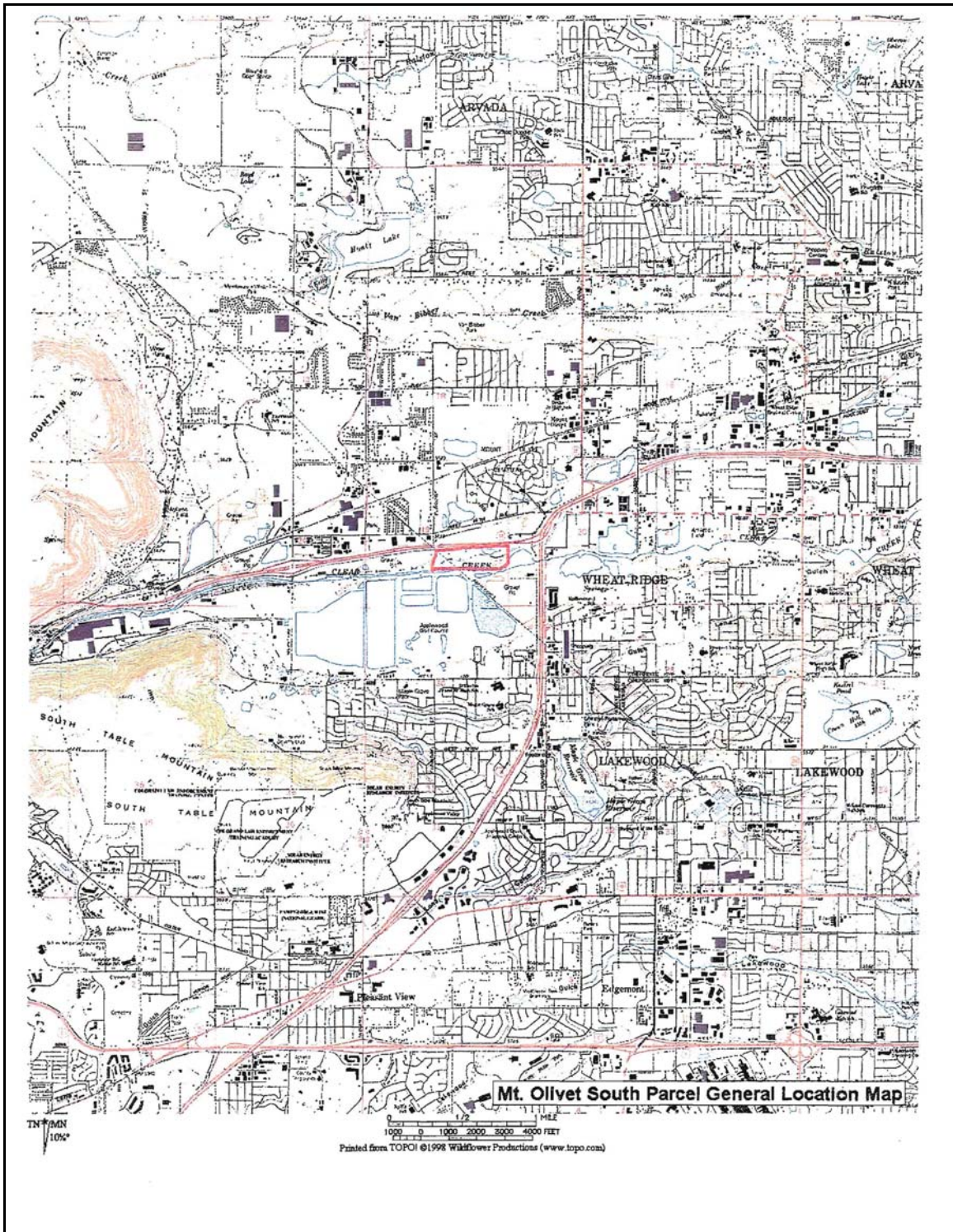
~~cc~~ Donald W. MacDonald, Coors Brewing Company

Attachments: General Location Map  
Figures 2-3  
2004 Survey Field Data Compilation Form

**LITERATURE CITED**

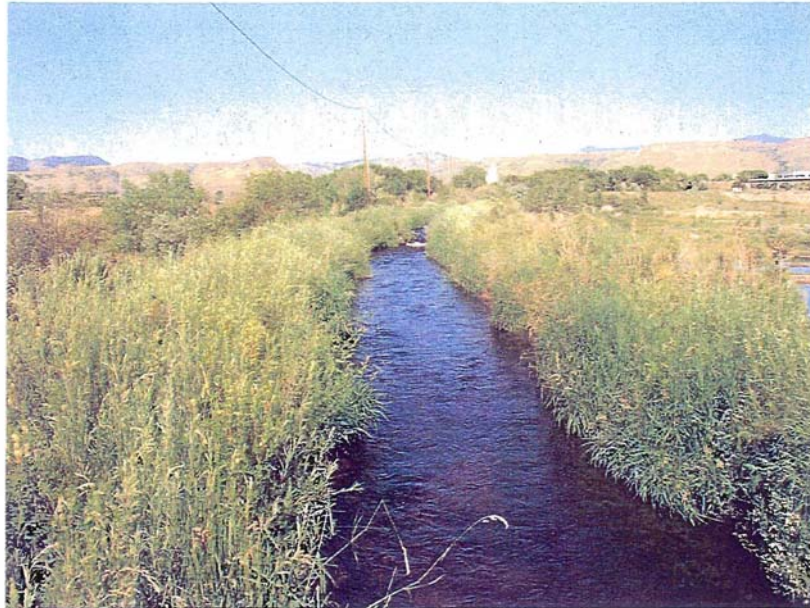
DA TI MBI Environmental. 1998. Threatened and Endangered Species Surveys, Coors Brewing Company-Eastern Parcel, Jefferson County, Colorado.

U.S. Fish and Wildlife Service. 2004. Interim Survey Requirements for *Zapus hudsonius preblei*.





**Figure 2. Overall View of Mount Olivet South Parcel (Looking west)**



**Figure 3. Bayou Ditch (immediately south of mineral extraction cell)**



**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei***  
**2004 Survey Field Data Compilation Form**

TRAPPING SURVEY       EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie. not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

**SECTION 1**

**Surveyor:**

Date of Site/Habitat Assessment AUGUST 12, 2004  
Organization/Company SAVAGE AND SAVAGE, INC.  
Full Name(s) MICHAEL S. SAVAGE, EDITH A. SAVAGE

**Location:**

Project Name (if applicable) MOUNT OLIVET SOUTH PARCEL  
Project Description (nearby road intersection, type of impact, etc.) SOUTHWEST OF I-70 AND COLO HWY SB, EXISTING AGGREGATE OPERATION (MINED OUT)  
U.S.G.S. Quad Name GOLDEN County JEFFERSON Elevation 5450'  
Township(s) 3S Range(s) 69W Section(s) 19  
1/4 Section(s) 3/2 SE 1/4  
UTM Coordinates, Zone 13 Northing 4402450 Easting 486850 m  
UTM Coordinate Datum NAD27  NAD83   
Directions to Location COLO HWY SB TO MCINTYRE ST, SOUTH OVER OVERPASS TO FRONTAGE ROAD, EAST TO PARCEL  
Land Ownership PRIVATE

**Habitat:**

General Habitat Description FORMER AGGREGATE OPERATION WITH REVEGETATED MARGIN & UNCOVERED PIT. HERBACEOUS VEGETATION ALONG MARGIN & IN PIT. NORTH OF BAYOU DITCH & CLEAR CREEK  
Dominant Overstory Plant Community NONE  
Dominant Understory Plant Community BAYOU DITCH; RED CANADIAN GRASS INSIDE FORMER PIT; CATTAIL, THREE SQUARE, SPIKE RUSH, COYOTE WILLOW, PIT MARGIN; GUMWATER, RUSSIAN THISTLE  
Current Land Use RECLAIMED AGGREGATE OPERATION  
Drainage Name: CLEAR CREEK Type: Perennial Stream   
Ephemeral Stream  Pond/Lake  Ditch  Other

**SECTION 2:**

*Z. h. preblei* found? Yes  No  Dates of Survey \_\_\_\_\_

**Trapping Information:**

Type of Traps \_\_\_\_\_ Type of Bait \_\_\_\_\_  
% Available (unsprung) \_\_\_\_\_ Number of Nights Trapped \_\_\_\_\_  
Total Trapnights N/A  
Weather conditions prior to and during survey \_\_\_\_\_

Associated Animal Species (especially urban predators, rats, house mice)  
\_\_\_\_\_



Ute ladies'-tresses orchid (*Spiranthes diluvialis*) survey report for the Mount Olivet South Parcel, Jefferson County, Colorado. Prepared for Coors Brewing Company, Water Resources and Real Estate by Savage and Savage, Inc. August 2004 (Savage and Savage 2004a).

**COORS BREWING COMPANY  
WATER RESOURCES AND REAL ESTATE  
MOUNT OLIVET SOUTH PARCEL  
JEFFERSON COUNTY, COLORADO  
UTE LADIES'-TRESSES ORCHID SURVEY REPORT  
(*Spiranthes diluvialis*)  
Prepared by Savage and Savage, Inc.  
August 2004**

**EXECUTIVE SUMMARY**

Savage and Savage conducted a pedestrian survey for the federally listed threatened Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) within potential critical habitat within the Mount Olivet South parcel in Jefferson County, Colorado on August 12, 2004. This survey was conducted for Coors Brewing Company, Water Resources and Real Estate. The survey was conducted in accordance with U.S. Fish and Wildlife Survey guidelines and during the period of anthesis of the orchid. No individuals of *Spiranthes diluvialis* were found during the survey.

**INTRODUCTION**

Coors Brewing Company, Water Resources and Real Estate requested the identification and survey of any potential critical Ute ladies'-tresses orchid (*Spiranthes diluvialis*) habitat on site prior to finalization of development plans for the Mount Olivet South parcel.

The parcel contains approximately 43 acres located within the S½SE¼ of Section 19 in Township 3 South, Range 69 West of the 6<sup>th</sup> Prime Meridian, Jefferson County, Colorado. The parcel is bounded on the north by State Highway 58, on the east by Interstate Highway 70, on the south by the Bayou Ditch and Clear Creek, and on the west by a fence line. The parcel is depicted on the attached general location map.

The Ute Ladies'-Tresses orchid (*Spiranthes diluvialis*) is a federally listed, threatened plant species known to occur in Colorado. Interim U.S. Fish and Wildlife Service survey requirements (USFWS, 1992) for the orchid require surveys along the South Platte River 100-year floodplain and perennial tributaries and in potentially critical orchid habitat. Characteristic orchid habitat requiring a survey includes sites below 6500 feet elevation with seasonally high water tables, wet meadows, stream channels, floodplains, wetlands, and areas where vegetation falls into the facultative wet or obligate classification. Sites excluded from the survey requirement include upland sites (short grass prairie and sagebrush rangeland) and highly disturbed or modified sites. Based on the above requirements, a site visit, and the report of an occurrence within one mile by the Colorado Natural Heritage Program, Savage and Savage staff determined that certain portions within the project area could not be disqualified from the requirements for a pedestrian survey.

## SITE CHARACTERISTICS

### *Topography and Geomorphic Features*

The Mount Olivet South parcel is situated at the transition zone between the foothills and the eastern plains along the primary alluvial terrace of Clear Creek between North Table Mountain and South Table Mountain east of Golden, Colorado. Given the location of the property along Clear Creek, the site was shaped by way of deposition of sandy and gravelly alluvium along the drainage.

Taken as a whole the property slopes gently from northwest to southeast toward Clear Creek with a change in elevation of approximately 36 feet. A former aggregate mining cell accounts for more than half of the Mount Olivet South parcel. Clear Creek forms most of the south boundary of the parcel. Located between the mined cell and Clear Creek is the Bayou Ditch, that for the most part, parallels Clear Creek.

The original topography of the property has been altered by historic mineral extraction. Elevation within the mined cell is approximately 38 feet below the mean site elevation. Side slopes around the perimeter of the cell are steep sided. The bottom of the cell is relatively level.

### *Hydrology*

The Mount Olivet South parcel is located immediately north of the Clear Creek channel. Clear Creek flows from west to east along the south boundary of the property. The Bayou Ditch is located between the mined cell and Clear Creek. There are no other significant surface water drainages located in the vicinity of the parcel.

Pools of standing water are present within the bottom of the cell. Standing water on the site is most likely due to surface water runoff and may also be a consequence of ground water due to the proximity of the parcel to the Clear Creek drainage and an overall high water table.

### *Vegetation*

Vegetation currently present on the property reflects two distinctive vegetation types. The first vegetation type reflects upland plant species commonly used for mineral extraction reclamation. The second vegetation type is comprised of volunteer marsh wetland plant species that are located along and within the standing water that is present within the bottom of the mined extraction cell.

Plant species located along the margins of the mineral extraction cell include curlycup gumweed (*Grindelia squarrosa*), Russian thistle (*Salsola iberica*), lambsquarters (*Chenopodium album*), curly dock (*Rumex crispus*), yellow sweetclover (*Melilotus officinalis*), and bindweed (*Convolvulus arvensis*). One shrub, rubber rabbitbrush (*Chrysothamnus nauseosus*), was present along the pit margin.

Vegetation within the bottom of the cell surrounding water pools includes cattail (*Typha latifolia*), three-square (*Scirpus americanus*), spike rush (*Eleocharis palustris*), coyote willow (*Salix exigua*), and scattered plains cottonwood (*Populus deltoides*). Scattered within the dry areas of the pit bottom are tamarisk (*Tamarix ramosissima*), yellow sweetclover (*Melilotus officinalis*), white sweetclover (*Melilotus alba*), and ragweed (*Ambrosia psilostachya*).

Vegetation along the Bayou Ditch banks consisted of a monoculture of reed canarygrass (*Phalaris arundinacea*) with coyote willow (*Salix exigua*). Also identified above the ditch were wild licorice (*Glycyrrhiza lepidota*) and smartweed (*Polygonum lapathifolium*).

Plant species located along Clear Creek include plains cottonwood, narrow-leaved cottonwood (*Populus angustifolia*), Russian olive (*Elaeagnus angustifolia*), Chinese elm (*Ulmus pumila*), and locust (*Robinia pseudoacaria*). Shrubs include coyote willow and rubber rabbitbrush. Forbs along the creek were identified as kochia (*Kochia scoparia*) and whitetop (*Cardaria draba*).

#### **Soils**

Soils found on the property are characteristically very gravelly soils formed in mixed alluvium. The parent material for the soils is derived from mixed sources that were deposited along Clear Creek. The single soil series identified (SCS, 1980) within the parcel is Torrfluvents.

Torrfluvents are characteristically very gravelly and include very gravelly loamy sand and very gravelly sand. This soil type is found on flood plains and low terraces. This soil map unit originated in stratified sandy and gravelly alluvium derived from mixed sources. Permeability for very gravelly soils is rapid and available water capacity is low. Runoff is slow and water erosion is a severe hazard. These soils are subject to occasional brief periods of flooding in spring and summer. The shrink-swell potential is low. Rock fragments make up 35 to 80 percent of the volume.

The majority of native soils on the parcel have been removed during the aggregate operation. The remaining plant growth medium consists largely of sand, gravel, silt, and clay remnants from the aggregate operation.

