



Species of Concern Federally Listed, State Wildlife Listed & Comprehensive Plan Mapped Species Hogan Pancost Property Boulder County, Colorado

prepared for:

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1.0 Introduction

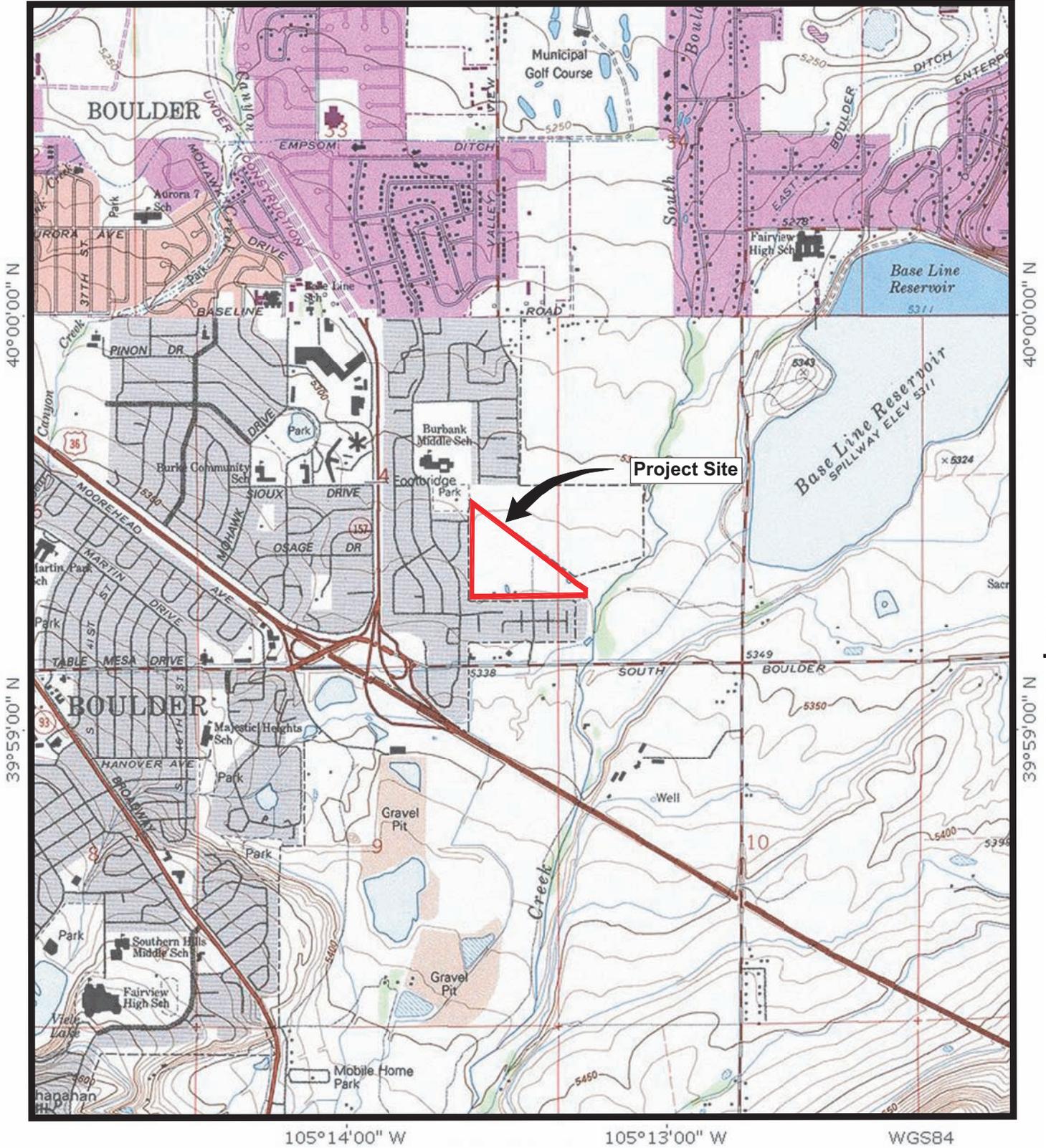
BCC, LLC has plans to develop the 22.17 acre Hogan Pancost property located in Boulder County, Colorado, southwest of the East Boulder Community Park. 55th Street bisects the property to create a 2.73 acre East Parcel and a 19.44 acre West Parcel. Specifically, the property is located in parts of Sections 3 and 4 of Township 1 North and Range 70 West in Boulder County (Figure 1).

BCC, LLC is evaluating potential development options for the Hogan Pancost property, therefore a Habitat Assessment was completed for federally listed threatened, endangered, and candidate species, as well as wildlife listed by the Colorado Division of Wildlife (CDOW) as threatened, endangered or of special concern. Please note, CDOW does not address plants of special concern. Species listed in the Boulder County Comprehensive Plan as critical are also addressed. Section 2.0 briefly describes the existing conditions on the project site, and Section 3.0 addresses the federally listed plant and wildlife species with potential habitat in Boulder County. Section 4.0 evaluates the habitat for the state-listed wildlife species with potential habitat in Boulder County. Section 5.0 addresses the Boulder County Comprehensive Plan critical species. Please note, all Figures and Tables are included with the text.

2.0 Environmental Setting

The 22.17 acre Hogan Pancost property is subdivided into two smaller parcels which are separated by 55th Street. The West Parcel measures 19.44 acres and the East Parcel measures approximately 2.73 acres. Both parcels are undeveloped except for several small sheds on the West Parcel associated with an agricultural land use. The agricultural land use of the project site extends back to the settlement era in the late 1800's (Hogan, 2008). Recent agricultural use includes livestock grazing. Historically, the Hogan Pancost property was extensively flood irrigated beginning with settlement in the late 1800's (Hogan, 2008). Flood irrigation of the West Parcel has been terminated, resulting in a shift in the plant species composition toward species adapted to drier soil conditions. In addition, the population of black-tailed prairie dogs (*Cynomys ludovicianus*) that occupies the West Parcel has increased as the site has become drier. The prairie dogs are enlarging the areas of vegetation disturbance and increasing the abundance of noxious and undesirable weeds.

Several irrigation ditches and laterals are present on the project site. The Dry Creek Ditch #2 (Ditch) is located along the western boundary of the West Parcel, and the CD Bodam Lateral (Lateral) is located along the southern boundary of the West Parcel. The Howard Super-phosticle ditch flows northwest across the East Parcel and across the easternmost portion of the West Parcel, then continues northwest just outside the northern boundary of the West Parcel. A small unnamed lateral is present along the southern boundary of the East Parcel. There are no streams or ponds on the project site, however South Boulder Creek is located approximately 180 feet east of the East Parcel. The West Parcel has a vertical relief of 11 feet as it ranges from a high of 5,323 feet in the south to a low of 5,312 feet in the northwest. The West Parcel, which slopes and drains to the north, is characterized by numerous small swales 12-24 inches deep. The relatively flat East Parcel has a vertical relief of six feet and elevations which range from a high of 5,325 feet in the southwest to a low of 5,319 feet in the north along 55th Street.



BASE: USGS 7.5 Minute Louisville, Colorado Quadrangle
 Photorevised: 1990

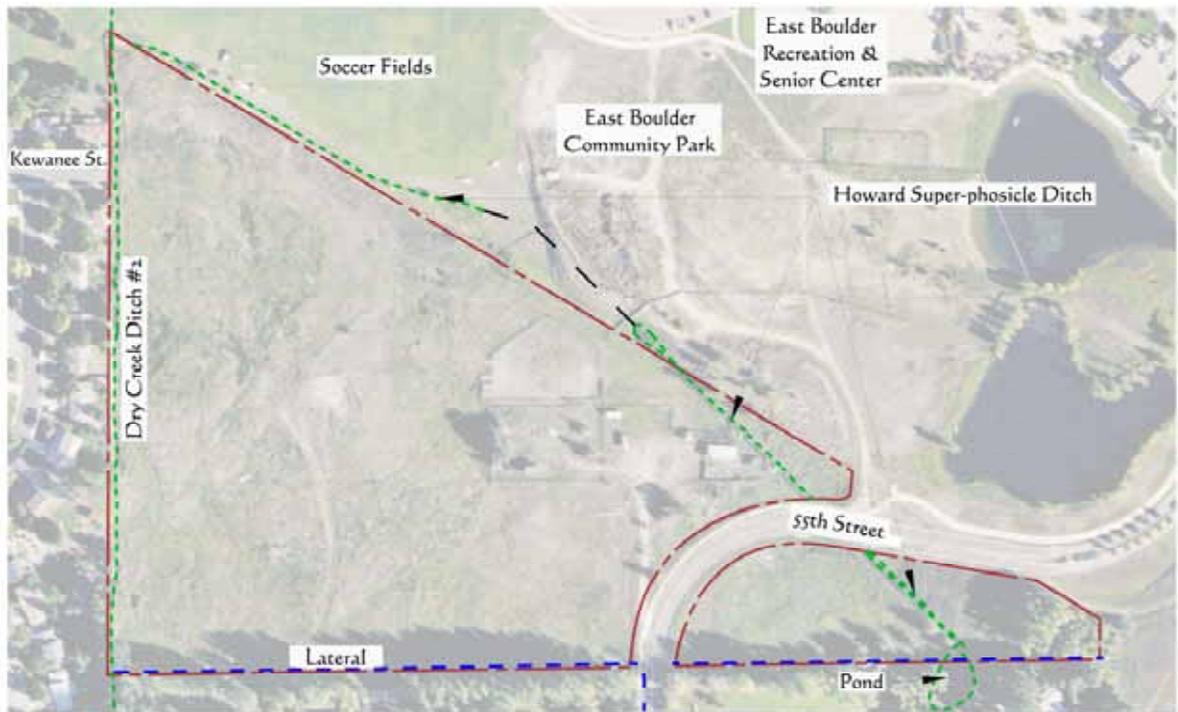
**FIGURE 1. Project Location Map
 Hogan Pancost Property**



Map Location



Scale 1" = 2000'
 Contour Interval = 10'



HOGAN PANCOST PROPERTY
Ditches and Laterals

2.1 Vegetation

The vegetation of the project area is characterized by an upland pasture, disturbed weedy areas, small man-induced agricultural irrigation wetlands, and one small stand of plains cottonwood trees (*Populus deltoides*) located on the east end of the East Parcel. The upland pasture areas are best developed in swales just north of the Lateral where they have been historically flood irrigated, often with up to 18 inches of standing water (CD Bodam, 2008), and receive subsurface water from the unlined Lateral. Please note, this Lateral has now been lined and the flood irrigation has been terminated. These areas are characterized by wetland and facultative plants such as meadow fescue (*Festuca pratensis*), reedtop (*Agrostis gigantea*), Baltic rush (*Juncus arcticus subsp. ater*) and numerous upland species, including timothy (*Phleum pratense*), Kentucky bluegrass (*Poa pratensis*), chicory (*Cichorium intybus*), narrow-leaf birds-foot trefoil (*Lotus tenuis*), curly dock (*Rumex crispus*), and red clover (*Trifolium pratense*). The wetland plants in this habitat were supported by the historic flood agricultural irrigation practices and will not persist in this area now that flood irrigation practices have been terminated. In fact, the lack of flood irrigation water during the current growing season affected the vigor of these wetland plants (less robust and less flowering) and resulted in an increase in weedy plant cover. Please note, some small areas directly adjacent to the Lateral generally support obligate wetland vegetation comprised of Macoun's buttercup (*Ranunculus macounii*) and water smartweed (*Persicaria amphibia ssp. stipulaceum*), however these areas, high on the elevated bank of the lined Lateral, lack a wetland hydrology and are instead supported by overspray from sprinklers on the CD Bodam property. When sprinklers are adjusted in the 2009 growing season to correct the overspray, these areas will be colonized by upland species.

Weedy areas occur in the slightly higher elevations of the project site where prairie dogs have created disturbed habitats. The weed areas have significantly increased in size due to the termination of flood irrigation and the increased prairie dog activity. These areas have a low vegetation cover composed of a diversity of Colorado state-listed noxious weeds and other introduced plants. The most abundant weeds in the West Parcel include Scotch thistle (*Onopordum acanthium*), diffuse knapweed (*Acosta diffusa*), Canada thistle (*Cirsium arvense*),

mullein (*Verbascum thapsus*), chicory, and field bindweed (*Convolvulus arvensis*). The East Parcel has large stands of teasel (*Dipsacus fullonum*) intermixed with the wetland plants, as well as stands of Canada thistle and a few Russian olive (*Elaeagnus angustifolia*) trees.

Finally, a small stand of plains cottonwood trees occurs in the eastern portion of project area. The understory is comprised of upland and facultative plants such as smooth brome (*Bromus inermis*), meadow fescue (*Festuca pratensis*), Canada goldenrod (*Solidago canadensis*), and goldenbanner (*Thermopsis divaricarpa*).

3.0 Federal Threatened, Endangered and Candidate Species

The U.S. Fish & Wildlife Service (USFWS) has identified the federally listed threatened, endangered, and candidate species with potential habitat in Boulder County or that may be impacted by water depletions within the County (USFWS, 2008). As documented by Table 1, the Boulder County list includes two fish, four birds, two mammals, and two plants. Four of these species, including the pallid sturgeon (*Scaphirhynchus albus*), piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), and the least tern (*Sterna antillarum*) are only impacted by water depletions in the South Platte River and do not occur within the county. The proposed development will not result in any water depletions, therefore these four species will not be impacted or further discussed in this report. The remaining species listed in Table 1 are discussed below. Please note, the USFWS does not identify any federal candidate species with potential habitat in Boulder County.

3.1 Wildlife

3.1.1 Greenback Cutthroat Trout

The greenback cutthroat trout (*Oncorhynchus clarki stomias*) occurs east of the Continental Divide within the Arkansas and South Platte River watersheds. The trout's habitat includes swift moving, cold mountain streams and mountain lakes. Historically, it also occurred in gravelly foothills streams but it has been largely extirpated from these habitats due to degradation and displacement by introduced trout species. The existing populations within the South Platte River drainage are located in protected environments within Rocky Mountain National Park and in the upper headwaters of the tributary system. The trout requires cold, clear water with low levels of sediment and pollution, stable stream banks, well distributed pools, and abundant stream cover.

There are no streams on the project site, therefore it does not provide habitat for the greenback cutthroat trout. Moreover, the portion of South Boulder Creek located just east of the East Parcel does not support the greenback cutthroat trout. Proposed development of the Hogan Pancost property will not impact the greenback cutthroat trout.

3.1.2 Mexican Spotted Owl

Mexican spotted owl (*Strix occidentalis lucida*) habitat includes mature, old-growth forests of white pine (*Pinus strobes*), Douglas fir (*Pseudotsuga menziesii*) ponderosa pine (*Pinus ponderosa*), and steep slopes and contours with rock cliffs. The Hogan Pancost property does not provide any habitat for the Mexican spotted owl.

3.1.3 Canada Lynx

The project site is well below the lower elevational limit (8,000 feet) for the Canada lynx (*Lynx canadensis*), is within a developed urban area, and does not contain spruce/fir habitat. Therefore, the Hogan Pancost property does not provide habitat for the Canada lynx.

TABLE 1
Federal Threatened, Endangered and Candidate Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>Federal Status</u>
Fish		
<i>Oncorhynchus clarki stomias</i>	Greenback cutthroat trout	Threatened
<i>Scaphirhynchus albus</i> *	Pallid sturgeon	Endangered
Birds		
<i>Charadrius melodus</i> *	Piping plover	Threatened
<i>Grus americana</i> *	Whooping crane	Endangered
<i>Sterna antillarum</i> *	Least tern (interior population)	Endangered
<i>Strix occidentalis lucida</i>	Mexican spotted owl	Threatened
Mammals		
<i>Lynx canadensis</i>	Canada lynx	Threatened
<i>Zapus hudsonius preblei</i>	Preble's meadow jumping mouse	Threatened
Plants		
<i>Gaura neomexicana</i> <i>ssp. coloradensis</i>	Colorado butterfly plant	Threatened
<i>Spiranthes diluvalis</i>	Ute ladies' tresses orchid	Threatened

* Species potentially impacted by water depletions in the South Platte River.
Sources: U.S. Fish & Wildlife Service, 2008.
http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrence.jsp?state=CO
<http://www.fws.gov/mountain-prairie/endspp/countylists/colorado.pdf>

3.1.4 Preble's Meadow Jumping Mouse

A Habitat Assessment for the Preble's meadow jumping mouse (*Zapus hudsonius prebeli*) was completed by Robert Stoecker of Stoecker Ecological Consultants, Inc. Mr. Stoecker first visited the project site in 2003 and concluded that it did not contain the riparian habitat required by the mouse. He stated "the site is unlikely to support a population of Preble's jumping mice or to function as a movement corridor and therefore should be excluded from further Preble's jumping mouse considerations." His report was submitted to the U.S. Fish and Wildlife Service, who responded in an August 25, 2003 correspondence from Susan Linner that the Hogan Pancost property was unlikely to support the mouse and that no trapping survey would be required (See Appendix A). Mr. Stoecker subsequently visited the site in August 2007 and in July 2008 to update the habitat assessment and stated that there had been no significant changes. The project site does not support the Preble's meadow jumping mouse or its habitat.

Dr. Mark Bakeman, a widely recognized authority on the Preble's meadow jumping mouse, reviewed the Stoecker reports and the letter from the U.S. Fish & Wildlife Service, and visited the project site. He concluded that the project site does not provide habitat for this mouse and that further studies and trapping for this mouse is not warranted.

3.2 Plants

3.2.1 Ute Ladies' Tresses Orchid

The Ute ladies' tresses orchid (*Spiranthes diluvialis*) is a federally threatened perennial, terrestrial orchid endemic to moist soils in mesic or wet meadows near springs, lakes, or perennial streams (USFWS, 1995; Jennings, 1990). In Colorado, the elevational range of known orchid populations is between 4,500 and 6,800 feet (Spackman et al., 1997). The orchid prefers sites with permanent sub-irrigation such as floodplains where the water table is near the surface throughout the growing season and into the late summer or early autumn (USFWS, 1995; Jennings, 1990).

William Jennings, a botanical consultant, has visited the Hogan Pancost property six times since 1994 to conduct surveys and/or habitat assessments for the Ute ladies' tresses orchid (See Appendix B). He completed formal surveys for the orchid on July 26, 1994; August 17, 1994; July 28, 2003; July 25, 2007; and April 1, 2008, and also visited the site on July 25, 2008. No individuals or populations of the orchid were identified on the project site during any of the six visits. Mr. Jennings stated that the suitable orchid habitat on the project site was minimal, and that it is too heavily disturbed to support the orchid. Furthermore, he commented that the increase in weedy species observed during his field reconnaissance indicates the quality of the plant community seems to be declining, further reducing its suitability for the orchid.

3.2.2 Colorado Butterfly Plant

This subspecies occurs primarily on subirrigated alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations between 5,000-6,400 feet (USFWS, 2000). The butterfly plant requires early- to mid-successional riparian habitat, and colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel (USFWS, 2000). The Colorado butterfly plant appears to require shallow subsurface water, and it is not found where streams are deeply incised (Rocky Mountain Heritage Task Force, 1987).

All of the known populations of the Colorado butterfly plant occur within a small, 17,000 acre area in southeast Wyoming, western Nebraska, and north-central Colorado (USFWS, 2000). In Colorado, historic collections have been made in Boulder, Weld, Douglas, and Larimer Counties (Colorado Natural Heritage Program, 1995). However, the only natural populations of the butterfly plant presently known in Colorado are at Meadow Springs Ranch and the adjacent Soapstone Ranch near Fort Collins, Colorado.

Given the known range of extant populations of the Colorado butterfly plant, it is unlikely to occur on the Hogan Pancost project site. Moreover, the disturbances associated with the agricultural land use history which make the habitat unsuitable for the Ute ladies' tresses orchid likely also preclude the presence of the Colorado butterfly plant.

4.0 State of Colorado Threatened, Endangered, and Special Concern Wildlife

CDOW has identified 74 wildlife species as being threatened, endangered, or a special concern in the state. However, only 34 of these species have potential habitat in Boulder County (Table 2). These include two amphibians, thirteen birds, ten fish, six mammals, one reptile, and two mollusks. The potential for these species or their habitats to be present on the Hogan Pancost project site is evaluated below. Please note, CDOW does not identify State Endangered, Threatened, or Special Concern plant species.

4.1 Amphibians

Two species of state-listed amphibians could potentially occur within Boulder County: the boreal toad (*Bufo boreas boreas*) and the northern leopard frog (*Rana pipiens*). The Hogan Pancost property is below the lower elevational limit of the boreal toad and therefore does not provide suitable habitat for this species. There is potential habitat for the northern leopard frog associated with the small irrigation pond at the southern boundary of the East parcel. However, the pond has an irregular water supply due to seasonal changes in irrigation flow. During weekly monitoring of groundwater hydrology monitoring wells throughout the 2008 growing season, no frogs were observed on the project site. The site is unlikely to support the northern leopard frog.