#### **SURVEY**

The survey was conducted by randomly crisscrossing the potentially critical orchid habitat within the Mount Olivet South parcel. The areas surveyed included the phreatic fringes of all standing water pools, all areas exhibiting evidence of surface saturation or evidence of surface saturation or standing water in the past, and all areas with any current or past surface water flow (Figures 2-4).

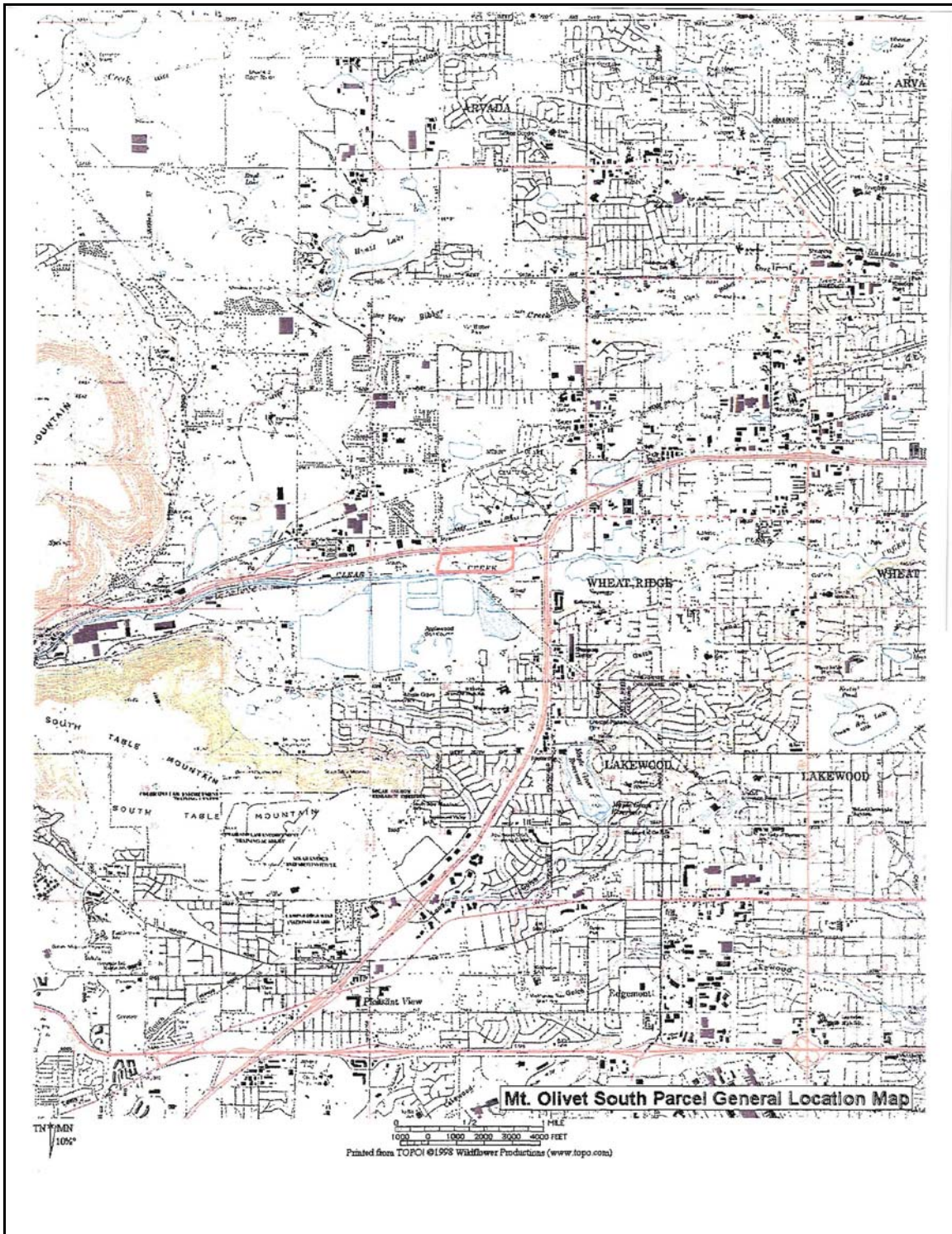
### CONCLUSIONS

A pedestrian survey to identify the presence of *Spiranthes diluvialis* was conducted August 12, 2004 by Savage and Savage staff. The survey was conducted in accordance with U.S. Fish and Wildlife Survey guidelines and during the period of anthesis of the orchid. No individuals of *Spiranthes diluvialis* were found during the survey within the Mount Olivet South parcel.

**LITERATURE CITED**

U.S. Department of Agriculture, Soil Conservation Service. 1980. Soil Survey of Jefferson County, Colorado.

U.S. Fish and Wildlife Service. 1992. Interim Survey Requirements for *Spiranthes diluvialis*.







**Figure 2. Phreatic Fringe Around Standing Water Pool**



**Figure 3. Area Surrounding Flowing Surface Water and Surface Saturation**



**Figure 4. Flowing Surface Water Area**

Letter of concurrence of no significant impact regarding the presence/absence of the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) within the Coors Brewing Company Mount Olivet South Parcel, Jefferson County, Colorado. Prepared for Michael Savage. Savage & Savage Environmental by Susan C. Linner, Colorado Field Supervisor, USFWS. September 9, 2004 (USFWS 2004b).



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: T&E/PMJM/Other  
MS 65412 Lkwd

SEP - 9 2004

Michael Savage  
Savage and Savage Environmental  
4610 Haystack Drive  
Windsor, Colorado 80550

Dear Mr. Savage:

We are responding to your letter of August 23, 2004, requesting clearance under the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). The Service has reviewed the Preble's meadow jumping mouse, *Zapus hudsonius preblei* (Preble's), habitat assessment report for the **Coors Brewing Company Water Resources and Real Estate's Mount Olivet South Parcel (S1/2 SE1/4 Section 19, T3S, R69W)** in Jefferson County, Colorado. Development of the subject site, as proposed, may disturb wetlands and other riparian habitats near Bayou Ditch and Clear Creek.

Based on the information provided, and given your compliance with the Preble's survey guidelines, the Service finds the report acceptable and agrees that a population of Preble's is not likely to be present within the subject area. Thus, the Service concludes that development or other actions on this site should not have direct adverse affects to Preble's. Should Preble's populations exist downstream from the site, actions on the site that result in significant modifications of Preble's habitat downstream (for example, through alteration of existing flow regimes, or sedimentation) may be subject to provisions of the ESA.

Additionally, a Section 404 permit may be required by the U.S. Army Corps of Engineers under the Clean Water Act (33 U.S.C.1344 *et seq.*) if the proposed construction may impact jurisdictional wetlands or waters of the U.S. at the subject site.

Please note that this clearance is valid for one year from the date of this letter. Should additional information on listed or proposed species become available, this determination may be reconsidered under the ESA. If development has not commenced within one year, please contact the Colorado Field Office to request an extension.

If we can be of further assistance, please contact Barbara Spagnuolo of my staff at (303) 275-2370.

Sincerely,

Susan C. Linner  
Colorado Field Supervisor

cc: FWS/CFO B. Spagnuolo

Reference: BJS\Jeffco\MtOlivet.wpd



Letter of concurrence of no significant impact regarding the presence/absence of the Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) within the Mount Olivet South Parcel, Jefferson County, Colorado. Prepared for Edith Savage, Savage and Savage, Inc. by Allan R. Pfister, Colorado Field Supervisor, USFWS, Denver, Colorado. November 23, 2004 (USFWS 2004c).



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
764 Horizon Drive, Building B  
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:  
ES/CO:FWS/ES/*Spiranthes*  
MS 65412 GJ

November 23, 2004

Edith Savage  
Savage and Savage Environmental  
4610 Haystack Drive  
Windsor, Colorado 80550

Dear Ms. Savage:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service has reviewed the habitat assessment and survey report for *Spiranthes diluvialis* (Ute ladies'-tresses orchid) (orchid) submitted with your letter of August 23, 2004. This report regards the proposed development by Coors Brewing Company of the Mount Olivet South parcel, located in T. 3 S., R. 69 W., section 19, S ½ SE ¼; in Jefferson County, Colorado.

Based on compliance with the orchid survey guidelines, the Service finds the report acceptable. The Service agrees that the suitable habitat surveyed at this site is not occupied by mature orchid plants at this time, and finds that the impacts resulting from the proposed project are not likely to adversely affect the continued existence of the orchid.

The orchid does not necessarily flower every year. For any site within required survey areas where habitat alteration has not yet occurred following an initial approved survey, additional surveys shall be conducted annually for two consecutive years or until habitat alteration commences.

We appreciate your submission of this report to our office for review and comment. If the Service can be of further assistance, please contact Ellen Mayo at (970) 243-2778, extension 14, or [ellen\\_mayo@fws.gov](mailto:ellen_mayo@fws.gov).

Sincerely,

Allan R. Pfister  
Western Colorado Supervisor

cc: COE, Littleton

EMayo:FWS/ES/CoorsBrewingCompanyProjectSpiranthesSurveyLtr.doc:112304

Letter of concurrence of no significant impacts regarding the presence/absence of *Spiranthes diluvialis* within the Coors Brewing Company Everist Parcel, Jefferson County, Colorado. Prepared for Edith Savage, Savage and Savage, Inc. by Allan R. Pfister, Western Colorado Supervisor, USFWS. November 23, 2004 (USFWS 2004d).



**United States Department of the Interior**

**FISH AND WILDLIFE SERVICE**  
Ecological Services  
764 Horizon Drive, Building B  
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:  
ES/CO:FWS/ES/Spiranthes  
MS 65412 GJ

November 23, 2004

Edith Savage  
Savage and Savage Environmental  
4610 Haystack Drive  
Windsor, Colorado 80550

Dear Ms. Savage:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service has reviewed the habitat assessment and survey report for *Spiranthes diluvialis* (Ute ladies'-tresses orchid) (orchid) submitted with your letter of September 14, 2004. This report regards the proposed development by Cabela's of the Everist parcel, located in T. 3 S., R. 69 W., section 19, S ½ SE ¼; section 20, SW ¼ SW ¼; section 29, NW¼ NW ¼; and section 30, N ½ NE ¼ in Jefferson County, Colorado.

Based on compliance with the orchid survey guidelines, the Service finds the report acceptable. The Service agrees that the suitable habitat surveyed at this site is not occupied by mature orchid plants at this time, and finds that the impacts resulting from the proposed project are not likely to adversely affect the continued existence of the orchid.

The orchid does not necessarily flower every year. For any site within required survey areas where habitat alteration has not yet occurred following an initial approved survey, additional surveys shall be conducted annually for two consecutive years or until habitat alteration commences.

We appreciate your submission of this report to our office for review and comment. If the Service can be of further assistance, please contact Ellen Mayo at (970) 243-2778, extension 14, or [ellen\\_mayo@fws.gov](mailto:ellen_mayo@fws.gov).

Sincerely,

Allan R. Pfister  
Western Colorado Supervisor

cc: COE, Littleton  
E:\Mayo\FWSESCabelasProject\SpiranthesSurvey\Ltr.doc:112304





Letter of concurrence of no significant impact to the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) within the Coors Brewing Company, Everist Parcel. Jefferson County, Colorado. Prepared for Edith Savage, Savage & Savage, Inc. by Susan C. Linner, Colorado Field Supervisor, USFWS, May 11, 2005 (USFWS 2005b).



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: T&E/PMJM/Other  
MS 65412 Lkwd

MAY 11 2005

Edith Savage  
Savage & Savage  
4610 Haystack Drive  
Windsor, Colorado 80550

Dear Ms. Savage:

We are responding to your letter of April 27, 2005, requesting clearance under the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). The Service has reviewed the Preble's meadow jumping mouse, *Zapus hudsonius preblei* (Preble's), habitat assessment report for the proposed **Cabela's and Coors Brewing Company - Everist Parcel** (Sections 19, 20, 29 & 30, T3S, R69W) in Jefferson County, Colorado. Development of this subject site may disturb wetlands and other riparian habitats. The subject site received our original ESA section 9 clearance on December 22, 1998.

Based on the information provided, and given your compliance with the Preble's survey guidelines, the Service finds the report acceptable and agrees that a population of Preble's is not likely to be present within the subject area. Thus, the Service continues to conclude that development on this site should not have direct adverse effects to Preble's. Should Preble's populations exist downstream from the site, actions on the site that result in significant modifications of Preble's habitat downstream (for example, through alteration of existing flow regimes, or sedimentation) may be subject to provisions of the ESA.

Additionally, a Section 404 permit may be required by the U.S. Army Corps of Engineers under the Clean Water Act (33 U.S.C.1344 *et seq.*) if the proposed construction may impact jurisdictional wetlands or waters of the U.S. at the subject site.

Please note that this clearance is valid for one year from the date of this letter. Should additional information on listed or proposed species become available, this determination may be reconsidered under the ESA. If development has not commenced within one year, please contact the Colorado Field Office to request an extension.

On February 2, 2005, Preble's was proposed for delisting in the *Federal Register* (Vol. 70 No. 21 FR 5404). Until a final determination is made, Preble's remains protected as a threatened species under the ESA. If we can be of further assistance, please contact Barbara Spagnuolo of my staff at (303) 275-2370.

Sincerely,

Susan C. Linner  
Colorado Field Supervisor

cc: U.S. Army Corps of Engineers, Denver Regulatory Office  
FWS/CFO B. Spagnuolo

Reference: BJSUeffco\Everist.wpd



Letter of concern from Claudia Browne, Mark Griswold, and Roni Teitlebaum to Allan Pfister, Western Colorado Supervisor, U.S. Fish and Wildlife Service regarding potential impacts to Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) habitat within the proposed Cabela's development site along Clear Creek in Jefferson County, Colorado. April 1, 2005 (Brown et al. 2005).

PLANNING & PW

Fax:3032352857

Apr 5 2005 16:05 P. 02

April 1, 2005

Allan Pfister  
Fish and Wildlife Service  
Ecological Services  
764 Horizon Drive, Building B  
Grand Junction, Colorado 81506-3946

Reference:  
ES/CO:FWS/ES/Spiranthes  
MS 65412 GJ

Dear Mr. Pfister:

We are writing as concerned neighbors to express our apprehensions about the imminent destruction of potential *Spiranthes diluvialis* (Ute ladies'-tresses orchid) habitat at the proposed Cabela's development site along Clear Creek in Jefferson County, Colorado. In September 2004, you received a letter and habitat assessment and survey report for the subject site prepared by Savage and Savage Environmental, which the US Fish and Wildlife Service (USFWS) subsequently deemed as acceptable in your letter dated November 23, 2004. We disagree with the finding of no impact from the proposed project, and we urge you to immediately reevaluate the available data, the conclusions, and how your approval is being used.

Upcoming excavation work, scheduled to begin on Monday April 4, 2005, was approved in part based on the U.S. Fish and Wildlife Service letter to Savage and Savage. However, we believe this project (and particularly the upcoming excavation) will violate the Endangered Species Act as well as the conditions of the U.S. Corps of Engineers nationwide permit under which the work is being done (which prohibits any activity that "is likely to jeopardize the continued existence of a threatened or endangered species or... which will destroy or adversely modify the critical habitat of such species.")