4.2 Birds

The CDOW list includes 13 bird species that could potentially occur within Boulder County. However, due to the degraded plant community, the agricultural land use history, and the proximity of existing developments and the recreation center, the Hogan Pancost project site is most suitable for habitat generalists and is unlikely to provide nesting habitat for most of the 13 state-listed birds. Due to the presence of black-tailed prairie dogs, there is a potential for the site to support burrowing owls (*Athene cunicularia*), and it is potential foraging habitat for raptors including ferruginous hawks (*Buteo regalis*) and bald eagles (*Haliaeetus leucocephalus*). However, burrowing owls were not present during the 2008 growing season, no raptor nests are located on or adjacent to the project site, and disturbances associated with the East Boulder Recreation Center athletic fields reduce the value of the project site for foraging. The project site is outside the known range of the western snowy plover (*Charadrius alexandrinus nivosus*), Western yellow-billed cuckoo (*Coccyzus americanus*), whooping crane (*Grus americana*), greater sandhill crane (*Grus canadensis tabida*), and Mexican spotted owl (*Strix occidentalis lucida*). The existing habitat is too degraded and urbanized to support the peregrine falcon (*Falco peregrinus anatum*), piping plover (*Charadrius melodus circumcinctus*), mountain plover (*Charadrius montanus*), long-billed curlew (*Numenius americanus*), or the least tern (*Sterna antillarum*). There will be no water depletions to the South Platte River resulting from development of the Hogan Pancost property, therefore it will not impact downstream populations of the piping plover, least tern, or whooping crane.

4.3 Fish

Ten fish species listed by CDOW may potentially occur within the South Platte River drainage within or near Boulder County. However, most of these fish have a very limited distribution (see Table 2) and there is no suitable habitat for these fish on the project site. The only semi-

permanent water body is the irrigation pond located near the southern boundary of the East Parcel, which is not a quality fish habitat.

4.4 Mammals

There are six mammal species listed by CDOW with potential habitat in Boulder County. One of these, the black-tailed prairie dog (*Cynomys ludovicianus*) is common on the West Parcel, and has recently increased in abundance following the termination of flood irrigation. The black-footed ferret (*Mustela nigripes*) is largely dependent upon black-tailed prairie dogs, however no known populations of ferrets occur within the state. The northern pocket gopher (*Thomomys talpoides macrotis*) is known to occur in a range of habitats that includes agricultural and pasture lands and is common at elevations above 5,000 feet. However the plant community is too degraded to support the northern pocket gopher and no signs of use have been observed onsite. There is no habitat onsite for the swift fox (*Vulpes velox*), which occurs in intact shortgrass prairies. The project site does not provide appropriate habitat for the Canada lynx (*Lynx canadensis*). As described above in Section 3.1.4, the project site does not support the Preble's meadow jumping mouse or its habitat (See also Appendix A).

4.5 Reptiles

The common garter snake (*Thamnophis sirtalis*) is the only state-listed reptile with potential habitat in Boulder County. This species is potentially present on the project site.

4.6 Mollusks

Two mollusk species listed by CDOW with potential habitat in Boulder County include the Rocky Mountain capshell (*Acroloxus coloradensis*) and the cylindrical papershell (*Anodontooides ferussacianus*). The Rocky Mountain capshell is found in high mountain lakes, and therefore there is no habitat for this species on the Hogan Pancost project site. The cylindrical papershell requires specific fish host species which do not occur on the project site, and it is known from only a few isolated locations within the South Platte River drainage. The site does not support the cylindrical papershell.

5.0 Boulder County Comprehensive Plan Critical Species & Habitats

The Boulder County Comprehensive Plan (BCCP) identifies Significant Natural Communities, Rare Plants, Riparian Corridors, and Critical Wildlife Habitats within the county (Boulder County Land Use Department, 1995). As illustrated by Figure 2, which was imported from the BCCP, none of these mapped features occurs within the Hogan Pancost project site.

6.0 Conclusion

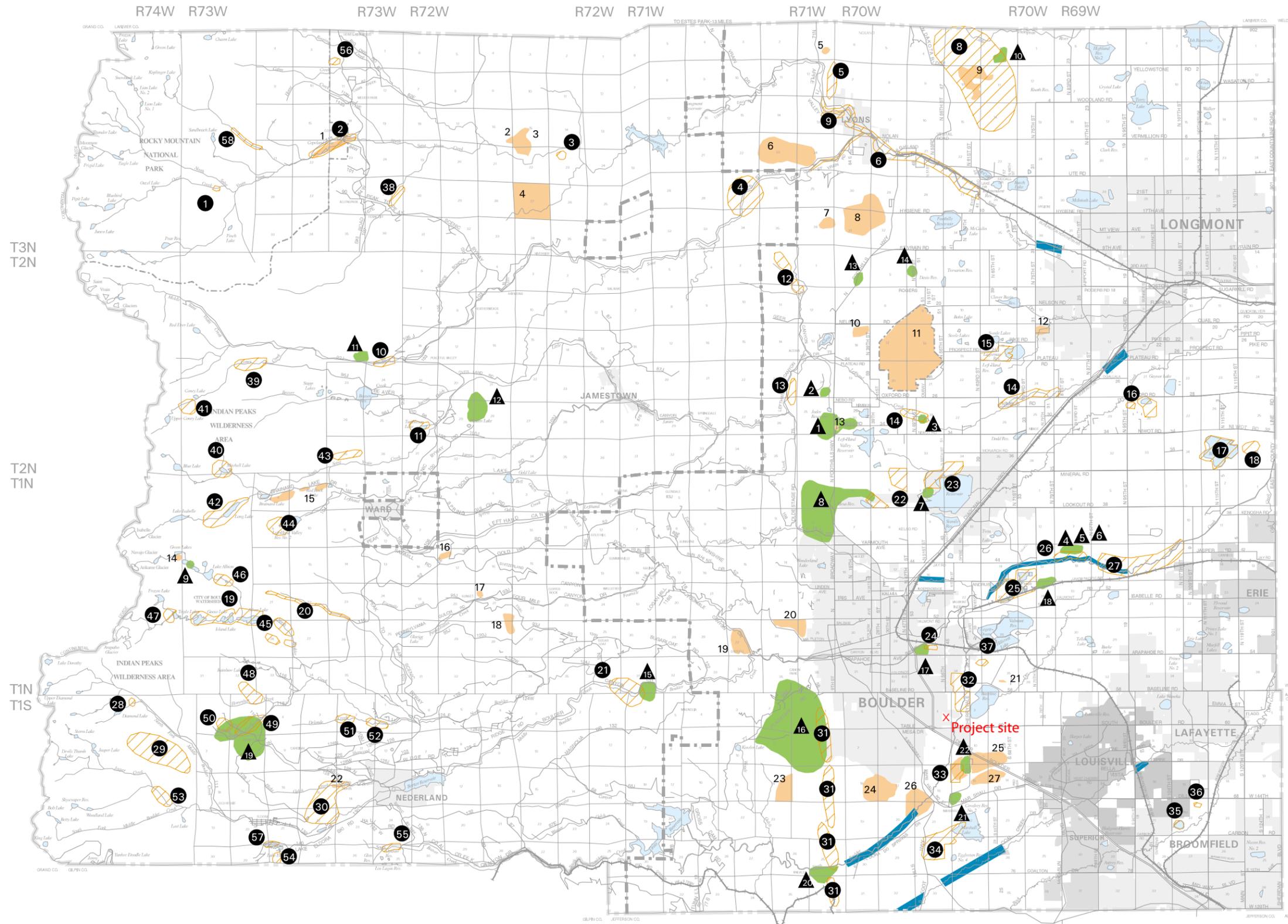
The Hogan Pancost property does not support any populations of federally listed threatened, endangered, or candidate species or their habitats. Formal investigations have been conducted for the Preble's meadow jumping mouse (Appendix A) and the Ute ladies' tresses orchid (Appendix B) and it was determined that no suitable habitat for these species exists. Proposed development of the Hogan Pancost property will not impact the federally listed threatened and endangered species of Table 1 or their habitats.

Of the 34 wildlife species listed by the Colorado Division of Wildlife as threatened, endangered, or special concern, one species, the black-tailed prairie dog, is known to occur on the Hogan Pancost project site. In addition, there are four species that could potentially occur onsite, although their presence has not been documented. These include the burrowing owl, ferruginous

hawk, bald eagle, and common garter snake. Although ferruginous hawks and bald eagles may forage on the project site, there are no raptor nests onsite or in the immediate vicinity. Furthermore, no burrowing owls were present during the 2008 growing season.

As illustrated by Figure 2, there are no Significant Natural Communities, Rare Plants, Riparian Corridors, or Critical Wildlife Habitats identified in the Boulder County Comprehensive Plan that are located on the Hogan Pancost project site.

Figure 2. Natural Communities, Rare Plants, Riparian Corridors, and Critical Wildlife Habitats Environmental Resources



Legend

- Significant Natural Communities
0 (See Back for Descriptions)
- Rare Plant Areas
- (See Back for Descriptions)
- Critical Wildlife Habitats
- (See Back for Descriptions)
- *Significant Riparian Corridors
- Incorporated Areas
(As of April 20, 1999)

See Attached Sheet for Additional Legend Details

Notes
Map scale and reproduction method limit precision in physical features and boundary locations.
PRINTED - APRIL 22, 1999

Revisions
Adopted - Planning Commission - March 22, 1995



**COMPREHENSIVE
PLAN MAP**



Natural Communities, Rare Plants, Riparian Corridors, and Critical Wildlife Habitats

Figure 2 Legend Continued

Significant Natural Communities

- 1 Montane Willow Carr
- 2 Foothills Ponderosa Pine Scrub Woodland (Purshia)
- 3 Mixed Foothills Shrubland (Purshia)
- 4 Foothills Ponderosa Pine Savanna
- 5 Mixed Foothills Shrubland (Cercocarpus)
- 6 Xeric Tallgrass Prairie
- 7 Foothills Ponderosa Pine Scrub Woodland (Cercocarpus)
- 8 Foothills Ponderosa Pine Scrub Woodland (Cercocarpus)
- 9 Foothills Ponderosa Pine Scrub Woodland (Cercocarpus)
- 10 Great Plains Mixed Grass Prairie (Stipa comata)
- 11 Great Plains Mixed Grass Prairie (Stipa neomexicana)
- 12 Great Plains Salt Meadow
- 13 Great Plains mixed Grass Prairie (Stipa comata)
- 14 Alpine Wetlands
- 15 Montane Wet Willow Carr
- 16 Montane Grasslands
- 17 Foothills Ponderosa Pine Savanna
- 18 Montane Grasslands
- 19 Foothills Ponderosa Pine Savanna
- 20 Xeric Tallgrass Prairie
- 21 Great Plains Mixed Grass Prairie
- 22 Montane Willow Carr
- 23 Montane Grasslands
- 24 Wet Prairie
- 25 Wet Prairie
- 26 Wet Prairie
- 27 Xeric Tallgrass Prairie