Based on the Savage and Savage environmental assessment report dated November 2004, it appears that the information that was provided was incomplete and misleading and therefore underestimated the impacts to the orchid habitat for the following reasons:

- It appears that Cabela's only provided the USFWS with information for the 123-acre Everist parcel, which is only a portion of the total 230-acre development site. Therefore the survey is incomplete. If this is the case, then the remaining areas of the site need to be surveyed and reviewed by the agency, and no work should be allowed in these areas until the survey is complete.
- The report states that the orchid is known to exist within 2-miles upstream of the site; and it did not report a much closer occurrence in a similar ecological setting. Independent information identified the presence of the orchid within several hundred yards downstream of the site growing in an old gravel quarry. The close proximity and similarity of circumstances where this listed species is now recognized both upstream and downstream of the site strongly suggests the need for an additional survey prior to disturbance that will destroy any habitat.

PLANNING & PLU

Fax:3032352857

Apr 5 2005 16:05 P.03

- The one year of survey data was inadequate to reach the conclusion of no impact given that the orchid does not flower every year and that it was likely to be stressed due to the drought conditions we were experiencing at the time of the survey. Unless the U.S. government intervenes, the second year of survey data (which could provide needed data to confirm the plant's absence) will not be conducted and may be a moot point because the habitat will already have been destroyed.

The Applewood Property Owners expressed our concerns to the Wheat Ridge City Council, Coors, and Cabela's in a City Council meeting on February 28, 2005, but these parties have chosen to disregard our legitimate concerns and have moved ahead with the excavation project in spite of numerous compelling, environmental reasons that there should be additional environmental evaluations done before the project proceeds.

The Jefferson County Board of Commissioners shares our concern over the need to further evaluate environmental issues associated with the development as expressed in their letter of February 24, 2005 to the City of Wheat Ridge. That letter requested a completed Phase II Environmental Site Assessment, which clearly should include additional Ute ladies'-tresses orchid surveys conducted by qualified personnel during the appropriate time of year.

Based on the above-noted concerns and the absence of local action, we believe there are sufficient grounds for the USFWS and the USACE to request that the earthwork be postponed until this issue is resolved. In a recent community meeting, Cabela's management informed us that in the past they relocated a development to avoid impacting an endangered species habitat at another store location. We are therefore hopeful that as outdoor enthusiasts (and a nationally recognized business with a responsibility to its shareholders), they will again show the same consideration for this important issue and take the time necessary to adequately assess this habitat and ensure no damage to Colorado's precious resources.

Thank you for your time and prompt consideration of this issue. We look forward to hearing your decision on how to proceed. Should you have any questions, please feel free to contact Mark Griswold at 303 279-9331.

Sincerely,



Claudia Browne  
Mark Griswold  
Roni Teitlebaum

cc: Terry McKee, U.S. Army Corps of Engineers  
U.S. Senator Ken Salazar  
U.S. Senator Wayne Allard  
U.S. Representative Bob Beauprez  
CO State Senator Moe Keller  
CO State Representative, Gwyn Green  
Jefferson County, Nanette Neelan  
City of Wheat Ridge, Mayor Gretchen Cerveny  
Cabela's, Mike Callahan  
Coors Brewing Company

Response letter to Claudia Browne, Mark Griswold and Roni Teitlebaum regarding the presence/absence of the Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) within Clear Creek and the Coors Brewing Company, Everist Parcel. Jefferson County, Colorado. Prepared by Allan R. Pfister, Western Colorado Supervisor, USFWS, April 13, 2005 (USFWS 2005a).



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
764 Horizon Drive, Building B  
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:  
ES/CO:FWS/ES/Spiranthes  
MS 65412 GJ

April 13, 2005

Claudia Browne, Mark Griswold, and Roni Teitlebaum  
14362 W. 30<sup>th</sup> Place  
Golden, CO 80401

Dear Ms. Browne et al.:

The U.S. Fish and Wildlife Service (Service) received your letter dated April 1, 2005, expressing concerns about possible destruction of potential habitat for *Spiranthes diluvialis* (Ute ladies'-tresses orchid) on the proposed development by Cabela's of the Everist parcel, located in T. 3 S., R. 69 W, Section 19, S1/2 SE1/4; Section 20, SW1/4SW1/4; Section 29, NW1/4NW1/4; and Section 30, N1/2NE1/4 in Jefferson County, Colorado. Your letter states that the orchid surveys that were conducted on the site in 2004 may have been incomplete and in violation of the Endangered Species Act and a U.S. Army Corps of Engineers (USACE) nationwide permit.

Service authority to require a survey for a listed plant species depends on the involvement of federal funding, federal lands, or required federal permits such as the USAACE nationwide permit for activities affecting wetlands. Unlike animals, listed threatened plants are not protected by federal regulations on private lands.

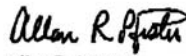
The wetlands on the Everist parcel will not be developed under a nationwide permit, as stated in your letter, because there are no jurisdictional wetlands on the site. A letter from the USACE is attached to the environmental assessment which is available on the City of Wheat Ridge web site. The Service contacted the Corps to verify that no nationwide permit is required. The environmental consultants are confident that their assessment was complete and thorough. The Cabela's development is to be located on a portion of the 123 acre Everist parcel. There seems to be no basis for your statement that the development covers 230 acres. There are other adjacent parcels in addition to Everist being considered for annexation by the City of Wheat Ridge. Maps provided on the city web site show the Cabela's plans and proposed location in relation to the other properties proposed for annexation.

Cabela's hired the environmental firm of Savage and Savage to conduct a complete environmental assessment of the proposed development site, including surveys for the Ute ladies'-tresses. The orchid survey was not required by the Service, but we did review the survey report submitted to us. Our finding was not one of "no impact" as stated in your letter. We found that the project may affect, but is not likely to adversely affect this species, based on the negative results of the surveys. We recommended that the surveys be repeated in 2005 if the suitable habitat has not been altered by then, because the plants do not always emerge every year.

This is only a recommendation; we have no authority to require surveys for plants on private lands when no federal nexus exists.

As you pointed out in your letter, there is potential habitat for the orchid in the vicinity of this project. We encourage you to work with landowners and local botanists to conduct volunteer surveys for new populations, to monitor known populations, or to implement habitat management plans. If we can be of further assistance, please contact Ellen Mayo at (970) 243-2778, extension 14, or [ellen\\_mayo@fws.gov](mailto:ellen_mayo@fws.gov).

Sincerely,



Allan R. Pfister  
Western Colorado Supervisor

cc: USACE, Littleton, CO  
G. Randolph Young, City Manager, Wheat Ridge  
Savage and Savage Environmental  
Mark Kieffer, Norris Dullea



Email correspondence from Paul Winkle, Fisheries Biologist, Colorado Division of Wildlife, to Anne Ruggles, Senior Biologist, Bear Canyon Consulting, LLC regarding special status fish species which may be present within the I-70/32<sup>nd</sup> Avenue Interchange EA Study Area. November 3, 2005 (Winkle 2005).

From: Paul.Winkle@state.co.us  
Date: November 3, 2005 3:34:42 PM MST  
To: aruggles@igc.org  
Subject: RE: species list

Anne,  
After looking through the files of previous sampling, here is a list (not necessarily all-inclusive) of fish species that are likely to occur in that portion of Clear Creek. Some species will occur at greater abundances than others.

Brown trout	Rainbow trout
Common carp	Fathead minnow
Longnose dace	Sand shiner
White sucker	Iowa darter
Longnose sucker	Green sunfish
Smallmouth bass	Largemouth bass
Bluegill	Pumpkinseed
Creek chub	

As far as the Coors pond associated with their mitigation wetlands just southeast of the intersection of McIntyre and Route 58, we have planted northern redbelly dace and common shiner. Those should be the only two fish species present in that pond.

-----Original Message-----

From: anne.ruggles [mailto:aruggles@igc.org]  
Sent: Tuesday, November 01, 2005 2:53 PM  
To: Winkle, Paul  
Subject: species list

Hello;

I wrote to you in September asking about the presence of Iowa Darters and round-tailed chubs (listed as a potential species in a CNHP document) in Clear Creek in the Golden-Wheatridge area. You answered those questions.

Is there a list of species that are likely to occur in Clear Creek (E of hwy 93 and W of Denver)? I'm also interested in species that may have been planted in the ponds at Coors.

many thanks  
Anne

---

Anne Ruggles, MS, JD  
Sr. Wildlife Ecologist  
Bear Canyon Consulting, LLC  
aruggles@igc.org  
(303) 938-0490  
www.bear-canyon.com

Clearance report for threatened plants, Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) and Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) along Clear Creek between I-70 and McIntyre Street, Jefferson County, Colorado (Johnson and Ruggles 2005). Prepared for Felsburg Holt & Ullevig by Natural Resource Services, Inc., Boulder, Colorado. Submitted to the USFWS on October 19, 2005.

**Natural Resource Services, Inc.**

P.O. Box 19332, Boulder, Colorado 80308-2332  
965 Wadsworth Avenue, Albany, Georgia 31721

Steve C. Johnson, Principal  
Phone: (303) 915-3211  
(800) 242-9466  
Fax: (720) 852-4792  
E-mail: [nrsi@nrsiservices.com](mailto:nrsi@nrsiservices.com)  
Web Site: [www.nrsiservices.com](http://www.nrsiservices.com)

October 19, 2005

FILE COPY

mailed 10/21/05

Ms. Ellen Mayo  
U.S. Fish and Wildlife Service  
764 Horizon Drive, Building B  
Grand Junction, CO 81506

RE: Ute Ladies'-tresses Orchid (*Spiranthes diluvialis*) and Colorado Butterfly Plant (*Gaura neomexicana* ssp. *coloradensis*) Clearance Report for I-70/32<sup>nd</sup> Avenue Interchange EA, Jefferson County, Colorado

Dear Ms. Mayo:

Enclosed is an orchid clearance survey report which Natural Resource Services, Inc. completed recently for a CDOT road project near Wheatridge and Golden in Jefferson County, Colorado. I have forwarded the report initially to Jim Paulmeno with CDOT Region 6 in Denver and Alison Deans Michael, your CDOT liason in Denver. We are requesting your concurrence with the conclusions presented in the report.

If you have any questions or need further information, please let me know either by email or phone. My phone number is 303.915.3211 and my email address is [stevej@nrsiservices.com](mailto:stevej@nrsiservices.com). Thank you.

Sincerely,



Steve C. Johnson  
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**CLEARANCE REPORT FOR THREATENED PLANTS**

**Ute Ladies'-tresses Orchid (*Spiranthes diluvialis*)  
Colorado Butterfly Plant (*Gaura neomexicana* ssp. *coloradensis*)  
along  
Clear Creek between I-70 and McIntyre Street  
Jefferson County, Colorado**

Felsburg Holt & Ullevig Project No. 05-154  
NRSI Project No. 05-CO-030-001

Prepared For

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*Prepared by:*

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**Introduction**

Natural Resource Services, Inc. (NRSI) was contracted on August 30, 2005 by Felsburg Holt & Ullevig to conduct environmental assessments as part of the NEPA process for roadway construction and realignment associated with the I-70/32<sup>nd</sup> Avenue Interchange Project in northeastern Jefferson County, Colorado (Figure 1). The project is administered by the Colorado Department of Transportation (CDOT). Part of the environmental assessment included a Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) and Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) habitat and presence/absence assessment. *Spiranthes diluvialis* was listed by the U.S. Fish and Wildlife Service (USFWS) as a threatened species under the Endangered Species Act (ESA) of 1973 (16 U.S.C.1531 *et seq.*) in 1992 (U.S. Fish and Wildlife Service 1992). A thorough onsite assessment of the entire project site for the presence of *S. diluvialis* and potential habitat was conducted between August 30 and September 30, 2005 by Steve C. Johnson, senior ecologist with NRSI and Anne K. Ruggles, senior ecologist with Bear Canyon Consulting, LLC. During the *Spiranthes* survey, NRSI also assessed the site for the presence of the Colorado Butterfly Plant (*Gaura neomexicana* ssp. *coloradensis*) which was also listed as a federally threatened species under the ESA in 2000 (U.S. Fish and Wildlife Service 2000). The following report describes the results of those assessments.

**Project Description**

The proposed project consists of the construction of a multi-lane access road (tentatively named Cabela's Drive) and associated interchanges which would connect 32<sup>nd</sup> Avenue just west of Interstate Highway 70 (I-70) with State Highway 58 (SH 58) to the north. Alternatives include 1) various interchange configurations tying Cabela's Drive into McIntyre Street immediately south of Clear Creek and SH 58 and 2) an interchange with access ramps tying Cabela's Drive into SH 58 midway between I-70 and McIntyre Street. Alternative 1 would require the construction of two bridges across Clear Creek while Alternative 2 would require only one bridge crossing over the creek. The project may also incorporate a paved pedestrian trail section between existing trails now located to the east and west of the proposed Cabela's Drive. The purpose of the project is to provide improved access from I-70 and SH 58 to a large new Cabela's outdoor retail center to be built north of 32<sup>nd</sup> Avenue and just west of I-70.



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**Site Location**

The project site, henceforth referred to as the Study Area, is located to the west of I-70, to the north of 32<sup>nd</sup> Avenue, to the south of SH 58, and to the east of McIntyre Street between the cities of Wheatridge and Golden in Jefferson County, Colorado (Figure 2). The general coordinates are 39° 46' 00" N latitude and 105° 09' 00" W longitude (UTM Zone 13 487,500E and 4,402,000N). The Study Area can be found on the USGS Golden, CO 7.5 minute topographic quadrangle at the following locations:

- SE 1/4 of Section 24 in Township 3 South, Range 70 West of the 6<sup>th</sup> Prime Meridian
- NE 1/4 of Section 25 in Township 2 South, Range 70 West of the 6<sup>th</sup> Prime Meridian
- S 1/2 of Section 19 in Township 3 South, Range 69 West of the 6<sup>th</sup> Prime Meridian
- NW 1/4 SW 1/4 of Section 20 in Township 3 South, Range 69 West of the 6<sup>th</sup> Prime Meridian
- N 1/2 of Section 30 in township 2 South, Range 69 West of the 6<sup>th</sup> Prime Meridian

**Ecological and Site Features**

The Study Area is situated at the transition zone between the foothills and the eastern plains along the primary alluvial terrace of Clear Creek downstream of North Table Mountain and South Table Mountain and due east of the city of Golden, Colorado. Historically, most of the site has been shaped by the deposition of sandy and gravelly alluvium deposited by Clear Creek. With the exception of the Clear Creek riparian corridor, most of the Study Area would be classified as mesic to arid upland. Several man-made irrigation ditches, which divert water from Clear Creek, and associated stormwater drainage ditches also exist on the property.

**Elevation:**

Elevations within the Study Area range between 5430 and 5510 feet above mean sea level (MSL). The terrain is generally flat, sloping gently downward from west to east.

**Hydrology:**

***Clear Creek***

The northern third of the Study Area is bisected from west to east by Clear Creek, a medium sized stream with a rocky cobble bottom and steep banks up to ten feet high (see Figure 3 and Appendix A). Clear Creek is a tributary of the South Platte River. Much of the length of Clear Creek within the Study Area has been channelized in the past. Most of the banks are stabilized with large diameter granite riprap (up to 4 feet in diameter) although a few sections along both the north and south banks are not covered with riprap. A number of low check dams and diversion dams have also been built along the entire length of Clear Creek within the Study Area. Impounded waters upstream of these checkdams have become filled with sediment and cobble over time forming low islands and terraces between the steeper rip-rapped banks (see photos in Appendix A). Most of these terraces are low and flat, ranging from four inches to several feet above the water level in the creek at the time of the field survey. The majority of the terraces have the hydrology, hydric soils and facultative vegetation to be classified as wetlands.