Rare Plant Areas

- ▲ 1 *Physaria bellii*
- ▲ 2 *Physaria bellii*
- ▲ 3 *Physaria bellii*
- ▲ 4 *Aristida basiramea*
- ▲ 5 *Apios americana*
- ▲ 6 *Asplenium adiantum-nigrum*
- ▲ 7 *Physaria bellii*
- ▲ 8 *Physaria bellii*
- ▲ 9 *Phippsia algida*
- ▲ 10 *Physaria bellii*
- ▲ 11 *Listera convallarioides*
- ▲ 12 *Eustoma grandiflorum*
- ▲ 13 *Physaria bellii*
- ▲ 14 *Physaria bellii*
- ▲ 15 *Selaginella weatherbiana*
- ▲ 16 *Amorpha nana*,
Betula papyrifera,
Carex saximontana,
Listera convallarioides,
Malaxis brachypoda,
Pyrola picta,
Selaginella weatherbiana
- ▲ 17 sensitive species
- ▲ 18 *Eustoma grandiflorum*
- ▲ 19 *Botrychium echo*,
Botrychium hesperium,
Botrychium lanceolatum,
Botrychium pallidum,
Listera convallarioides,
Botrychium minganense
- ▲ 20 *Selaginella weatherbiana*
- ▲ 21 *Amorpha nana*
- ▲ 22 *Amorpha nana*

Critical Wildlife Habitats

- 1 Ouzel Falls
- 2 Copeland Willow Carr (+ wetlands)
- 3 South Sheep Mountain
- 4 Deadman Gulch and South St. Vrain
- 4 Steamboat Mountain
- 6 St. Vrain Creek (+ wetlands)
- 7 St. Vrain Corridor (+ wetlands)
- 8 Rabbit Mountain
- 9 Old Apple Valley
- 10 Middle St. Vrain Willow Carr (+ wetlands)
- 11 Tumbleson Lake (+ wetlands)
- 12 Marietta Canyon
- 13 Lefthand Palisades
- 14 Lefthand Creek Cottonwood Groves (+ wetlands)
- 15 Lagerman Reservoir (+ wetlands)
- 16 Gaynor Lakes (+ wetlands)
- 17 Panama Reservoir (+ wetlands)
- 18 B-J Acres Ranch
- 19 City of Boulder Watershed (Special Consideration)
- 20 Como Creek (Special Consideration)
- 21 Boulder Falls area
- 22 Boulder Valley Ranch (+ wetlands)
- 23 Boulder Reservoir (+ wetlands)
- 24 Cottonwood Grove on Boulder Creek (+ wetlands)
- 25 Walden and Sawhill Ponds (+ wetlands)
- 26 White Rocks (+ wetlands)
- 27 Cottonwood Grove & Heron Rookery (+ wetlands)
- 28 Diamond Lake Outlet
- 29 Chittenden Meadows (+ wetlands)
- 30 Arapaho Ranch - Tucker Homestead (+ wetlands)
- 31 Boulder Mountain Parks - Eldorado Mountain
- 32 South Boulder Creek (+ wetlands)
- 33 Tallgrass Prairie
- 34 Marshall Mesa
- 35 Stearns Lake (+ wetlands)
- 36 Carolyn Holmberg Preserve at Rock Creek Farm
- 37 Sombrero Marsh (+ wetlands)
- 38 Lazy H. Ranch Willow Carr (+ wetlands)
- 39 Coney Flats Willow Carr (+ wetlands)
- 40 Mitchell Lake Willow Carr (+ wetlands)
- 41 Coney Lake Willow Carr (+ wetlands)
- 42 Long Lake Willow Carr (+ wetlands)
- 43 South St. Vrain Willow Carr (+ wetlands)
- 44 Lefthand Reservoir Willow Carr (+ wetlands)
- 45 Boulder Watershed Willow Carr (+ wetlands)
- 46 Lake Albion Willow Carr (+ wetlands)
- 47 Triple Lakes Willow Carr (+ wetlands)
- 48 Horseshoe Creek Willow Carr (+ wetlands)
- 49 Caribou Park Willow Carr (+ wetlands)
- 50 Upper Caribou Park Willow Carr (+ wetlands)
- 51 Delonde Creek Willow Carr (+ wetlands)
- 52 Caribou Ranch Willow Carr (+ wetlands)
- 53 Woodland Flats Willow Carr (+ wetlands)
- 54 Buckeye Basin Willow Carr (+ wetlands)
- 55 Los Lagos Willow Carr (+ wetlands)
- 56 Roaring Fork Willow Carr (+ wetlands)
- 57 Peterson Lake (+ wetlands)
- 58 Hunter's Creek

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
Amphibians			
<i>Bufo boreas boreas</i>	Boreal toad	Endangered	Restricted to areas with suitable breeding habitat in spruce-fir forests and alpine meadows. Breeds in lakes, marshes, ponds, and bogs with sunny exposures and quiet shallow water at elevations between 7,500-12,000 ft.
<i>Rana pipiens</i>	Northern leopard frog	Special Concern	Wet meadows, banks and shallows of marshes, ponds, lakes, reservoirs, slow streams and irrigation ditches; usually in permanent water with rooted aquatic vegetation at elevations between 3,500-11,000 ft. Occurs throughout Colorado excluding most of the southeast and east central portions of the state.
Birds			
<i>Athene cunicularia</i>	Burrowing owl	Threatened	Open grasslands and mountain parks, also in well-drained steppes, deserts, prairies, and agricultural lands; usually in or near prairie dog towns; sometimes in open areas near human habitation, prefers short vegetation.
<i>Buteo regalis</i>	Ferruginous hawk	Special Concern	Grasslands and semi-desert shrublands; rare in pinyon-juniper woodlands; nesting in isolated trees, rock outcrops, windmills or power poles, or on the ground; winter residents concentrate near prairie dog towns, but can occur in shrublands or agricultural areas. Winter resident on eastern plains, rare summer resident on eastern plains.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	Special Concern	Beaches, dry mud or salt flats, sandy shores of rivers, lakes, reservoirs, and ponds; nests on the ground where vegetation is sparse or absent; known from Alamosa, Bent, Crowley, Kiowa, Otero, Park, and Prowers counties in southeast Colorado.
<i>Charadrius melodus circumcinctus</i>	Piping plover	Threatened	Nests on sandy lakeshore beaches, around small alkaline lakes, on sandbars within river bends, or sandy wetland pastures with sparse vegetation; very rare spring and fall migrant on eastern plains west to the foothills in Arkansas and South Platte drainages.
<i>Charadrius montanus</i>	Mountain plover	Special Concern	Prairie grasslands, plains, and fields; nesting in shortgrass prairies grazed by prairie dogs, bison and cattle, and overgrazed tallgrass and fallow fields; rare to fairly common summer resident on eastern plains, with greatest numbers in Weld County; common to abundant fall migrant in Weld County, rare spring and fall migrant elsewhere on eastern plains.
<i>Falco peregrinus anatum</i>	Peregrine falcon	Special Concern	Nest on high cliffs, bluffs, and canyons; forage over adjacent coniferous and riparian forests; migrants and winter residents found near reservoirs, rivers, and marshes, but may be seen in grasslands and agricultural areas. Occasionally in urban areas with tall buildings; coniferous forests; reservoirs and wetlands during migration and winter; rare spring and fall migrant on eastern plains; very rare winter resident on eastern plains near foothills; rare summer resident in foothills and lower mountains.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
<i>Grus americana</i>	Whooping crane	Endangered	Inhabit mudflats around reservoirs and in agricultural areas, salt flats dominated by salt grass; nest in wetlands dominated by bulrushes; rare in eastern Colorado; occur only as migrants where they can be found with flocks of sandhill cranes.
<i>Grus canadensis tabida</i>	Greater sandhill crane	Special Concern	Breeds in open grasslands, marshes, edges of lakes and ponds, river banks; roosts at night along river channels, on alluvial islands of braided rivers, or natural basin wetlands; often feeds and rests in fields and agricultural lands. Migrants occur on mudflats around reservoirs, in moist meadows, and in agricultural areas; known from Eagle, El Paso, Garfield, Grand, Jackson, Larimer, Mesa, Moffat, Rio Blanco, Rio Grande, Routt, and Saguache counties.
<i>Haliaeetus leucocephalus</i>	Bald eagle	Threatened	Most frequently seen in the vicinity of larger streams, rivers, lakes, and reservoirs with abundant fish, especially in winter; may also occur in semideserts and grasslands, especially near prairie dog towns; prefers large open-branched trees near water for hunting perches and roosting; sensitive to human disturbance; range extends throughout Colorado.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
<i>Strix occidentalis lucida</i>	Mexican spotted owl	Threatened	Lower elevation forests, mostly in deeply incised rocky canyons in southern Colorado and along the Front Range. Prefer complex forest structures or rocky canyons with uneven-aged, multi-level and old-aged thick forests. Most nests are in caves or on cliff ledges in steep-walled canyons; typically selects cool, shady sites with high canopy closure and at least a few old-growth trees, usually on moderate to steep slopes. Known from Custer, Douglas, El Paso, Fremont, Huerfano, Montezuma, Pueblo, and San Miguel Counties.
Fish			
<i>Couesius plumbeus</i>	Lake chub	Endangered	Occupy lake habitats and move into streams to spawn; most common in gravel-bottomed pools and runs of streams and along rocky lake margins. Historically known from St. Vrain and Boulder Creek watersheds; thought to be extirpated until rediscovered in St. Vrain River in 1989. Other populations have been discovered in two reservoirs in Clear Creek County and two reservoirs in the upper Cache la Poudre drainage.
<i>Etheostoma spectabile</i>	Plains orangethroat darter	Special Concern	Slow to swift riffles, sometimes runs and pools of headwater creeks and small rivers with sand, gravel, rubble, or bedrock substrates; in spring runs or quiet backwaters in some areas; most abundant in alkaline waters; avoids rivers with strong current; known from Republican river drainage in eastern Colorado.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
<i>Hybognathus hankinsoni</i>	Brassy minnow	Threatened	Native to South Platte and Republican River basins; found in cooler, flowing water or pools with sand to gravel substrate and aquatic vegetation; most often found in smaller tributary streams. Existing populations in St. Vrain River, Cache la Poudre River, Lonetree Creek, Pawnee Creek, and South Platte River east of Sterling.
<i>Hybognathus placitus</i>	Plains minnow	Endangered	South Platte, Arkansas, and Republican river basins; presently nearly extirpated from Colorado; lives in river main-channels with some current, turbid water conditions and sandy bottoms. Currently in South Platte river between Ft. Morgan and Sterling.
<i>Luxilus cornutus</i>	Common shiner	Threatened	Occurs only in the upper South Platte tributary system and St. Vrain River drainage; requires streams of moderate gradient with cool clear water and gravel substrates shaded by overhanging riparian trees and shrubs. Intolerant of silt-predominated habitat.
<i>Noturus flavus</i>	Stonecat	Special Concern	Found in fast water riffles and runs of streams, hiding under rocks, woody debris, or along sandbars during the day. Only one individual has ever been collected from the St. Vrain River in 1984; rest from Republican river basin.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
<i>Oncorhynchus clarki stomias</i>	Greenback cutthroat trout	Threatened	Swift moving, cold mountain streams and mountain lakes in Arkansas and South Platte watersheds; requires cold, clear water with low levels of sediment and pollution, stable stream banks, well distributed pools, and abundant stream cover; historical range included gravelly foothills streams but it has been largely extirpated from these habitats. Existing populations within the South Platte River drainage are in protected environments within Rocky Mountain National Park and in the upper headwaters of the tributary system.
<i>Phenacobius mirabilis</i>	Suckermouth minnow	Endangered	South Platte, Arkansas, and Republican river basins; Inhabits clear shallow water riffle areas with sand and gravel and year-round flow; in South Platte drainage, only a small population is known from the Lodgepole Creek Drainage which flows into the extreme northeastern corner of Colorado.
<i>Phoxinus eos</i>	Northern redbelly dace	Endangered	Inhabits slow-moving, spring-fed, cool-water streams or ponds with aquatic vegetation and sandy bottoms. Historically occurred in the St. Vrain River, Boulder Creek, and West Plum Creek drainages; recent sampling shows only one population in West Plum Creek near Castle Rock.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
Mammals			
<i>Cynomys ludovicianus</i>	Black-tailed prairie dog	Special Concern	Form large colonies or “towns” in shortgrass or mixed grass prairie; present in most counties of the eastern plains, especially those along the front range, including lands adjacent to or within urban areas
<i>Lynx canadensis</i>	Canada lynx	Endangered	Preferred habitat is northern coniferous forests; uneven-aged stands with relatively open canopies and well developed understories that support snowshoe hare; in Colorado prefer dense spruce-fir stands in association with rock outcrops or boulders, mostly high-elevation coniferous forests above 8,000 ft.
<i>Mustela nigripes</i>	Black-footed ferret	Endangered	Historically occupied habitats ranging from shortgrass and midgrass prairie to semidesert shrublands. No known populations in Colorado; co-evolved with prairie dogs, their ranges and habitats closely overlap.
<i>Thomomys talpoides macrotis</i>	Northern pocket gopher	Special Concern	Range of habitats includes agricultural and pasture lands, semidesert shrublands, and grasslands at lower elevations ranging upwards into alpine tundra; common at elevations above 5,000 ft.
<i>Vulpes velox</i>	Swift fox	Special Concern	Shortgrass and midgrass prairies; eastern plains of Colorado; most numerous in areas with flat to gently rolling topography; can be in areas intermixed with cropland; known from Arapahoe, Baca, Bent, Cheyenne, Crowley, El Paso, Elbert, Huerfano, Kiowa, Larimer, Las Animas, Lincoln, Logan, Morgan, Otero, Prowers, Pueblo, Washington, and Weld Counties.

TABLE 2
State Listed Threatened, Endangered, and Special Concern Wildlife Species
Boulder County, Colorado

<u>Scientific Name</u>	<u>Common Name</u>	<u>State of Colorado Status</u>	<u>Habitat Characteristics & Range</u>
<i>Zapus hudsonius prebeli</i>	Preble's meadow jumping mouse	Threatened	In and near shrub-dominated riparian areas along Colorado's Front Range from Colorado Springs north into southeastern Wyoming; a prairie species occupying a variety of habitats but is most common in rank, lush vegetation along watercourses or in herbaceous understories in wooded areas.
Reptiles			
<i>Thamnophis sirtalis</i>	Common garter snake	Special Concern	Marshes, ponds, edges of streams, basically restricted to aquatic, wetland and riparian habitats along the floodplains of streams; seldom found away from water or at isolated ponds; active in shallow water and on land adjacent to water; in Northeastern Colorado, found along South Platte River and its tributaries at elevations below 6,000 ft.
Mollusks			
<i>Acroloxus coloradensis</i>	Rocky Mountain capshell	Special Concern	Restricted to high mountain lakes in the Rockies; known from Boulder County, Rocky Mountain National Park, Routt and Roosevelt National Forests.
<i>Anodontooides ferussacianus</i>	Cylindrical papershell	Special Concern	Mud or sandy substrate of lakes and quiet streams; needs host fish species: largemouth bass, bluegill, black crappie, common shiner, Iowa darter, or white sucker. In Colorado, it reaches the edge of its western range and has declined to just a couple sites in the South Platte River drainage. Preferred habitat is shallow water near shore in silt.

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Appendix A. Preble's Meadow Jumping Mouse Habitat Assessment



**Stoecker
Ecological
Consultants, Inc**

279 Forest Lane

Boulder, Colorado 80302

Ph/Fax (303) 444-3979

Mr. Charles Gee
MACKENZIE HOUSE
147 Walnut St..
Suite 102
Boulder, CO. 80302

July 24, 2008

Dear Mr. Gee;

I completed a site visit to the Hogan-Pancost property on July 14, 2008. The objective, following your request, was to evaluate current habitat conditions relevant to the federally threatened Preble's Jumping Mouse.

My site visit was directed primarily at evaluating your recent maintenance activities along the irrigation ditch at the southwest edge of the property. The disturbances to the vegetation adjacent to the ditch are minor and in no way represent a potential impact to the jumping mouse or to other wildlife species. Similarly, as no changes in the hydrology will occur due to this ditch maintenance, there will be no downstream effects or off-site impacts.

I hope the information provided here is satisfactory for your purposes. If I can be of further assistance, please feel free to call.

Respectfully,

Robert. E. Stoecker, PhD
Consulting ecologist



Mr. Peter Plage
U.S. Fish and Wildlife Service
Ecological Services
Colorado Field Office
P.O. Box 25486, DFC (MS 65412)
Denver, CO. 80225-0486

August 7, 2007

RE: Update of request for exclusion of survey trapping for the federally threatened Preble's jumping mouse

Dear Mr. Plage:

A request for excluding the property described below from a trapping survey for the Preble's jumping mouse was submitted to your office on August 8, 2003. On August 25, 2003 your office granted this request. I am enclosing pertinent materials from these correspondences with this report.

My client would like at this time to update the 2003 report and to again request an exclusion of a trapping survey. The project area is the **Hogan/Pancost Property**, located in the city of Boulder, approximately 1/4 mile north of South Boulder Road on 55th Street (Section 4, T1S R70W, UTM 4,426,400N 480,900E). After your review of these materials, would you please inform the client regarding your acceptance or rejection of my habitat evaluation? The client can be reached at the following address?

Mr. Tom Finley
MACKENZIE HOUSE
7887 E. Belleview Ave.
Suite 800
Englewood, CO. 80111
(720) 240-4580

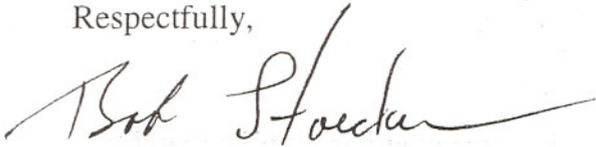
In my 2003 report I presented the following habitat description:

The Hogan/Pancost Property consists of grassy meadows located to either side of 55th Street (Figures 1 and 2). A very small irrigation ditch parallels 55th Street at this location, and South Boulder Creek is approximately 375 feet east of the property boundary. The East Boulder Recreation Center is located immediately northeast of the property and two ponds belonging to this facility are just outside the property boundary. There is no riparian habitat on the Hogan/Pancost property or stands of willow or other mesic shrub. In my opinion, this site is unlikely to support a population of Preble's Jumping mice or to function as a movement corridor and therefore should be excluded from further Preble's Jumping mouse considerations. In my opinion, this site is unlikely to support a population of Preble's Jumping mice or to function as a movement corridor and therefore should be excluded from further Preble's Jumping mouse considerations.

I again visited this site, on August 6, 2007, to update my 2003 habitat evaluation. I am including two recent photographs, and re-submitting the 2003 photographs for your review. In my opinion there has been no significant habitat changes and therefore I would like to request that the property be again excluded from a Preble's jumping mouse live-trapping survey.

Thank you for your consideration of this request. If you require additional information regarding this project, please feel free to call.