In the extreme northeast corner of the Study Area is a system of wetlands associated with an historic oxbow of Clear Creek which apparently still carries water from the creek during high flow events. At the time of the field survey of this area on September 1, 2005, the site was occupied by several large active beaver ponds (Appendix A) which impounded water that apparently enters the site through seepage, rainfall events and Clear Creek overflow events. No water was entering the site from the creek at the time of the site visit but a small amount of outflow from the beaver pond complex into Clear Creek was observed. This area was noted





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as having some potential *Spiranthes diluvialis* habitat during a site assessment conducted for the I-70/SH 58 Interchange Environmental Assessment in 2001 (CH2MHill 2001, Ibid 2002, Weiland Sugnet 2001b).

***Irrigation Diversion Ditches***

Two major irrigation ditches divert water from the north bank of Clear Creek to areas to the north and northeast of the Study Area. These are the Juchem-Reno Ditch and the Bayou Ditch. The Juchem-Reno Ditch also receives storm runoff and seepage water from drainage ditches associated with SH 58 to the north of the Study Area and from drainage ditches associated with the south side of SH 58 and from drainage ditches associated with the SH 58 frontage road, also located on the south side of SH 58. A system of permanent palustrine forested and palustrine emergent wetlands were associated with the drainage ditches which empty into the Juchem Ditch, but very few wetlands were directly adjacent to the Juchem Ditch itself. Both the Juchem-Reno ditch and the Bayou ditch, within the Study Area, are characterized in most places as having very steep sides and a very dense overstory of mature trees and shrubs. Water was flowing in both irrigation ditches at the time of the site visits.

***Isolated Lakes and Depressional Wetlands***

A number of man-made lakes, gravel pits and isolated depressional wetlands exist within the Study Area. Many of the lakes have resulted from historic gravel mining operations. Some of these have been modified to serve as holding ponds for Coors Brewing Company. Lakes within the Study Area were characterized by steep banks, stabilized by riprap in many instances, with very little to no wetland vegetation along the shorelines. A few other isolated depressional wetlands were scattered throughout the northern half of the Study Area. These were all extremely dry at the time of the site visits and contained a very limited number of plant species. Water sources for these areas appeared to result solely from precipitation or from seepage during wet years.

***Soils:***

Soils data were obtained from the U.S. Department of Agriculture, Natural Resources Conservation Service (formerly known as the Soil Conservation Service) soil surveys (Price and Amen 1980). Specific site data were field verified by Steve Johnson of NRSI during the September site visits in 2005. Soils mapped on the site by the Soil Conservation Service were characterized as Alda-Torrifluvents, very gravelly, nearly level, deep, somewhat excessively drained and somewhat poorly drained, loamy, very gravelly, and sandy soils that formed in mixed alluvium. Upland slopes were characterized as dominantly somewhat excessively drained and well drained, sandy and loamy soils on high terraces and hill slopes. Three soil types were mapped within the Study Area (Ibid 1980). They were:

- Torrifluvents, very gravelly, 0 to 3 percent slopes which were associated with unmined areas adjacent to the Clear Creek channel
- Alda-Niwot complex, 0 to 2 percent slopes located on upland areas north of the Creek channel
- Pits, gravel occupying most of the Study Area south of Clear Creek

Most soils throughout the Study Area appeared to have been significantly disturbed in the past by aggregate mining operations and other industrial activities.

Hydric soils were evident during the September site visits within the riparian zone immediately bordering Clear Creek as well as within, and immediately adjacent to, the Juchem and Bayou Ditches and associated drainage ditches. Some hydric soils were also associated with the few isolated depressional wetlands within the Study Area.



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**Vegetation:**

*Clear Creek*

Though the riparian habitat along most of Clear Creek through the Study Area was dominated by dense coyote willow thickets, there was low structural complexity, i.e. an herbaceous understory was lacking and there were few trees. In some areas, however, a narrow herbaceous band was present which was associated with the low flat sedimentary and cobble terraces at the stream's edge. Vegetation growing on these terraces at the time of the site visits included reed canarygrass (*Phalaris arundinacea*), meadow fescue (*Festuca pratensis*), rabbitfoot grass (*Polypogon monspeliensis*), prostrate knotweed (*Polygonum aviculare*), pale smartweed (*Polygonum lapathifolium*), ladythumb smartweed (*P. persicaria*), coyote willow, witch grass (*Panicum capillare*), *Scirpus microcarpus*, Baltic rush (*Juncus balticus*), plains cottonwood seedlings (*Populus deltoides*), spikerush (*Eleocharis palustris*), barnyard grass (*Echinochloa crusgalli*), boxelder (*Acer negundo*), Bidens (*Bidens frondosa*), Junegrass (*Koeleria cristata*), Nebraska sedge (*Carex nebraskensis*), bentgrass (*Agrostis scabra* and *A. stolonifera*), Torrey's rush (*Juncus torreyi*), foxtail barley (*Hordeum jubatum*), Dudley's rush (*Juncus dudleyi*), Canada thistle (*Cirsium arvense*), Canada goldenrod (*Solidago canadensis*), carpetweed (*Mullugo verticillata*), watercress (*Nasturtium officinale*), and showy milkweed (*Asclepias speciosa*)

*Irrigation Diversion Ditches (Juchem and Bayou Ditches)*

The width of riparian habitat along the Juchem and Bayou Ditches was very narrow, usually less than three meters. Both ditches were covered by an overstory of plains cottonwood, narrow-leaf cottonwood (*Populus angustifolia*), boxelder, Siberian elm (*Ulmus pumila*), and crack willow over much of their length within the Study Area. The eastern portion of the Bayou Ditch was covered by a dense continuous stand of coyote willow along both sides of the ditch but no overstory was present. The Juchem Ditch had very little wetland associated with the ditch since the banks were very steep. The first two hundred yards of the Bayou Ditch northeast of Clear Creek was covered by the tree overstory, but had some emergent wetland terraces and bars within the banks of the ditch which were predominated with reed canarygrass. Predominant vegetation established in the immediate vicinity of these ditches consisted primarily of mesic vegetation, however. Species included snowberry (*Symphoricarpos occidentalis*), wild rose (*Rosa woodsii*), and coyote willow. Herbaceous cover was sparse and consisted of less than 1% grass species.

*Roadway Drainage Ditches*

The roadway drainage ditches paralleling SH 58 were narrow (one meter to eight meters wide) and were characterized by alternating palustrine emergent wetlands and forested riparian areas. Overstory species in the forested areas consisted primarily of plains cottonwood, narrow-leaf cottonwood, boxelder, and Siberian elm.

Forested understory consisted of coyote willow, golden currant (*Ribes aureum*), Arkansas rose (*Rosa arkansana*), boxelder, poison ivy (*Toxicodendron rydbergii*), Virginia creeper (*Parthenocissus quinquefolia*), snowberry. Canada thistle, houndstongue (*Cynoglossum officinale*), scouring rush (*Hippochaete laevigata*), Chinese clematis (*Clematis orientalis*), domesticated hops (*Humulus lupulus*), and a mixture of various grasses and forbs. Herbaceous and graminoid ground cover in the forested areas varied from none to 30 percent cover.

Emergent wetland areas along the roadway drainage ditches were characterized by complete coverage with mixed and homogeneous stands of cattails (*Typha latifolia*), roundstem bulrush (*Scirpus lacustris*), *Scirpus microcarpus*, blue vervain (*Verbena hastata*), three-square (*Scirpus americana*), watercress, common duckweed (*Lemna minor*), larger duckweed (*Spirodela polyrhiza*), wild licorice (*Glycyrrhiza lepidota*),



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Canada thistle, showy milkweed, swamp milkweed (*Asclepias incarnate*), teasel (*Dipsacus fullonum*), common nettle (*Urtica gracilis*), spikerush, barnyard grass, and poison hemlock (*Conium maculatum*). Much of the emergent wetland area in the drainage ditches was bordered on both sides by dense stands of coyote willow. Vegetation in most of the emergent areas of the drainage ditches was two to seven feet tall and very dense.

***Isolated Depressional Wetlands***

Isolated depressional wetlands were identified in a few places within the Study Area. These were dry at the time of the site visits but were occupied by mostly facultative vegetation which included cattails, Dudley's rush, curlycup gumweed, smooth brome (*Bromus inermis*), ragweed (*Ambrosia psilostachya*), white and yellow sweetclover (*Melilotus alba* and *M. officinalis*), spikerush, Canada thistle, coyote willow, prickly lettuce (*Lactuca serriola*), curly dock (*Rumex crispus*), witchgrass, foxtail barley, field bindweed (*Convolvulus arvensis*), crested wheatgrass (*Agropyron cristatum*), plains cottonwood, and narrow-leaf cottonwood.

Other parts of the Study Area located away from the riparian corridors of Clear Creek and the ditches were characterized as dry upland. Characteristic vegetation identified in these sites included plains cottonwood, narrow-leaf cottonwood, Siberian elm, rubber rabbitbrush (*Chrysothamnus nauseosus*), Canada thistle, musk thistle (*Carduus nutans*), golden currant, poison ivy, teasel, cheatgrass (*Bromus tectorum*), blue gramma (*Bouteloua gracilis*), side oats gramma (*B. curtipendula*), and a large number of exotic weed and grass species.

***Ecological Condition and Management History:***

The original topography of the area has been altered extensively. Current and past land uses which have shaped the landscape include commercial, industrial, and recreational uses as well as historic mining extraction. Extensive gravel mining has been a major factor in altering the topography and hydrology of the site in the recent past, especially in the portion of the Study Area located south of Clear Creek. Overall, with the exception of the extreme northeast corner, most of the site has been heavily used and altered. The vegetation is dominated by non-native and weedy species over most of the site and much of the landscape consists of reclaimed aggregate mining sites, unreclaimed aggregate mining sites, holding ponds, and overburden and construction storage sites.

**Ute Ladies'-tresses Orchid and Colorado Butterfly Plant Habitat Requirements**

***Ute Ladies'-tresses Orchid:***

*Spiranthes dihuivialis* is a perennial terrestrial orchid with stems 20 to 50 cm tall arising from tuberously thickened roots (U.S. Fish and Wildlife Service 1992a). It has narrow grass-like leaves at the base of the stem which become smaller up the stem. The 3 to 15 small white flowers are clustered into a spike at the top of the stem. Blooms have been recorded between early July and early October (Ibid.). It is a relatively nondescript plant and is difficult to locate and identify when not in bloom.

*Spiranthes dihuivialis* is currently found in relatively undisturbed riparian areas in the greater Denver, Colorado area as well as in some parts of Idaho, Montana, Nebraska, Nevada, Utah, Washington, and Wyoming (Fertig 2000b). It has been confirmed in Jefferson County, Colorado along Clear Creek in the Golden area upstream of the Study Area (pers. comm. Jon Chesser 2005) and also immediately downstream of the Study Area in city of Wheatridge Open Space (Anderson and Stevens 2000). It occurs primarily in areas where the vegetation is relatively open and not overly dense, overgrown, or overgrazed (U.S. Fish and



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Wildlife Service 1992a). According to Fertig (2000b), it occurs primarily on moist, subirrigated or seasonally flooded soils in valley bottoms, on gravel bars, in old oxbows, or on floodplains bordering springs, lakes, rivers, or perennial streams at elevations between 1800 and 6800 ft. msl. Soils vary from sandy or coarse cobbly alluvium to calcareous, histic, or fine-textured clays and loams.

*Spiranthes diluvialis* is considered to be a wetland species and is listed as facultative wetland plus (FACW+) on the national list of wetland species (U.S. Fish and Wildlife Service 1997). Plant species generally associated with the orchid in Colorado include common wetland species such as (U.S. Fish and Wildlife Service 1992b, Riedel 1998):

- Sedges (*Carex* sp.)
- Redtop (*Agrostis gigantea*)
- Horsetail (*Equisetum* sp.)
- Milkweed (*Asclepias speciosa* and *incarnata*)
- Blue vervain (*Verbena hastata*)
- Blue cardinal flower (*Lobelia siphilitica*)
- Blue-eyed grass (*Sisyrinchium montanum*)
- Canada goldenrod (*Solidago canadensis*)
- Plantain (*Plantago lanceolata*)
- Carpet bentgrass (*Agrostis stolonifera*)
- Spike rush (*Eleocharis* sp.)
- Switchgrass (*Panicum virgatum*)
- Fescue (*Festuca* sp.)
- Bluegrass (*Poa* sp.)
- Rushes (*Juncus* sp.)
- Agalinus (*Agalinus tenuifolia*)
- Arrowgrass (*Triglochin maritima*)
- Self heal (*Prunella vulgaris*)
- Timothy (*Phleum pratense*)
- Alkali muhly (*Muhlenbergia asperifolia*)
- Canada thistle (*Cirsium arvense*)
- Big bluestem (*Andropogon gerardii*)

**Colorado Butterfly Plant:**

*Gaura neomexicana* ssp. *coloradensis* is a perennial herb that lives vegetatively as a rosette for several years before bearing fruit once on one or a few 50 to 80 cm tall branched reddish, hairy stems and then dying (U.S. Fish and Wildlife Service 2000, Fertig 2000a). The lower leaves are lance shaped with smooth or wavy-toothed margins and average 5 to 15 cm in length. Only a few four-petaled white, pink or red flowers are in bloom at any one time on the branched stems (U.S. Fish and Wildlife Service 2000). Flowering occurs between June and October (Spackman et al. 1999).

*Gaura* is an obligate wetland plant (U.S. Fish and Wildlife Service 1997) which is endemic to moist soils in mesic or wet meadows of floodplain areas in north central Colorado, extreme western Nebraska, and southeastern Wyoming (U.S. Fish and Wildlife Service 2000). Populations have been confirmed to be present in Weld and Boulder counties in Colorado but the plant is also known historically from the Colorado counties of Douglas, and Larimer (Fertig 2000a).



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The plant occurs primarily on subirrigated alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations between 5000 and 6400 ft. msl (U.S. Fish and Wildlife Service 2000). Colonies are often found in low areas or along bends in wide meandering stream channels a short distance upslope from the channel. It requires early to mid-successional riparian habitat. Habitats created and maintained by streams which are active throughout their floodplains, with vegetation that is open and not overly dense or overgrown are preferred (U.S. Fish and Wildlife Service 2000). Plant species commonly associated with *Gaura* include (U.S. Fish and Wildlife Service 2000):

- Redtop (*Agrostis stolonifera*)
- Wild licorice (*Glycyrrhiza lepidota*)
- Smooth scouring rush (*Equisetum laevigatum*)
- Kentucky bluegrass (*Poa pratensis*)
- Flodman's thistle (*Cirsium flodmanii*)
- Curlycup gumweed (*Grindelia squarrosa*)

**Survey Methods**

A thorough literature review for both *Spiranthes* and *Gaura* was conducted prior to the onsite survey. A *Spiranthes* population on Clear Creek several miles to the west of the Study Area was confirmed to be flowering on August 16, 2005 by botanists associated with the Denver Botanical Gardens and the Colorado Department of Transportation (per. comm. Jon Chesser 2005).

The survey dates for this study fell slightly after the July 20 through August 31 period recommended by the USFWS guidelines (U.S. Fish and Wildlife Service 1992) for *Spiranthes*. A thorough search of all potential *Spiranthes* and *Gaura* habitat identified within the proposed project alternatives impact areas within the Study Area was conducted, however, according to federal guidelines (U.S. Fish and Wildlife Service 1992b). The date of the survey did fall within the July through October flowering/fruitletting period for *Gaura* (Fertig 2000 and Spackman et al. 1999), however.

An intensive field survey was conducted between August 30 and September 30, 2005 in all parts of the Study Area where potential construction impacts for all project alternatives were anticipated to occur (Figure 3). During the survey, potential *Spiranthes* and *Gaura* habitat were initially identified and mapped (Figure 4). After the identification of potential habitat sites was completed, each site was thoroughly and searched on foot by carefully walking through or adjacent to each site and searching for physical evidence of the presence of *S. dihuivialis* and *Gaura*, i.e. reproductive structures and above ground vegetative structures. Most sites were very narrow and could be searched from the water's edge or from the uphill edge of the habitat without impacting the existing vegetation.

**Survey Results and Conclusions**

**Results:**

Most of the Study Area including the Clear Creek riparian corridor has been significantly disturbed in the past by aggregate mining, damming and ditching to facilitate diversion of water for irrigation, channelization of the creek and associated bank stabilization with large riprap, and other industrial activities. Some potential habitat suitable for *Spiranthes* and *Gaura* has been identified within the Study Area in the past, however, specifically within the riparian corridor immediately adjacent to Clear Creek. Colorado Natural Heritage



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Program data indicate that populations of *Spiranthes diluvialis* have also been identified within a two mile radius of the Study Area. Known populations occur along the Clear Creek corridor both upstream and downstream of the area. Several surveys for *Spiranthes* and *Gaura* have been completed in the immediate vicinity of the study area in the past several years. ERO (Larson and Mangle 1998) thoroughly surveyed the area immediately south of Clear Creek and immediately west of I-70 in 1998 and found potential habitat but no evidence of *Spiranthes*. Construction grading began on that site in early 2005.

The area immediately southwest of the I-70 and SH 58 interchange was surveyed for *Spiranthes* in 2001 (CH2 M HILL 2002, Weiland Sugnet, Inc. 2001)(Figure 3). Several small areas of potential habitat were identified during that survey, but no plants were found. That area was again surveyed by NRSI in 2005 as part of this project. As a result of that most recent survey, most of the potential habitat identified in 2001 was deemed unsuitable for both *Spiranthes* and *Gaura* since waters impounded behind beaver ponds had flooded much of the previously identified habitat and a very thick understory of reed canarygrass, coyote willow, and other tall herbaceous plants had developed (see photos in Appendix A). Small areas of previously identified potential habitat continued to be present along the edge of Clear Creek, however (Figure 5). These areas would not be impacted by road construction associated with the I-70/32<sup>nd</sup> Avenue Interchange Project.

In 2004, the area previously surveyed in 1998 by ERO, and now known as the Coors Everist Parcel (Figure 3), was again surveyed, this time by Savage and Savage, Inc. (2004b). Again, no *Spiranthes* was found to be growing within the parcel and a letter of concurrence of no adverse affects was issued by the USFWS on November 23, 2004.

Also in 2004, an area immediately north of Clear Creek known as the Coors Mount Olivet South Parcel (Figure 3) was surveyed for *Spiranthes* by Savage and Savage, Inc. (2004a) in preparation for proposed reclamation activities. Most of that site is occupied by an old aggregate mining pit with some wetlands located at the bottom. No individuals of *Spiranthes diluvialis* were identified on that site during that survey.

The 2005 survey conducted by NRSI identified potential *Spiranthes* habitat within the Study Area only on alluvial terraces in the immediate vicinity of Clear Creek (Figure 4 and 5). These areas can be characterized as low herbaceous bars and terraces immediately adjacent to the creek (see photos in Appendix A) upon which were growing a number of plant species which are generally associated with *Spiranthes* and *Gaura*. These species included sedges (*Carex* sp.), redtop (*Agrostis gigantea*), milkweed (*Asclepias speciosa* and *incarnata*), blue vervain (*Verbena hastata*), carpet bentgrass (*Agrostis stolonifera*), switchgrass (*Panicum virgatum*), bluegrass (*Poa* sp.), and rushes (*Juncus* sp.). A number of these sites were scattered along both banks of Clear Creek from McIntyre Street all the way to I-70. The only areas searched and mapped for this project, however, were the segments of the riparian zone along the Creek which may be impacted by project alternatives (Figure 3, 4 and 5). No other potential habitat for either species was identified within the Study Area other than that in the immediate vicinity of Clear Creek.

**Conclusions:**

It was concluded by the researcher, after a thorough survey of the site, that suitable habitat for *Spiranthes diluvialis* and *Gaura neomexicana* ssp. *coloradensis* was present within the Study Area only at scattered locations in the immediate vicinity of Clear Creek as shown in Figures 4 and 5. No evidence of either species was located during thorough searches of those sites, however. These findings are supported by previous surveys conducted within the Study Area since 1998.



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I-70/32<sup>nd</sup> Avenue Interchange  
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Threatened Plants Clearance Report

The information contained in this report is certified to be authentic and accurate and was acquired ethically through the means and methods described herein.

SURVEY COMPLETED BY:

*Stephen C. Johnson*

Date: October 19, 2005

Stephen C. Johnson, PWS  
Natural Resource Services, Inc.  
P.O. Box 19332  
Boulder, CO 80308-2332  
(303) 915-3211  
FAX: (720) 652-4792



**I-70/32<sup>nd</sup> Avenue Interchange  
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**Qualifications of the Surveyors**

**Steve C. Johnson, B.S., M.S.**

Steve C. Johnson completed a B. S. degree at Auburn University in 1968 in Biological Science and an M.S. degree in 1979, also at Auburn University, in Wildlife Management with enough credits for a minor in botany. He worked for the Georgia Department of Natural Resources, Wildlife Resources Division, as a wildlife biologist for 18 years from 1977 through 1994. Duties included research and wildlife surveys including T&E species surveys. Steve worked as a senior biologist in charge of Georgia's waterfowl program for five years from 1990 through 1994. Duties included wetland assessments and T&E species assessments associated with permitting for over 21 wetland habitat restoration projects as well as serving as the Wildlife Resources Division's wetland specialist. He has been certified as a Professional Wetland Scientist since 1995. Steve has been working as an ecologist throughout Colorado and surrounding states, in addition to the Southeastern U.S. since 2001 completing wetland delineations and T&E surveys associated with the NEPA process for a number of projects.

Special status species work in which Steve has been involved has included work with the American alligator (*Alligator mississippiensis*), the bald eagle (*Haliaeetus leucocephalus*), *Croonia paucifolia* (a threatened plant in Georgia), the alligator snapping turtle (*Macrolemys temminckii*), the wood stork (*Mycteria americana*), the Pickering morning glory (*Stylisma pickeringii* var. *pickeringii*) (a state listed threatened plant), the relict trillium (*Trillium reliquum*) (a threatened plant), the Ute Ladies'-tresses orchid (*Spiranthes diluvialis*), the Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*), the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*), and others. Steve is also permitted by the U.S. Fish and Wildlife Service, the Colorado Division of Wildlife, and Wyoming Game and Fish to conduct trapping surveys for the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*).

Steve's experience with the Ute Ladies'-tresses Orchid (*Spiranthes diluvialis*) includes field survey assistance given to Lynn Reidel, botanist with the City of Boulder Open Space and Mountain Parks, in conducting the annual *Spiranthes* survey on South Boulder Creek, Boulder County, Colorado in July and August of 2002. A number of orchids were located, identified and photographed in a vegetative state during that hands and knees survey. Assistance was also given to Janetta Shepard, Ecologist with Aquatic and Wetland Company, in conducting an orchid survey in the city of Boulder for Summit Companies, Inc. in 2001. No orchids or orchid habitat was identified during that survey. Steve also completed an orchid survey for a CDOT bridge replacement project in Lakewood, Colorado (clearance report submitted to the USFWS and approved) and another CDOT project in Aurora, Colorado.

Steve has also discussed the orchid with Claire Deleo, a botanist with the Boulder County Parks and Open Space Department, Boulder, Colorado and has conducted a thorough literature search for the orchid as well as herbarium reviews at the University of Colorado herbarium and the City of Boulder Open Space and Mountain Parks herbarium.





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**Anne K. Ruggles, B.S., M.S., JD**

Anne K. Ruggles completed a B.S. degree in Zoology in 1981 at the University of Texas and an M.S. degree in 1991 in Wildlife Biology at the University of Alaska. She received a law degree from the University of Colorado, specializing in Natural Resources Law in 2003 and was admitted to the Colorado Bar in 2004. She has held various positions in natural resources fields in Texas, Alaska, Washington, Colorado, Argentina, Ecuador, Bolivia, Belize, Guatemala, and Puerto Rico. Anne's field experience includes work with the screw worm (*Cochliomyia hominivorax*), black-tailed prairie dog (*Cynomys ludovicianus*) habitat restoration, common loon (*Gavia immer*) and Bonapart's gull (*Larus philadelphia*) interaction, the Alaska Wolf Management Team, Preble's Meadow Jumping Mouse basic research in Colorado, and others. She has been a member of the Alaska Board of Game, the Board of Directors of the Rocky Mountain Bird Observatory, and is presently a *Visiting Scholar* at the Center for Science and Technology Policy Research at the Cooperative Institute for Research in Environmental Sciences at the University of Colorado, Boulder and Principal Scientist of Bear Canyon consulting, LLC, an environmental consulting firm specializing in threatened and endangered species. She is also permitted to trap the Preble's Meadow Jumping Mouse and has published an extensive list of technical publications.

Anne's experience with the Ute Ladies'-tresses orchid includes assisting personnel of the City of Boulder Open Space Mountain Parks and the Boulder County Parks and Open Space Department in habitat identification and management projects and incidental contact while completing other projects. Anne has also discussed the orchid with botanists with the Boulder County Parks and Open Space Department, Boulder, Colorado and has conducted a thorough literature search for the orchid as well as herbarium reviews at the University of Colorado herbarium in Boulder.



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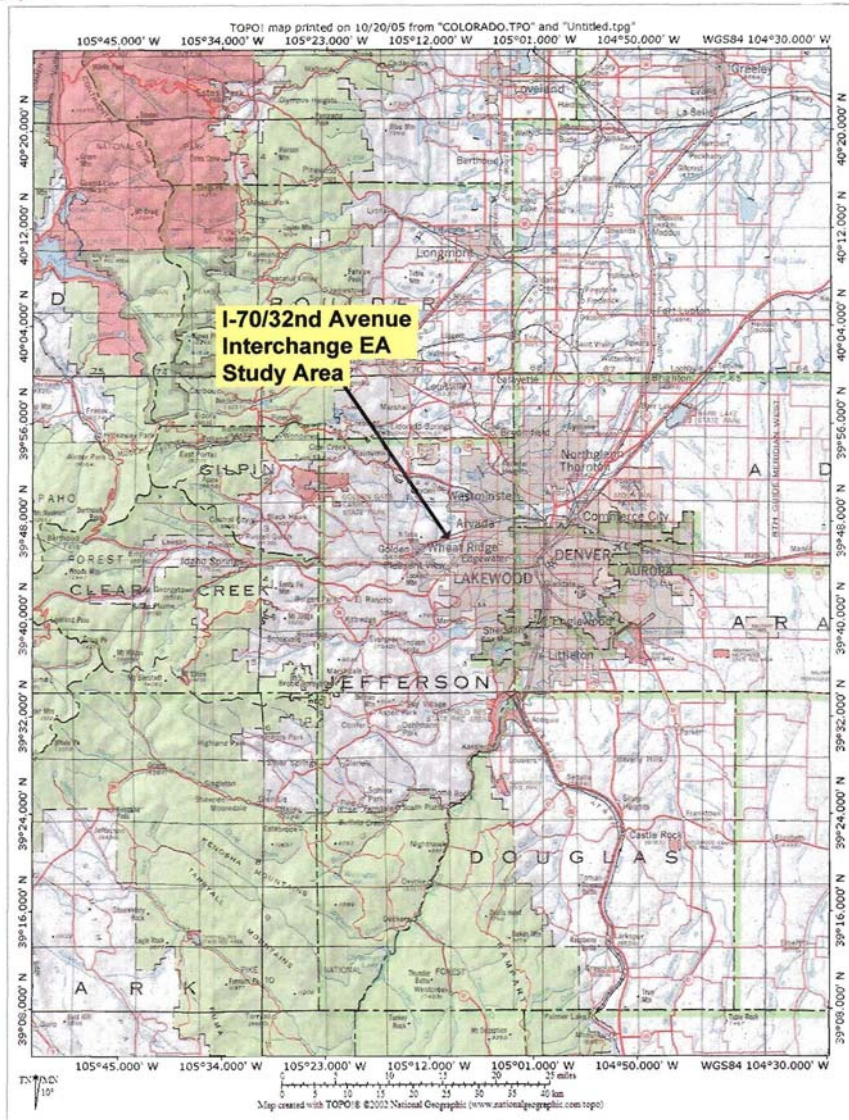


Figure 1. General location of the I-70/32nd Avenue Interchange EA Study Area.



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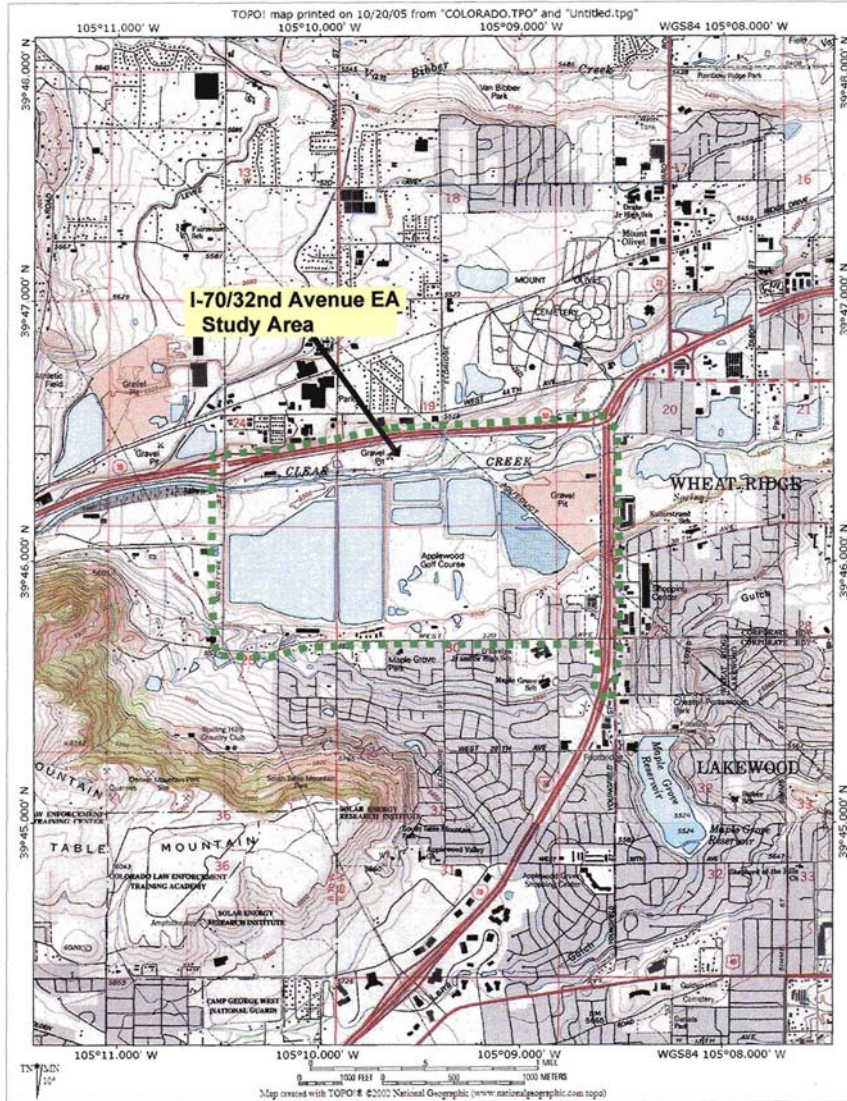


Figure 2. I-70/32nd Avenue Interchange EA Study Area.