Respectfully,

A handwritten signature in black ink that reads "Bob Stoecker". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Robert E. Stoecker, PhD
Consulting Ecologist

cc. Tom Finley

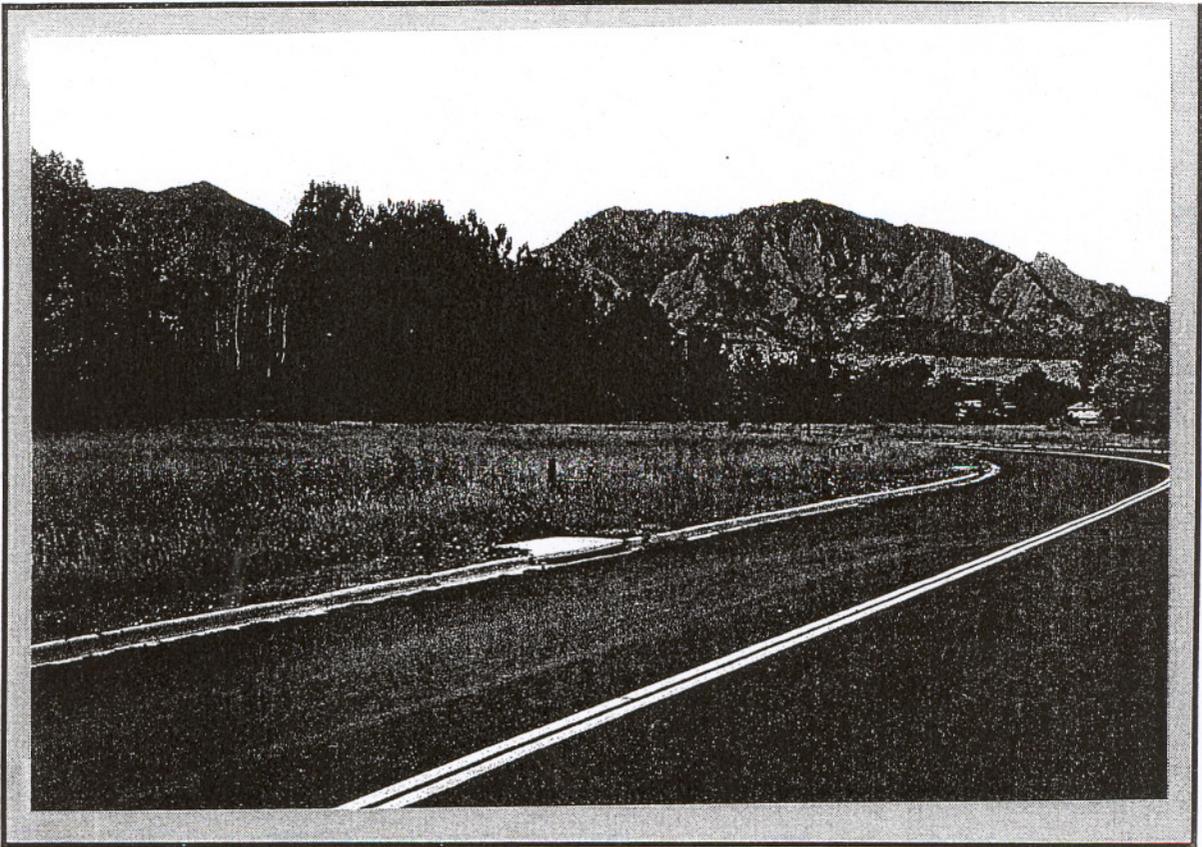


Figure 1.

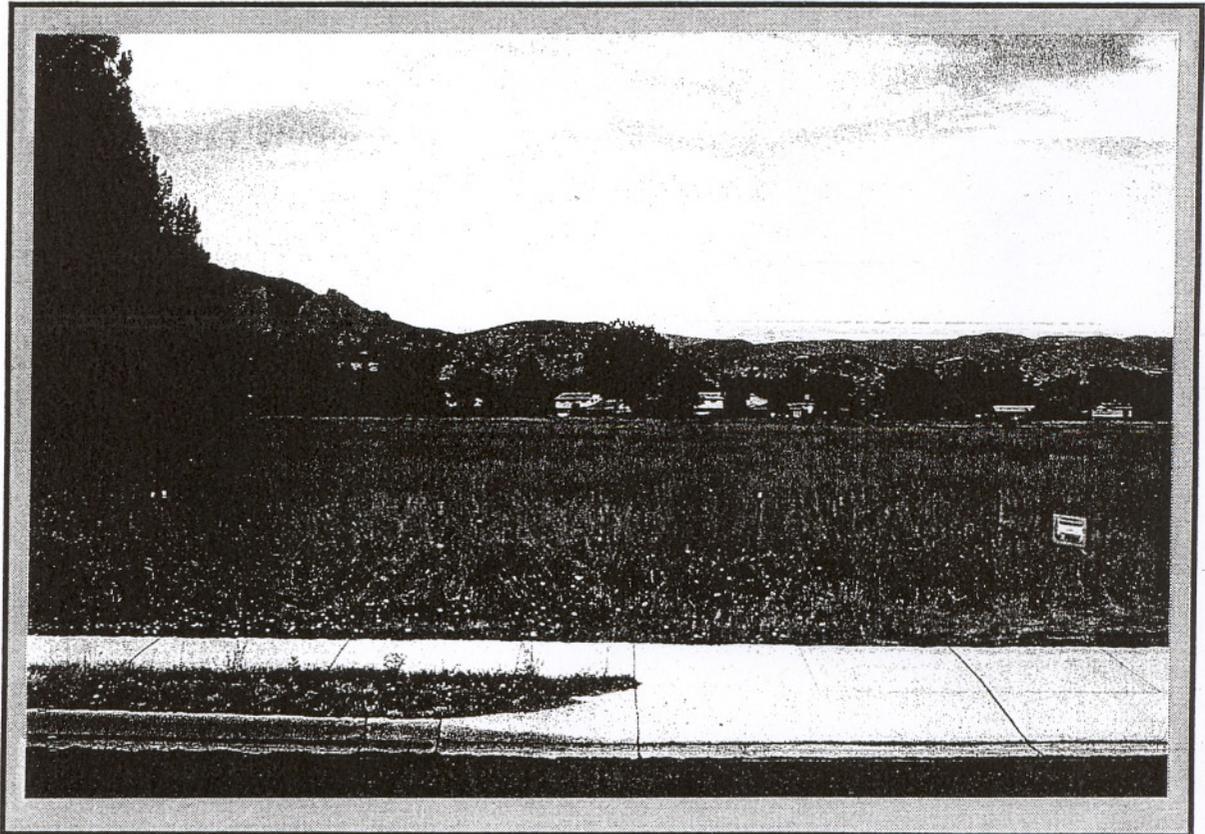


Figure 2.