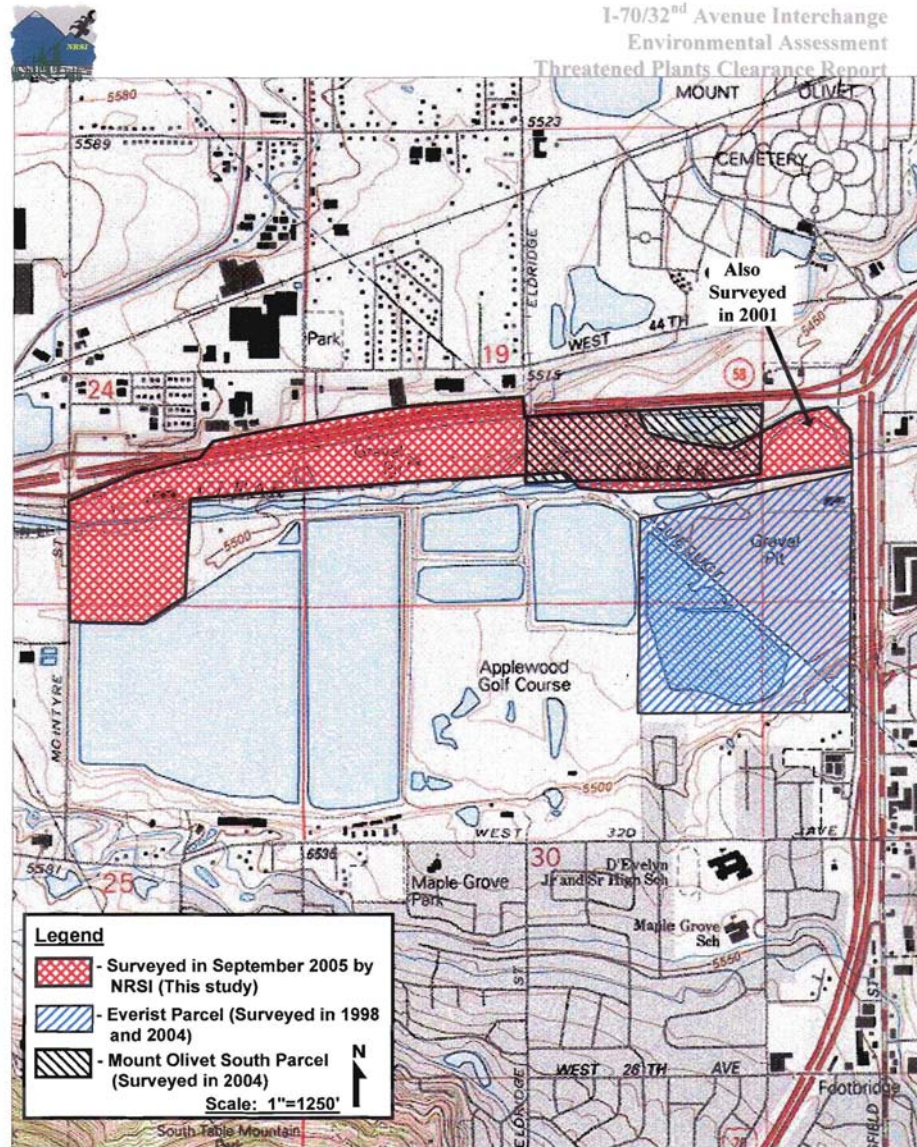


Figure 3. USGS 7.5 minute topo quad map (Golden, CO) showing the area surveyed by NRSI in 2005 for the Ute Ladies'-tresses orchid and the Colorado Butterfly Plant within the I-70/32nd Avenue Interchange Study Area along with areas of previous surveys.

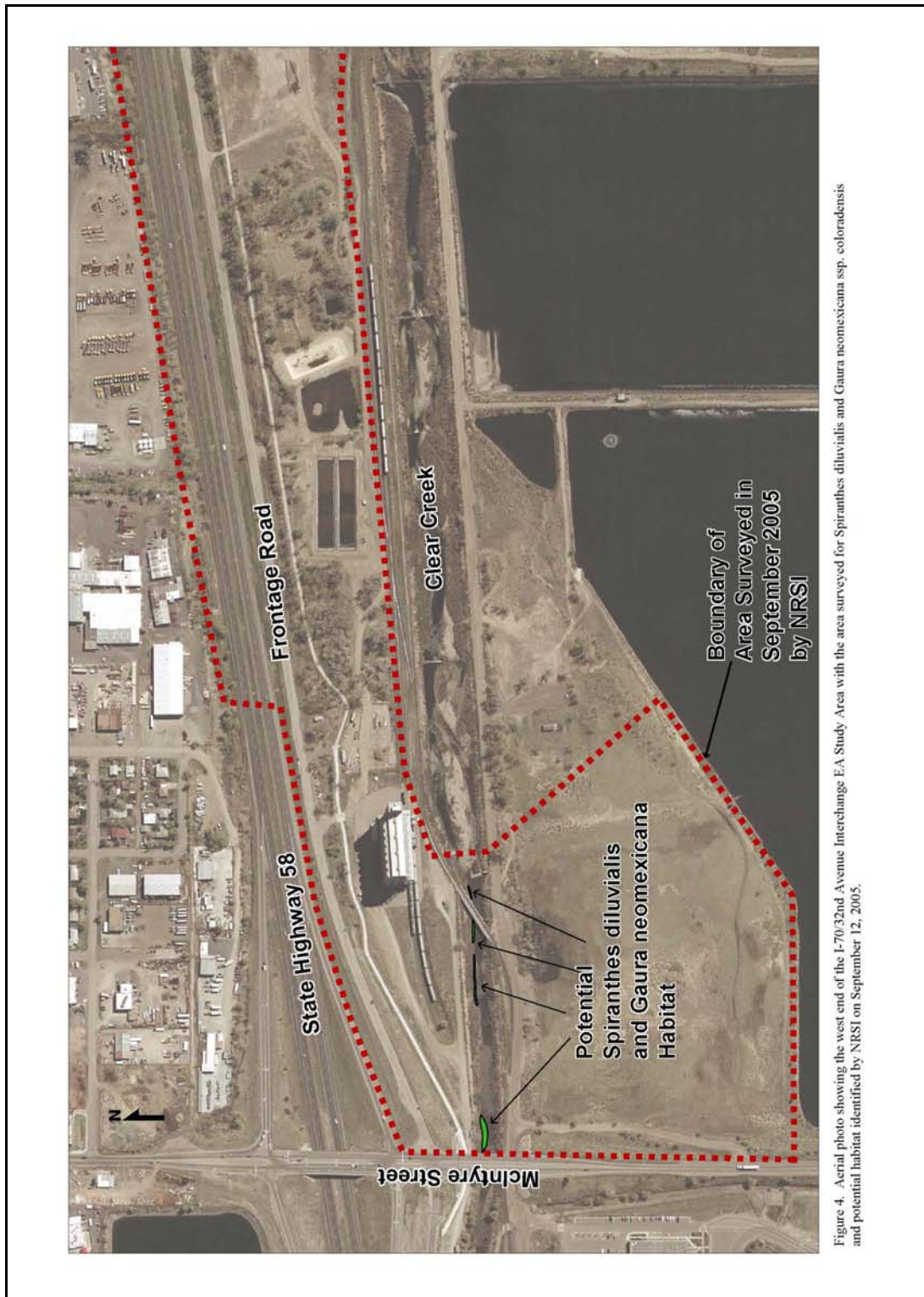


Figure 4. Aerial photo showing the west end of the I-70/32nd Avenue Interchange E.A Study. Area with the area surveyed for *Spiranthes diluvialis* and *Gaura neomexicana* ssp. *coloradensis* and potential habitat identified by NRSI on September 12, 2005.

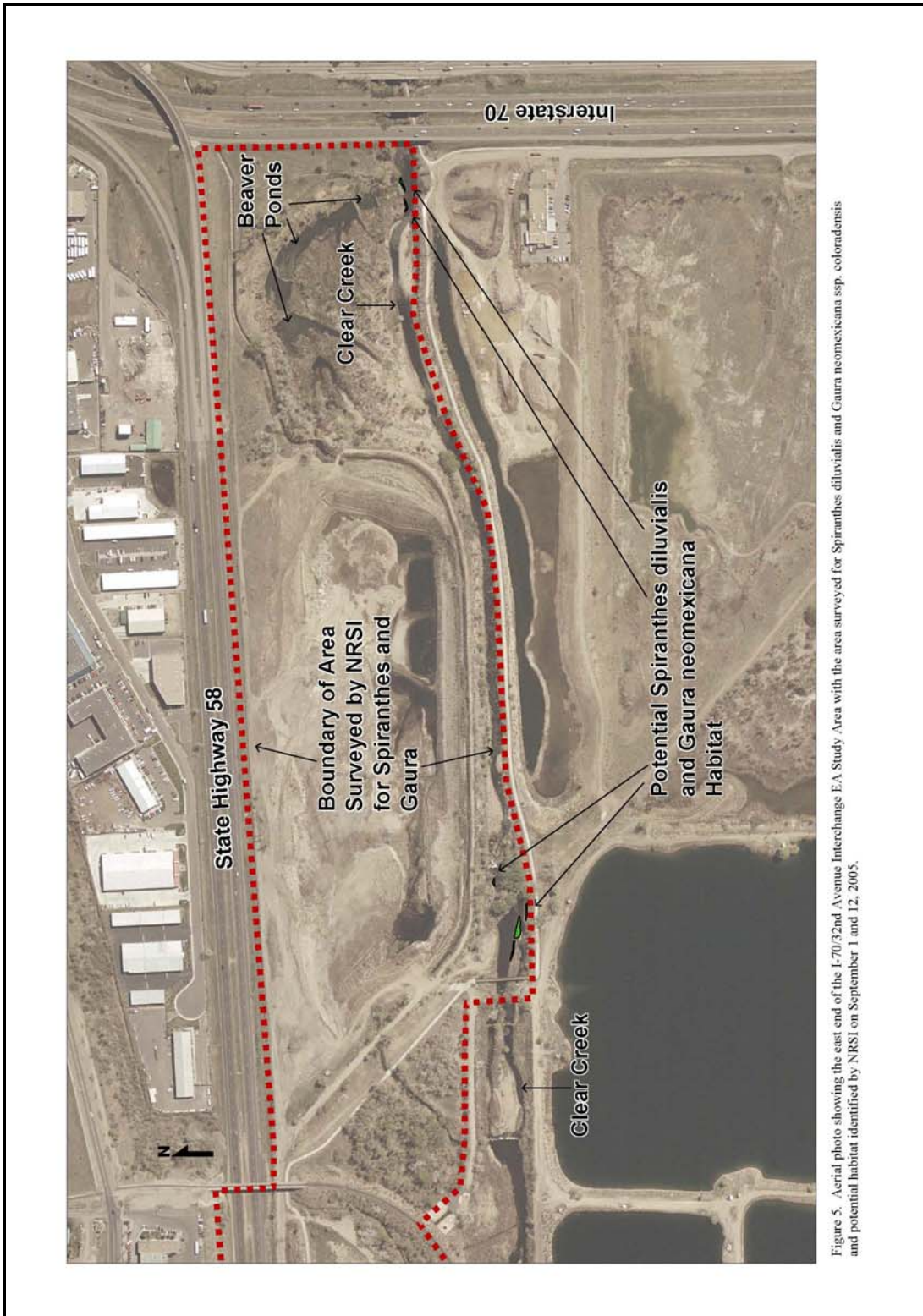


Figure 5. Aerial photo showing the east end of the I-70/32nd Avenue Interchange E.A Study Area with the area surveyed for *Spiranthus diluvialis* and *Gaura neomexicana* ssp. *coloradensis* and potential habitat identified by NRSI on September 1 and 12, 2005.





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**APPENDIX A**

**SITE PHOTOS**



**I-70/32<sup>nd</sup> Avenue Interchange  
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Area immediately southeast of the I-70/SH 58 interchange on 9/01/2005 where potential *Spiranthes diluvialis* habitat was identified in 2001 by Weiland Sugnet, Inc. The area is now part of an active beaver pond complex.



Area immediately southeast of the I-70/SH58 interchange on 9/01/2005. This site was identified in 2001 by Weiland Sugnet, Inc. as potential *Spiranthes* habitat but is now occupied with tall dense vegetation associated with a beaver pond.



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Construction activities occurring on the Coors Everist Parcel on 9/12/2005. This area was surveyed for *Spiranthes* habitat in 1998 by ERO and again in 2004 by Savage and Savage.



Area immediately adjacent to McIntyre Street and south of Clear Creek at the west end of the Study Area on 9/26/2005. Several dry depressional wetlands were identified at this site but no potential *Spiranthes* habitat was located.



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Potential *Spiranthes* habitat identified on 9/12/2005 on cobbly terraces along the north bank of Clear Creek immediately east of McIntyre Street at the west end of the Study Area.



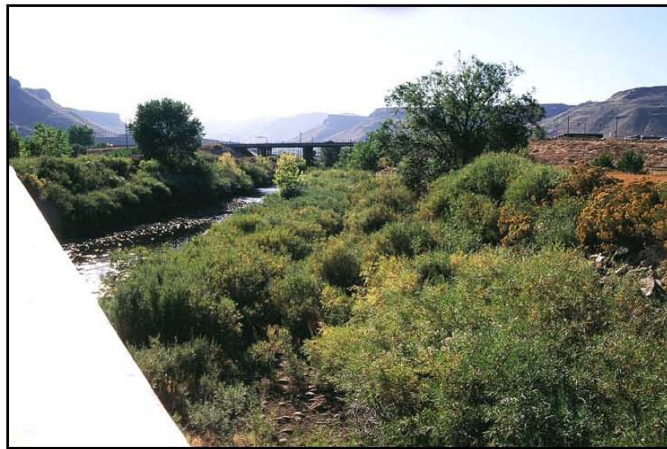
Another area of potential *Spiranthes* habitat identified on 9/12/2005 on cobbly terraces along the north bank of Clear Creek immediately east of McIntyre Street at the west end of the Study Area.



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Another area of potential *Spiranthes* habitat identified on 9/12/2005 on cobbly terraces along the north bank of Clear Creek immediately east of McIntyre Street at the west end of the Study Area.



The Clear Creek riparian corridor looking west from the railroad bridge on 9/12/2005 at the west end of the Study Area. The McIntyre Street bridge over Clear Creek is seen in the distance. The banks of the creek channel are covered with large riprap in this area with herbaceous terraces and bars at the water's edge.



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The Clear Creek riparian corridor looking east from the railroad bridge on 9/12/2005 toward the center of the Study Area. The banks of the creek channel are covered with large riprap in this area with herbaceous and shrub-scrub terraces and bars along the length of the channel. This part of Clear Creek east of the railroad bridge was not surveyed for *Spiranthes* or *Gaura*.