Photographs taken in 2003

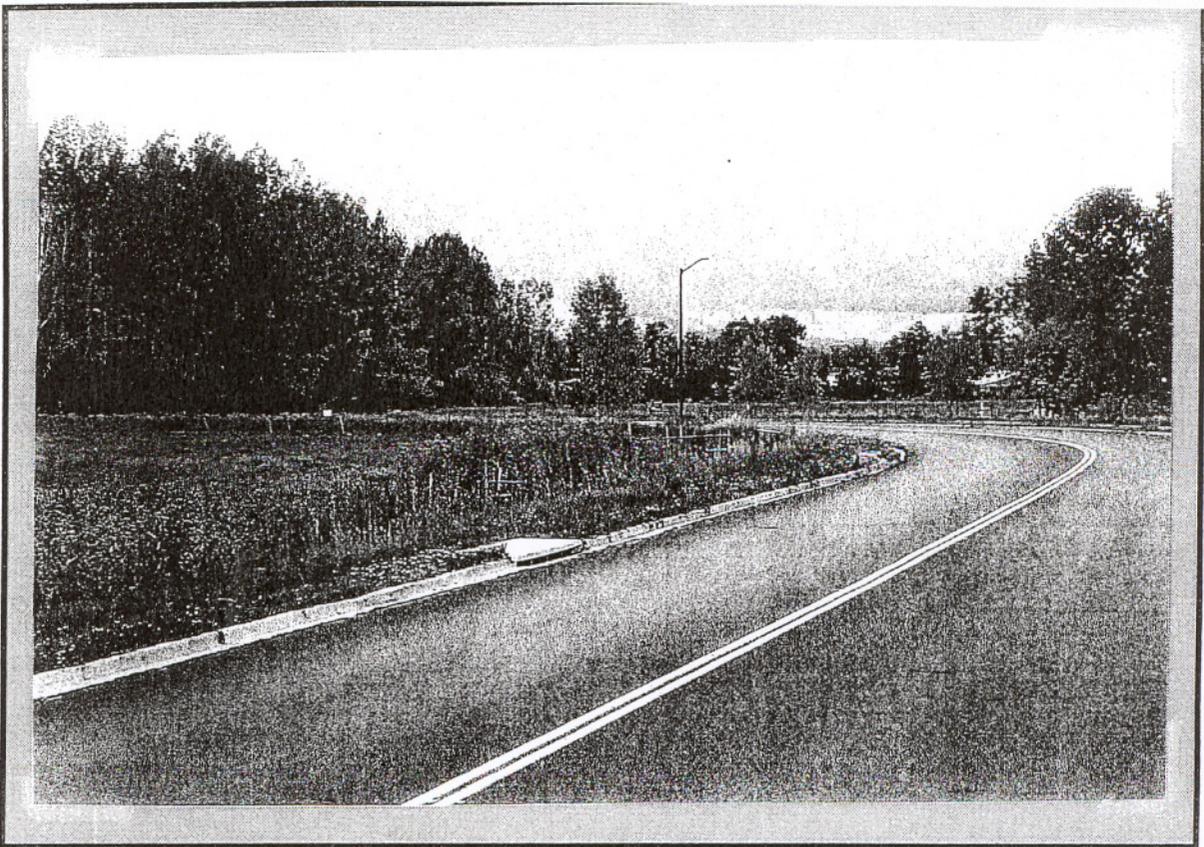


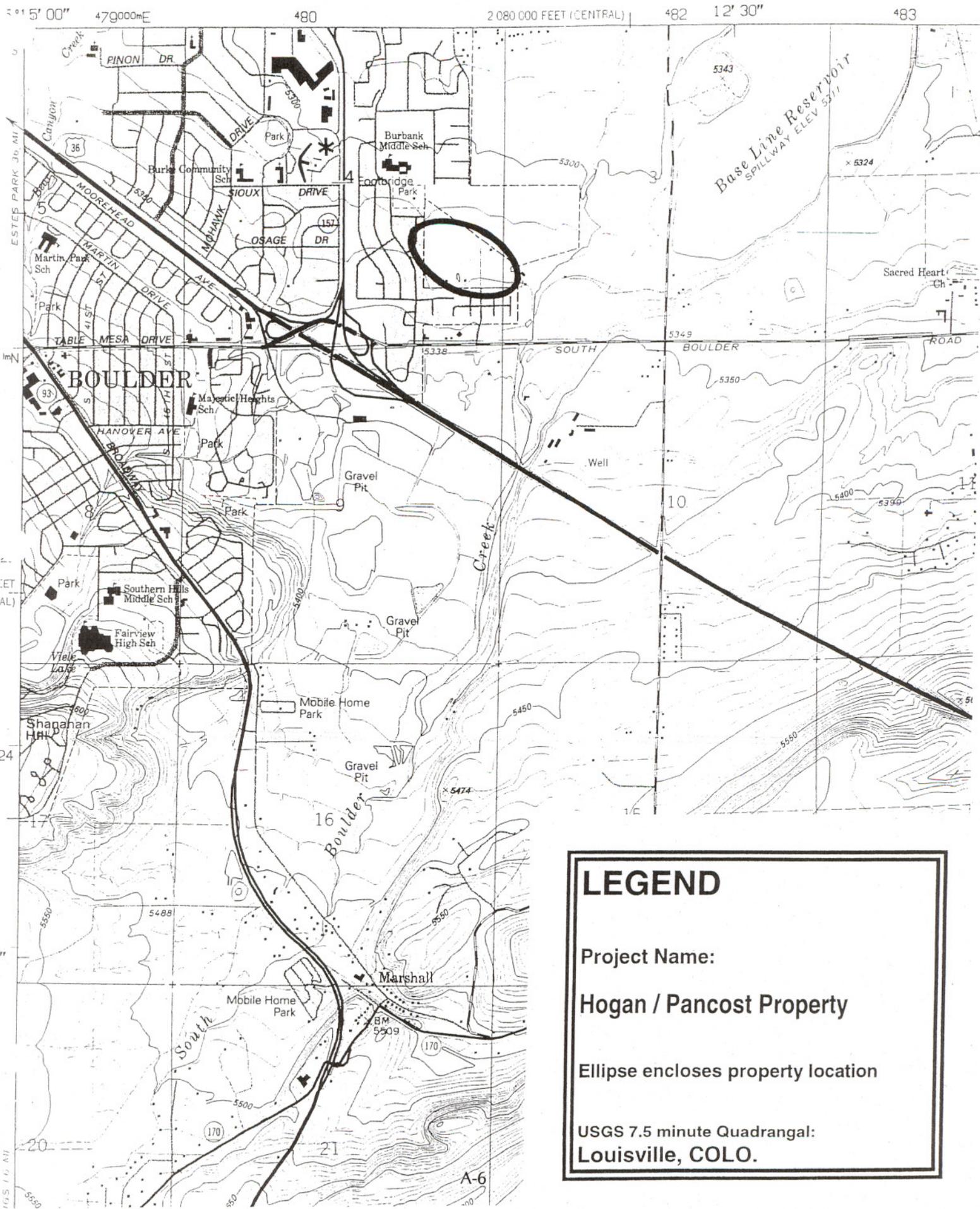
Figure 1



Figure 2.

Photographs taken in 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



LEGEND

Project Name:
Hogan / Pancost Property

Ellipse encloses property location

USGS 7.5 minute Quadrangal:
Louisville, COLO.

Zapus hudsonius preblei, Preble's Meadow Jumping Mouse

Survey Field Data Compilation Form

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out only section 1 if habitat evaluation (ie. not trapped).

SECTION 1

Surveyor:

Organization/Company

Full Name(s)

Stoecker Ecological Consultants
Robert E Stoecker

Location:

Descriptive Site Name (creek, nearby road intersection, etc.)

Hogan / Pancost Property
U.S.G.S. Quad Name _____ County _____ Elevation 5280 ft
Township(s) T1S Range(s) R20 W Section(s) 4

1/4 Section(s) SE 1/4 of SE 1/4
UTM Coordinates, Zone 13 Northing 4,426,400 Easting 480,900

Directions to Location 1/4 mile north of South Boulder Road
on 55th St.

Land Ownership private

Habitat:

General Habitat Description

Dense grassy meadow

Dominant Plant Community Native and introduced grasses

Drainage Type: Perennial Stream _____ Ephemeral Stream _____ Pond/Lake _____

Ditch _____ Other no on site stream or lake

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

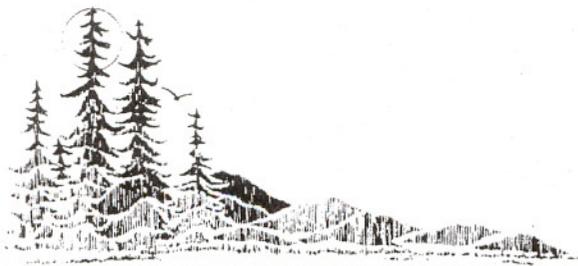
Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather conditions prior to and during survey _____

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



Mr. Peter Plage
U.S. Fish and Wildlife Service
Ecological Services
Colorado Field Office
P.O. Box 25486, DFC (MS 65412)
Denver, CO. 80225-0486

July 24, 2008

Dear Mr. Plage:

This letter is merely to inform you of some minor activities on a project site that was recently cleared by your office of concerns regarding the Preble's Jumping Mouse. The project site is the **Hogan/Pancost Property** located in Boulder, Colorado. Your letter of clearance is dated September 14, 2007.

Because your letter of September 14 calls attention to problems that could possibly arise given any alteration in flow regimes, the client thought it appropriate to inform you of recent maintenance activities along an irrigation ditch located at the southwest edge of the property. This ditch runs to the west and is a lateral that retrieves water from Dry Creek Ditch #2 and returns water to this same ditch.

Only routine maintenance activities were performed along this ditch. These activities involved simply lining the ditch with a plastic membrane liner. Some minor disturbance to the adjacent vegetation occurred, as can be seen in Figures 1 and 2. Dry Creek Ditch #2 (Fig. 3), was not involved in the maintenance.

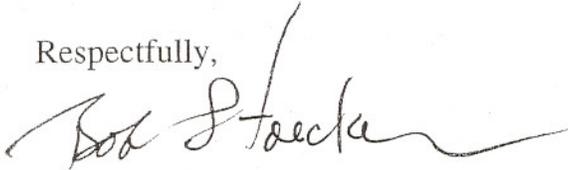
The client has informed me that no changes in flow regimes will occur. And, because the ditch is located well away from any potential jumping mouse habitat, the minor disturbance to the vegetation does not represent a significant impact.

After your review of these materials, would you please inform the client regarding your acceptance or rejection of my habitat evaluation? The client can be reached at the following address?

Mr. Charles Gee
MACKENZIE HOUSE
147 Walnut St.
Suite 102
Boulder, CO. 80302
(303) 669-3002

Thank you for your consideration of this request. If you require additional information regarding this project, please feel free to call.

Respectfully,

A handwritten signature in black ink, appearing to read "Bob Stoecker", with a long, sweeping horizontal line extending to the right.

Robert E. Stoecker, PhD
Consulting Ecologist

cc. Charles Gee



Figure 1



Figure 2.

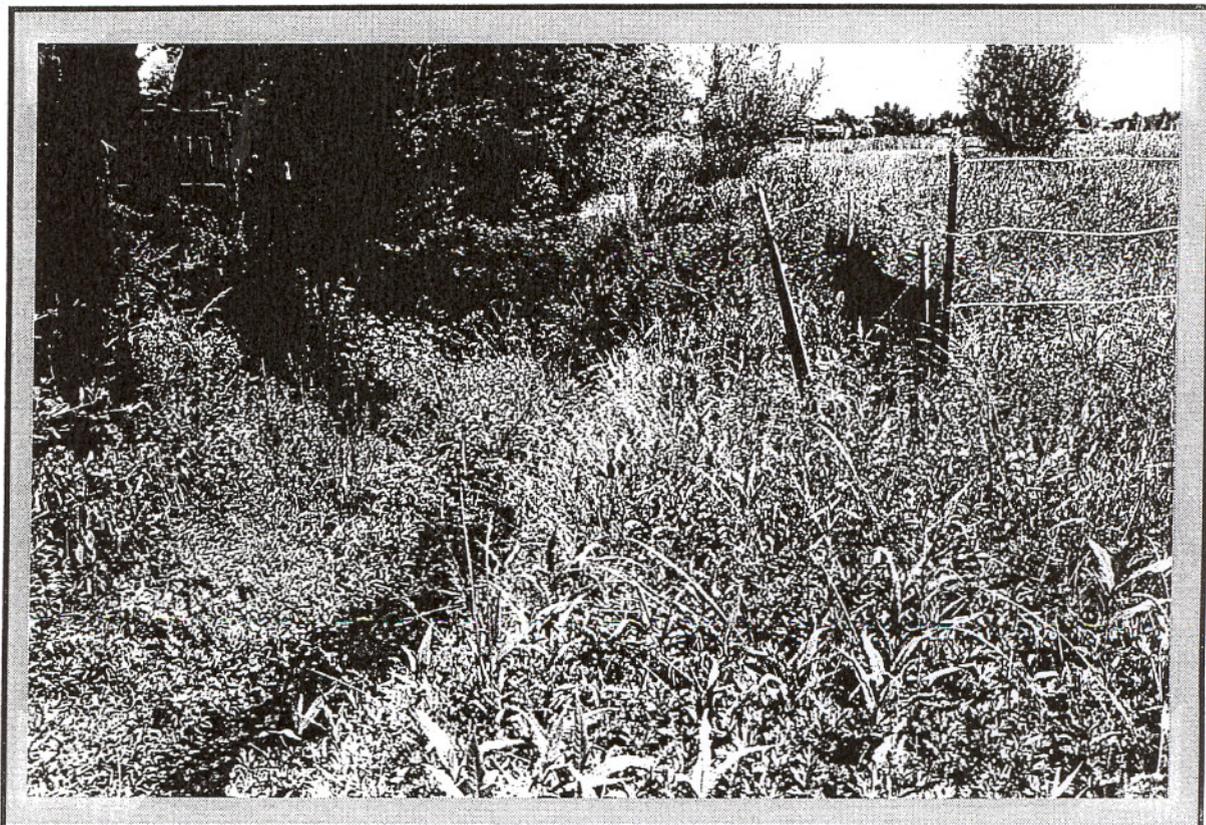


Figure 3.



**Stoecker
Ecological
Consultants, Inc**

279 Forest Lane

Boulder, Colorado 80302

Ph/Fax (303) 444-3979

Mr. Tom Finley
MACKENZIE HOUSE
7887 E. Belleview Ave.
Suite 800
Englewood, CO. 80111

March 28, 2008

Dear Mr. Finley;

Pursuant to your request, I conducted a recent site visit to the Hogan-Pancost property. The objective, following your request, was to evaluate current habitat conditions relevant to the federally threatened Preble's Jumping Mouse. My site visit was conducted on March 26, 2008.

As you are aware, I conducted two previous habitat evaluations of this site (in 2003 and 2007), both of which were presented to the U.S. Fish and Wildlife Service for their review. The USFWS agreed with my assessment that the Hogan-Pancost site is not a critical habitat for the Preble's Jumping Mouse.

On my recent site visit I again examined the entire property. I did not find any significant change in the overall appearance of the vegetation, or detect any important modification of the habitat. If I were to submit another report to the USFWS (which is not required given their approval of my previous evaluation), I would again state that this site does not represent critical habitat for the Preble's Jumping Mouse.