The Clear Creek riparian corridor looking east in the vicinity of the proposed east bridge crossing of Cabela's Drive over Clear Creek. The banks of the creek channel are partially covered with large riprap in this area with herbaceous terraces and bars at the water's edge. Some potential *Spiranthes* and *Gaura* habitat was identified in this area.



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The Clear Creek riparian corridor looking east in the vicinity of the proposed east bridge crossing of Cabela's Drive over Clear Creek. The photo shows a large *Salix fragilis* and *Populus deltoids/angustifolia* grove through which the creek flows at this site.



The Clear Creek riparian corridor looking east in the vicinity of the proposed east bridge crossing of Cabela's Drive over Clear Creek. Some potential *Spiranthes* and *Gaura* habitat was identified in this area.



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The Clear Creek riparian corridor looking south at the site of the proposed east bridge crossing of Cabela's Drive over Clear Creek. The banks of the creek channel are partially covered with large riprap in this area with cobbly herbaceous terraces and cobble bars within the creek channel and at the water's edge. Some potential *Spiranthes* and *Gaura* habitat was identified in this area.



Photo showing typical heavily riprapped banks of Clear Creek with dense stands of *Salix exigua* covering the banks to the waterline. This type of habitat was identified along most of the length of Clear Creek with in the Study Area.





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Typical wetland habitat associated with drainage ditches which paralleled SH 58 and the SH 58 frontage road along the northern boundary of the Study Area. No potential *Spiranthes* or *Gaura* habitat was identified at these sites.



Typical shrub-scrub and forested wetland habitat associated with drainage ditches which paralleled SH 58 and the SH 58 frontage road along the northern boundary of the Study Area. Predominant cover was *Salix exigua*.



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Typical forested wetland habitat associated with drainage ditches which paralleled SH 58 and the SH 58 frontage road along the northern boundary of the Study Area. Predominant cover was *Populus deltoids*, *Acer negundo*, and *Populus angustifolia*.



Typical emergent wetland habitat associated with drainage ditches which paralleled SH 58 and the SH 58 frontage road along the northern boundary of the Study Area. Predominant cover was *Typha latifolia*, *Scirpus lacustris*, *Scirpus americana*, *Dipsacus filiformis*, and a number of other herbaceous species.

Letter of concurrence of no significant impact regarding the presence/absence of the Ute Ladies'-tresses orchid (*Spiranthes diluvialis*) and the Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) for the Clear Creek area between I-70 and McIntyre Street, Jefferson County, Colorado. Prepared by Susan C. Linner, Colorado Field Supervisor (USFWS) for Steve C. Johnson of Natural Resource Services, Inc. November 10, 2005 (USFWS 2005d).



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: T&E/*Spiranthes*/Jefferson County  
Mail Stop 65412

NOV 10 2005

Steve Johnson  
Natural Resources Services, Inc.  
P.O. Box 19332  
Boulder, Colorado 80308-2332

Dear Mr. Johnson,

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed your Ute ladies'-tresses orchid, *Spiranthes diluvialis* (orchid) and Colorado butterfly plant, *Gaura neomexicana* ssp. *coloradensis* (butterfly plant) survey report dated October 19, 2005, and received October 24, 2005. This report regards the **Clear Creek between I-70 and McIntyre Street** area in Jefferson County, Colorado. The Colorado Department of Transportation (CDOT) is proposing to construct a multi-lane access road (tentatively named Cabela's Drive) and associated interchanges to connect 32<sup>nd</sup> Avenue just west of I-70 with State Highway 58 on the north. This activity will affect potential orchid and butterfly plant habitat.

Given your survey of the area, the Service finds the report acceptable and agrees that neither the orchid nor the butterfly plant are present within the surveyed area. Thus, the Service concurs with the determination that the impacts resulting from the proposed project are not likely to adversely affect the continued existence of these species.

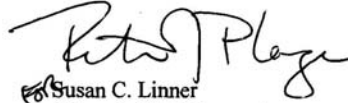
Please note that this clearance is valid for one year from the date of this letter. Should project plans change or if additional information on listed or proposed species becomes available, this determination may be reconsidered under the ESA. If the proposed project has not commenced within one year, please contact the Colorado Field Office to request an extension.


Mr. Johnson, Cabela's Drive and Associated Interchanges

Page 2

We appreciate your submitting this report to our office for review and comment. If the Service can be of further assistance, please contact Alison Deans Michael of my staff at (303) 275-2370.

Sincerely,



 Susan C. Linner  
Colorado Field Supervisor

pc: FWS, GJ (Ellen Mayo)  
CDOT (Jane Hann, Jeff Peterson)  
Michael

Ref: Alison\H:\My Documents\CDOT 2005\Region 6\Cabela's\Cabela's orchid & CBP.wpd



Cover letter for a Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) concurrence request for disqualification for the I-70/32<sup>nd</sup> Avenue Interchange Environmental Assessment (EA) Study Area, City of Wheatridge, Jefferson County, Colorado (Johnson 2005). Prepared for the U. S. Fish and Wildlife Service, Ecological Services, Colorado Field Office, Denver, Colorado by Steve C. Johnson, Natural Resource Services, Inc. October 14, 2005.

**Natural Resource Services, Inc.**

P.O. Box 19332, Boulder, Colorado 80308-2332  
965 Wadsworth Avenue, Albany, Georgia 31721

October 14, 2005

Steve C. Johnson, Principal  
Phone: (303) 915-3211  
(800) 242-9466  
Fax: (720) 852-4792  
E-mail: nrsi@nrsiservices.com  
Web Site: www.nrsiservices.com

Mr. Peter Plage  
U.S. Fish and Wildlife Service  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, CO 80215

**COPY**

RE: Concurrence Request for *Zapus hudsonius preblei* Disqualification – I-70/32<sup>nd</sup> Avenue Interchange Environmental Assessment (EA) Study Area, City of Wheatridge, Jefferson County, Colorado

Dear Mr. Plage:

Natural Resource Services, Inc. (NRSI) is contracted to Felsburg Holt & Ullevig to conduct environmental assessments, including special status wildlife and plant species assessments, for the I-70/32<sup>nd</sup> Avenue Interchange Environmental Assessment (EA). The EA is being completed as part of the NEPA process required for changes to roadways and roadway interchanges in that area of Jefferson County and the city of Wheatridge which lies to the west of Interstate Highway 70, to the north of 32<sup>nd</sup> Avenue, to the south of State Highway 58, and to the east of McIntyre Street. That area is henceforth referred to as the Study Area.

Bear Canyon Consulting, LLC (BCC) of Boulder, Colorado was contracted by (NRSI) to perform special status wildlife species assessments for the Study Area. Those assessments included an assessment of the potential presence of critical habitat for the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), henceforth referred to as PMJM. I have attached a copy of a concurrence request letter from BCC which provides, in detail, 1) a description of the Study Area, 2) a description of PMJM habitat assessment methods, 3) PMJM habitat assessment results, 4) background information including previous studies and assessments for various segments of the Study Area, 5) site photos, 6) site maps, 7) data sheet, and 8) a discussion of conclusions reached after completion of the assessment.

During the same time period, NRSI conducted intensive field work over the entire Study Area for assessments of other wildlife and plant species as well as wetlands and noxious weeds. We were, therefore, able to independently assess the Study Area for PMJM habitat suitability. NRSI fully concurs with the findings of BCC regarding the presence and suitability of PMJM habitat and we, therefore, fully support BCC in a request for concurrence for disqualification from further consideration of the Study Area as PMJM habitat and to exclude the portions of the Study Area described in the attached letter from any further PMJM trapping requirements.

**Specializing in:**

- Environmental Assessments
- NEPA Assessments
- Project Planning
- Site Analysis and Inventories
- Wetland Permitting and Mitigation Assistance
- Endangered Species Assessments and Permitting Assistance
- Wildlife Surveys and Management Planning
- Noxious Weed Plans and Management
- Wildlife Mitigation Plans
- Lake and Fisheries Management
- Project Design and Construction
- Phase I Environmental Site Audits
- Site and Project Mapping (GIS, GPS, and AutoCAD)

D:\NRSI\Projects\Felsburg Holt & Ullevig\Cabela's Project\Cabela's T&E\PMJM\Preble's clearance request letter to USFWS.doc

If you have any questions or would like to discuss anything further, please don't hesitate to e-mail me at [stevej@nrsiservices.com](mailto:stevej@nrsiservices.com) or call me at 303.915.3211. Please also feel free to contact Anne Ruggles directly.

Sincerely,



Steve C. Johnson  
Senior Ecologist

CC: Kevin Maddoux, Felsburg Holt & Ullevig  
Jim Paulmeno, CDOT Region 6  
Anne Ruggles, Bear Canyon Consulting, LLC

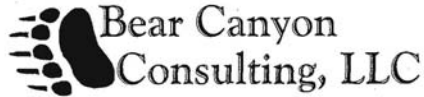
Attachment: Concurrence request letter with attachments from BCC

D:\NRSI Projects\Felsburg Holt & Ullevig\Cabela's Project\Cabela's T&E\PMJM\Preble's clearance request letter to USFWS.doc





Assessment report and concurrence request for Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) disqualification within the I-70/32<sup>nd</sup> Avenue Interchange Environmental Assessment (EA) Study Area, Jefferson County, Colorado (Ruggles 2005). Prepared for Natural Resource Services, Inc. by Bear Canyon Consulting, LLC. Submitted to the USFWS on October 11, 2005.



October 11, 2005

Mr. Peter Plage  
U.S. Fish and Wildlife Service  
Colorado Field Office  
755 Parfet, Suite 361  
Denver, Colorado 80215

Re: Concurrence Request for *Zapus hudsonius preblei* Disqualification –  
I-70/32<sup>nd</sup> Street Interchange Environmental Assessment (EA) Study Area, Jefferson  
County, Colorado.

Dear Mr. Plage:

Bear Canyon Consulting, LLC conducted a field investigation at the I-70/32<sup>nd</sup> Street Environmental Assessment Study Area, Jefferson County, Colorado on August 31, September 22, 23, 26, 2005 to assess the potential presence of critical habitat for the Preble's meadow jumping mouse (*Zapus hudsonius preblei*—henceforth PMJM), a federally listed threatened species. Portions of the Study Area containing riparian or wetland habitats are located within the:

- SE1/4 of Section 24 in Township 3 South, Range 70 West of the 6<sup>th</sup> Prime Meridian, Golden, Colorado quadrangle;
- NE1/4 of Section 25 in Township 2 South, Range 70 West of the 6<sup>th</sup> Prime Meridian, Golden, Colorado quadrangle;
- S1/2 of Section 19, Township 3 South, Range 69 West of the 6<sup>th</sup> Prime Meridian Golden, Colorado quadrangle;
- NW1/4SW1/4 of Section 20, Township 3 South, Range 69 West of the 6<sup>th</sup> Prime Meridian Golden, Colorado quadrangle; and
- N1/2 of Section 30, Township 2 South, Range 69 West of the 6<sup>th</sup> Prime Meridian Golden, Colorado quadrangle.

This portion of the Project Area is bounded on the north by Colorado State Highway 58 (SH 58), on the east by Interstate Highway 70 (I-70), on the south by 32<sup>nd</sup> Avenue, and on the west by McIntyre Street. The Study Area is depicted on the attached maps. Based on this field investigation and current U.S. Fish and Wildlife Service (USFWS) survey guidelines (2004), we believe this site has very low potential to harbor individuals or a potential population of PMJM and we therefore request a concurrence for disqualification of this site for further consideration as PMJM habitat and to exclude the site from trapping requirements.

850 37<sup>th</sup> St  
Boulder, Colorado 80303

303-938-0490  
aruggles@bear-canyon.com

#### GENERAL SITE DESCRIPTION

The Study Area is situated at the transition zone between the foothills and the eastern plains along the primary alluvial terrace of Clear Creek downstream of North Table Mountain and South Table Mountain east of Golden, Colorado. Given the proximity to Clear Creek, the site was shaped by deposition of sandy and gravelly alluvium.

Original topography of the area has been altered extensively. Current and past land uses shaping the landscape today include commercial, industrial, and recreational uses, and historic mineral extraction. The Study Area encompasses two highways, major surface streets, recreational trails, and a number of regularly used dirt roads.

The Study Area contains a number of riparian or wetland habitats all of which were evaluated for suitability for PMJM. Bear Canyon Consulting assessed potential habitat on Clear Creek; Juchem Ditch; Bayou Ditch; a stormwater drainage ditch paralleling the south frontage road of SH 58 and the Jefferson County Clear Creek Open Space Trail; Coors Brewing Company water holding ponds; and ponds that have formed in former aggregate pits.

#### HABITAT ASSESSMENT METHODS

Habitat suitability for PMJM was evaluated by assessing structural complexity of vegetation, available forage, hibernation habitat, and connectivity among these elements. Percent class cover, species richness, and dominant species of trees, shrubs, grasses, forbs, and litter/ bare ground were recorded for each site evaluated. Width of riparian corridor, degree of disturbance, and presence of potential hibernation habitat were also considered.

#### HABITAT ASSESSMENT RESULTS

Clear Creek (Photos 1, 2, 3, 4): Though the riparian habitat along much of Clear Creek through the Study Area is dominated by dense coyote willow thickets, there is low structural complexity – an herbaceous understory is lacking and there are few trees. A narrow herbaceous band that includes reed canarygrass (*Phalaris arundinacea*), meadow fescue (*Festuca pratensis*), rabbitfoot grass (*Polypogon monspeliensis*), and prostrate knotweed (*Polygonum aviculare*) exists at the water's edge. Potential hibernation habitat was not observed on adjacent uplands, which consist of heavily disturbed, hardened surfaces. The banks of the creek are steep and are riprapped with large blocks (to four feet in diameter).

Juchem Ditch (Photos 4, 5): Width of riparian habitat along Juchem Ditch is narrow – usually less than three meters on either side. There is a narrow band of shrubs that includes snowberry (*Symphoricarpos occidentalis*), wild rose (*Rosa woodsii*), and coyote willow (*Salix exigua*). Herbaceous cover is low and consists of less than 1% grass species. The adjacent land is highly disturbed and has a dense closed overstory of cottonwoods (*Populus spp.*) and boxelder (*Acer negundo*), and an understory that consists of bare ground and large woody debris. Grass cover comprises less than 1%.

Bayou Ditch (Photos 6, 7, 8): Width of riparian habitat along Bayou Ditch is narrow — usually less than three meters on either side. Structure is diverse with an overstory of box elder, Siberian elm (*Ulmus pumilla*) and dense stands of coyote willow. The understory consists of a variety of forb species — weedy and native, and a very narrow strip of grass. In the Study Area Bayou Ditch is closely paralleled by a dirt road over much of its length. Immediately to its north is a site that was mined for aggregate and has not been reclaimed.

Drainage Ditch along the SH 58 Frontage Road: Riparian habitat exists along the drainage ditch paralleling SH 58 and the Jefferson County Open Space Clear Creek Trail. It consists of a narrow corridor of mature cottonwood-boxwood elder-coyote willow riparian woodland. Herbaceous and graminoid cover varies from none to approximately 30%. Herbaceous vegetation includes Canada thistle (*Cirsium arvense*), begger's tick (*Lappula redowski*), poison ivy (*Toxicodendron rydbergii*), Virginia creeper (*Parthenocissus quinquefolia*), and snowberry. Immediately outside of the dripline of the trees, vegetation is dominated by rubber rabbitbrush (*Chrysothamnus nauseosus*), Canada thistle, and cheatgrass (*Bromus tectorum*). The ditch is closely paralleled on the south side by a paved recreation path and, on the north by a heavily used dirt road and SH 58.

Coors Brewing Company holding ponds (Photo 9): There is essentially no riparian habitat on the perimeter of the holding ponds.

Inactive Aggregate Pits (Photo 10): This area now comprises a fairly steep-sided depression. The bottom consists of a cattail (*Typha spp.*) dominated marsh with smartweed species (*Polygonum spp.*), Canada thistle, rabbitfoot grass, and reed canary grass in open places. Immediately adjacent to the marsh there are dense stands of coyote willow and some grasses but this rapidly gives way to xeric, gravelly slopes dominated by blazing star (*Nuttalia nuda*), Canada thistle, leafy spurge (*Euphorbia esula*), curlycup gumweed (*Grindellia squarrosa*), rabbitbrush, snowberry, and small stands of cottonwood. There is a very narrow strip of habitat that provides cover, forage species, and access to upland habitat. This section is bounded by SH 58 on the north, I-70 on the east, the Cabela's building site on the south, and inactive aggregate pits on the west.

**ADDITIONAL PMJM SURVEYS ADJACENT TO AND WITHIN THE STUDY AREA**  
A number of sites adjacent to and within the Study Area have been trapped or evaluated and disqualified for PMJM and the Study Area is bounded on the east by the PMJM Block Clearance for the Denver Metropolitan Area (USFWS 2003).

A field investigation by Ronald Beane on the Coors brewing Company, Eastern Parcel (Sections 19, 20, 29, and 30, T3S, R69W) resulted in a clearance dated December 22, 1998 (USFWS 1998).

A second field investigation of the above site by Savage and Savage on the Cabela's and Coors Brewing Company — Everist Parcel (Sections 19, 20, 29, and 30, T3S, R69W) again resulted in clearance dated May 11, 2005 (USFWS 2005).

A field investigation by Savage and Savage on the Coors Brewing Company Water Resources and Real Estate's Mount Olivet South Parcel (S1/2 SE1/4 Section 19, T3S, R69W) resulted in clearance dated Sept 9, 2004 (USFWS 2004b).

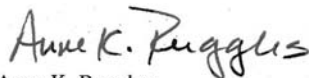
Small mammal trapping surveys conducted by the Colorado Natural Heritage Program along Clear Creek immediately east of the Study Area resulted in the capture of only 5 Norway rats and 1 house mouse in 551 trapnights (Anderson and Stevens 2000).

#### DISCUSSION AND CONCLUSION

This site has been heavily used, including aggregate mining, and extensively altered from natural conditions. Overall, the vegetation is dominated by non-native and weedy species; much of the landscape consists of reclaimed aggregate mining sites, unrelcalimed aggregate mining sites, holding ponds, and overburden storage sites. Generally, there are small (<0.10 acre) patches of habitat along Clear Creek and three ditches which might be expected to support PMJM, but these are individually isolated and are surrounded by habitat that appears unsuitable for PMJM. The Study Area is not connected to any known occupied PMJM habitat and recent trapping surveys have not detected PMJM.

Because this habitat assessment did not identify suitable PMJM habitat within the I-70/32<sup>nd</sup> Street Interchange Environmental Assessment Study Area, and, given the site's proximity to the Denver Block Clearance, and the number of sites adjacent to and within the Study Area that have been trapped or evaluated and subsequently disqualified for PMJM, the surveyors believe it is highly unlikely that PMJM occurs within the Study Area at this time. Valid clearance exists for Sections 19, 20, and 30 in Township 3 South, Range 69 West (USFWS 2005). We therefore request a concurrence for disqualification for further consideration as PMJM habitat and to exclude from trapping requirements portions of the Study Area in the SE1/4 of Section 24 in Township 3 South, Range 70 West and the NE1/4 of Section 25 in Township 2 South, Range 70 West. Please contact us if you have any questions or if you would like additional supporting information regarding this request for disqualification for *Zapus hudsonius preblei* on the I-70/32<sup>nd</sup> Street Interchange EA Study Area, Jefferson County, Colorado.

Sincerely,



Anne K. Ruggles  
Sr. Wildlife Ecologist

Cc: Kevin Maddoux, Felsburg Holt and Ullevig  
Jim Paulmeno, CDOT Region 6  
Steve C. Johnson, Natural Resource Services, Inc.

Attachments: Survey Field Data Compilation Form  
Study Area maps  
Photos of riparian habitat located within the Study Area

LITERATURE CITED

Anderson D. G. and J. Stevens. 2000. Wheatridge Open Space Areas Biological Inventory. Colorado Natural Heritage Program. 143 pp.

U.S. Fish and Wildlife Service. 1998. Letter of Concurrence *Zapus hudsonius preblei* (Preble's) – Coors Brewing Company, Eastern Parcel. From LeRoy Carlson, USFWS Field Supervisor. To Ronald D. Beane, DA TI MBI Environmental, December 22.

U.S. Fish and Wildlife Service. 2004a. Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) Survey Guidelines.

U.S. Fish and Wildlife Service. 2004b. Letter of Concurrence *Zapus hudsonius preblei* (Preble's) – Mount Olivet South Parcel. To Michael Savage, Savage and Savage Environmental. From Susan Linner, USFWS Colorado Field Supervisor. September 9.

U.S. Fish and Wildlife Service. 2005. Letter of Concurrence *Zapus hudsonius preblei* (Preble's) – Everist Parcel. To Edith Savage, Savage and Savage Environmental. From Susan Linner, USFWS Colorado Field Supervisor. May 11.

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei***  
**2004 Survey Field Data Compilation Form**

TRAPPING SURVEY       EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie. not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

**SECTION 1**

**Surveyor:**

Date of Site/Habitat Assessment Aug. 31, Sept. 22, 23, 26, 2005  
Organization/Company Bear Canyon Consulting, LLC.  
Full Name(s) Anne K. Euggles and Melissa L. Reed-Ecker

**Location:**

Project Name (if applicable) I-70/32nd St Interchange Improvements Project, Jefferson County, CO  
Project Description (nearby road intersection, type of impact, etc.) I-70/32nd St Interchange improvements, Jefferson County, CO.

U.S.G.S. Quad Name Golden County Jefferson Elevation 5450

*We validated sections.*

Township(s) \_\_\_\_\_ Range(s) \_\_\_\_\_ Section(s) (SE 1/4 S 24, T 35, R 70 W), (NE 1/4 S 25, T 35, R 70 W)

1/4 Section(s) (N 1/2 S 26, T 35, R 69 W), (S 1/2 S 19, T 35, R 69 W), (NW 1/4 SW 1/4 S 26, T 35, R 69 W)

UTM Coordinates, Zone 13 Northing 0485388 Easting 4402413

UTM Coordinate Datum NAD27  NAD83

Directions to Location Colorado Hwy 58 to McIntyre St, south to dirt road paralleling Hwy 58 (mt. olive gravel pit road).

Land Ownership Jefferson County, City of Wheat Ridge, Coors Brewing Company

**Habitat:**

General Habitat Description Riparian/wetland associated with ditches, Clear Creek, mine reclamation ponds, and holding ponds.

Dominant Overstory Plant Community varied: none, coyote willow, plains cottonwood, box elder, green ash.

Dominant Understory Plant Community varied: none, variable grasses and forbs comprising up to 30% cover.

Current Land Use Industrial, commercial, recreation, reclaimed aggregate operation

Drainage Name: Clear Creek Type: Perennial Stream

Ephemeral Stream \_\_\_\_\_ Pond/Lake \_\_\_\_\_ Ditch \_\_\_\_\_ Other \_\_\_\_\_

1) Juchem Ditch, 2) Bayou Ditch, 3) Coors holding ponds, 4) mine reclamation ponds

**SECTION 2:**

Z. h. preblei found? Yes  No  Dates of Survey \_\_\_\_\_

**Trapping Information:**

Type of Traps \_\_\_\_\_ Type of Bait N/A

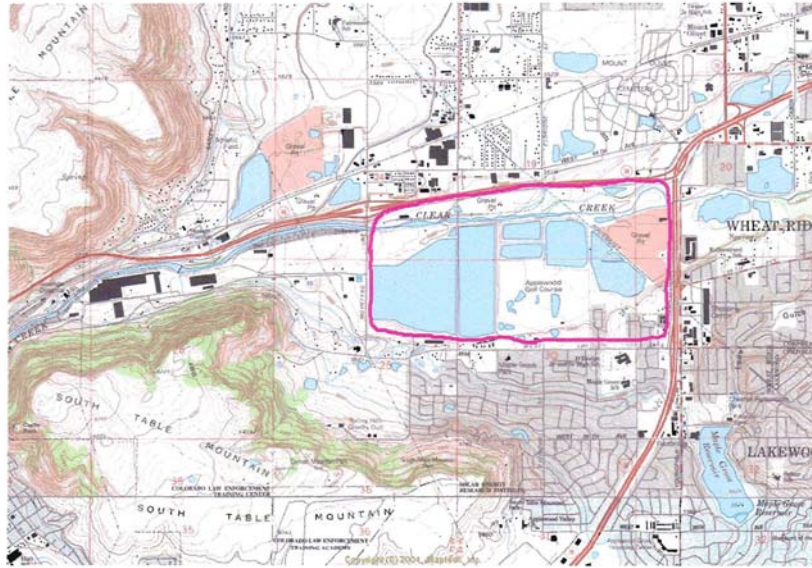
% Available (unsprung) \_\_\_\_\_ Number of Nights Trapped \_\_\_\_\_

Total Trapnights \_\_\_\_\_

Weather conditions prior to and during survey \_\_\_\_\_

Associated Animal Species (especially urban predators, rats, house mice) \_\_\_\_\_

**PMJM Habitat Assessment, I-70/32<sup>nd</sup> St Interchange Environmental  
Assessment Study Area, Jefferson County, CO.**

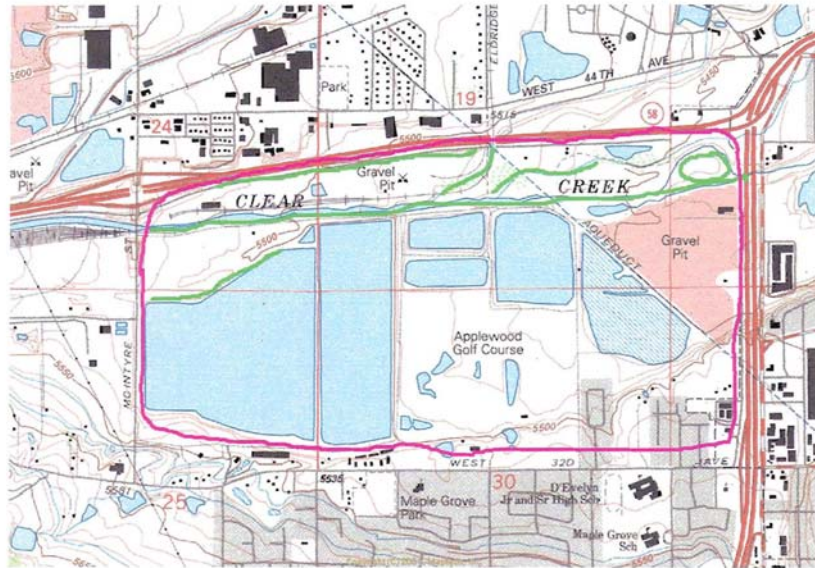


Golden Colorado Quadrangle

Figure 1. General location of the I-70/32<sup>nd</sup> Avenue Interchange Environmental Assessment Study Area, city of Wheatridge, Jefferson County, Colorado (USGS Golden Colorado 7.5' topoquad). The Study Area is outlined in red.



**PMJM Habitat Assessment, I-70/32<sup>nd</sup> St Interchange Environmental  
Assessment Study Area, Jefferson County, CO.**



Golden Colorado Quadrangle  
Scale: 1 inch equals 1333 feet

Figure 2. The I-70/32<sup>nd</sup> Avenue Interchange Environmental Assessment Study Area, city of Wheatridge, Jefferson County, Colorado (USGS Golden Colorado 7.5' topoquad). Potential PMJM habitat which was assessed by Bear Canyon Consulting, LLC in September, 2005 is denoted in green. The EA Study Area is outlined in red.

Riparian Habitat located within the I-70/32<sup>nd</sup> Street Interchange Improvements  
Project Area, Jefferson County, CO

1. Clear Creek approximately one-half mile east of McIntyre Street.



2. Typical understory of habitat along Clear Creek. Photo taken approximately one-half mile east of McIntyre Street. Note absence of herbaceous component and extensive riprap.



Riparian Habitat located within the I-70/32<sup>nd</sup> Street Interchange Improvements  
Project Area, Jefferson County, CO

3. Clear Creek east of Jefferson County Trail bridge.



4. Upland adjacent to Clear Creek and Juchem Ditch.



Riparian Habitat located within the I-70/32<sup>nd</sup> Street Interchange Improvements  
Project Area, Jefferson County, CO

5. Juchem Ditch.



6. Bayau Ditch downstream of Jefferson County Trail. Note width of riparian habitat.



Riparian Habitat located within the I-70/32<sup>nd</sup> Street Interchange Improvements  
Project Area, Jefferson County, CO

7. Bayau Ditch upstream of Jefferson County Trail.



8. Upland Habitat at Bayau Ditch. Note absence of herbaceous component.



Riparian Habitat located within the I-70/32<sup>nd</sup> Street Interchange Improvements  
Project Area, Jefferson County, CO

9. Coors Brewing Company holding pond immediately east of McIntyre Street.



10. Mine reclamation ponds at NE corner of Project area.



Letter of concurrence of no significant impact regarding the presence/absence of the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) within the I-70/32<sup>nd</sup> Avenue Interchange EA Study Area, City of Wheatridge, Jefferson County, Colorado. Prepared by Susan C. Linner, Colorado Field Supervisor, USFWS to Steve C. Johnson of Natural Resource Services, Inc. November 1, 2005 (USFWS 2005c).



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: T&E/PMJM/other  
Mail Stop 65412

NOV - 1 2005

Steve C. Johnson  
Senior Ecologist  
Natural Resource Services  
P.O. Box 19332  
Boulder, Colorado, 80308-2332

Dear Steve Johnson:

This responds to your report of October 14, 2005 requesting site disqualification under the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). The Service has reviewed the Preble's Meadow Jumping Mouse habitat evaluation for the I-70/32nd Avenue Interchange Study Area, City of Wheatridge, Jefferson County, Colorado.

Based on the information provided, the Service finds the report acceptable and agrees that a population of Preble's is not likely to be present within the subject area. The Service concludes that a project on this site should not have adverse affects to Preble's or Preble's habitat. Thus, this site is disqualified for consideration under provisions of the ESA.

Please note that this clearance is valid for one year from the date of this letter. Should additional information regarding listed or proposed species become available, this determination may be reconsidered under the ESA. If the project has not commenced within one year, please contact the Colorado Field Office to request a clearance extension.

If we can be of further assistance, please contact Adam Misztal of my staff at (303) 275-2377 or at email [adam\\_misztal@fws.gov](mailto:adam_misztal@fws.gov).

Sincerely,

  
w/ Susan C. Linner  
Colorado Field Supervisor

cc: Misztal  
H:\Exclusion-NRS-Wheatridge.wpd