I hope the information provided here is satisfactory for your purposes. If I can be of further assistance, please feel free to call.

Respectfully,

Robert. E. Stoecker, PhD
Consulting ecologist



Mr. Péter Plage
U.S. Fish and Wildlife Service
Ecological Services
Colorado Field Office
P.O. Box 25486, DFC (MS 65412)
Denver, CO. 80225-0486

August 7, 2007

RE: Update of request for exclusion of survey trapping for the federally threatened Preble's jumping mouse

Dear Mr. Plage:

A request for excluding the property described below from a trapping survey for the Preble's jumping mouse was submitted to your office on August 8, 2003. On August 25, 2003 your office granted this request. I am enclosing pertinent materials from these correspondences with this report.

My client would like at this time to update the 2003 report and to again request an exclusion of a trapping survey. The project area is the **Hogan/Pancost Property**, located in the city of Boulder, approximately 1/4 mile north of South Boulder Road on 55th Street (Section 4, T1S R70W, UTM 4,426,400N 480,900E). After your review of these materials, would you please inform the client regarding your acceptance or rejection of my habitat evaluation? The client can be reached at the following address?

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(720) 240-4580

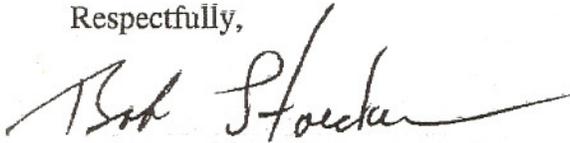
In my 2003 report I presented the following habitat description:

The Hogan/Pancost Property consists of grassy meadows located to either side of 55th Street (Figures 1 and 2). A very small irrigation ditch parallels 55th Street at this location, and South Boulder Creek is approximately 375 feet east of the property boundary. The East Boulder Recreation Center is located immediately northeast of the property and two ponds belonging to this facility are just outside the property boundary. There is no riparian habitat on the Hogan/Pancost property or stands of willow or other mesic shrub. In my opinion, this site is unlikely to support a population of Preble's Jumping mice or to function as a movement corridor and therefore should be excluded from further Preble's Jumping mouse considerations. In my opinion, this site is unlikely to support a population of Preble's Jumping mice or to function as a movement corridor and therefore should be excluded from further Preble's Jumping mouse considerations.

I again visited this site, on August 6, 2007, to update my 2003 habitat evaluation. I am including two recent photographs, and re-submitting the 2003 photographs for your review. In my opinion there has been no significant habitat changes and therefore I would like to request that the property be again excluded from a Preble's jumping mouse live-trapping survey.

Thank you for your consideration of this request. If you require additional information regarding this project, please feel free to call.

Respectfully,



Robert E. Stoecker, PhD
Consulting Ecologist

cc. Tom Finley



Figure 1



Figure 2.

Photographs taken in 2007



Figure 1.

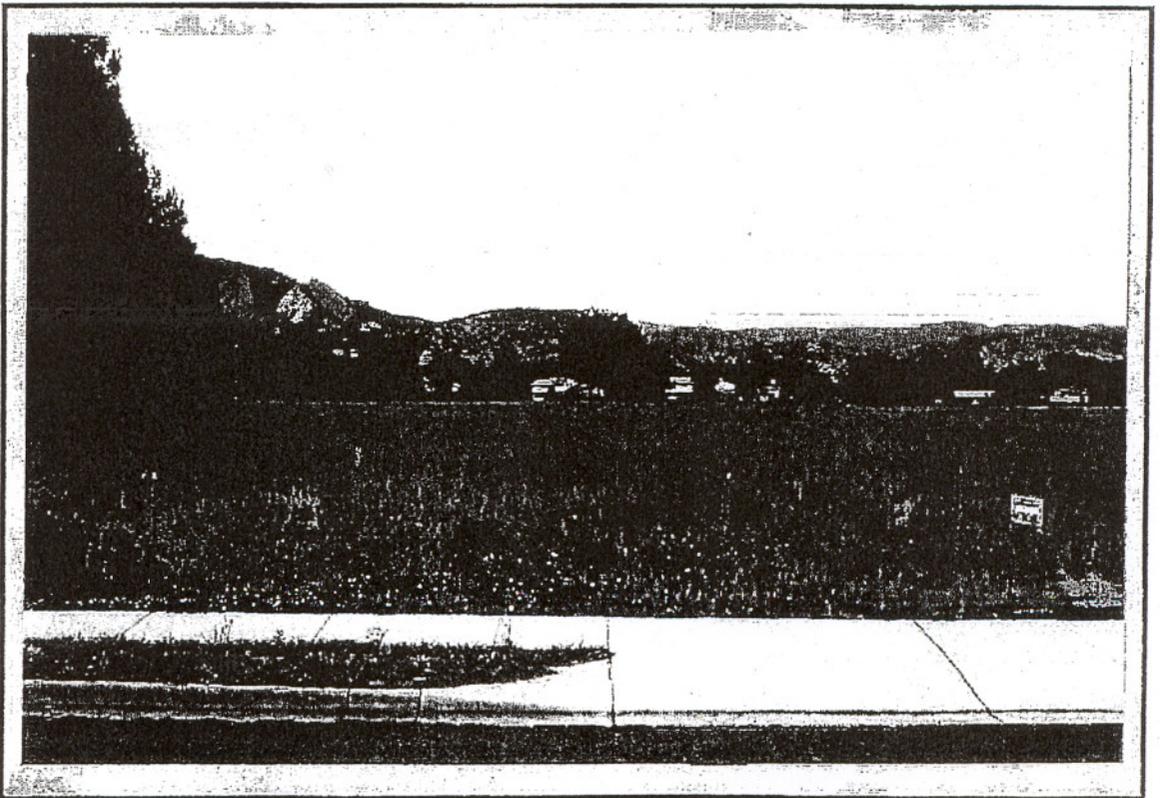
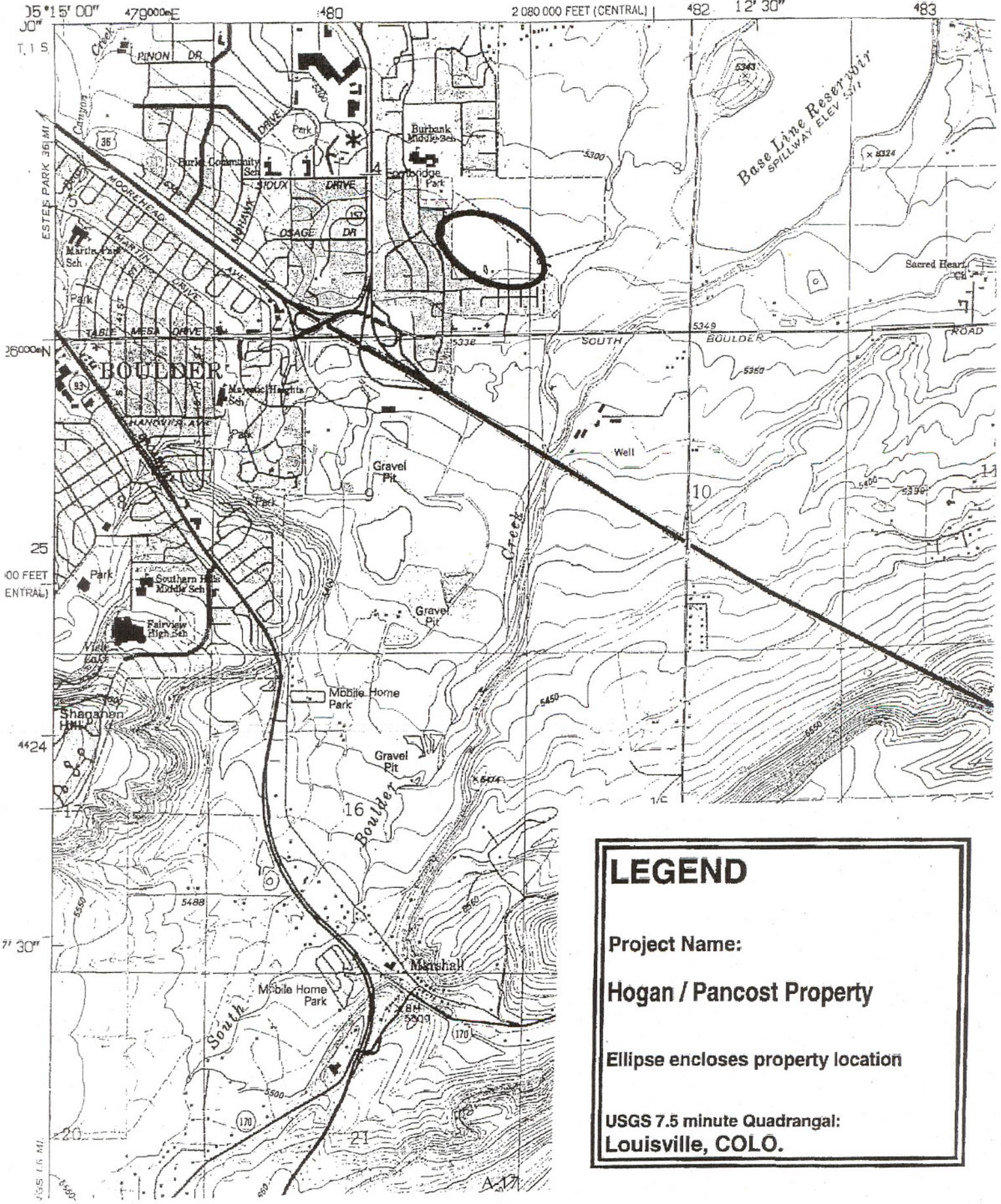


Figure 2.

Photographs taken in 2003

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

11 SE
47R



LEGEND

Project Name:
Hogan / Pancost Property

Ellipse encloses property location

USGS 7.5 minute Quadrangal:
Louisville, COLO.

Zapus hudsonius preblei, Preble's Meadow Jumping Mouse

Survey Field Data Compilation Form

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out only section 1 if habitat evaluation (ie. not trapped).

SECTION 1

Surveyor:

Organization/Company

Full Name(s)

Stoecker Ecological Consultants
Robert E. Stoecker

Location:

Descriptive Site Name (creek, nearby road intersection, etc.)

Hogan / Pancast Property
U.S.G.S. Quad Name _____ County _____ Elevation 5250 ft
Township(s) T15 Range(s) R20 W Section(s) 4

¼ Section(s) SE¼ & S5¼

UTM Coordinates, Zone 13 Northing 4,426,400 Easting 480,900

Directions to Location ¼ mile north of South Boulder Road
on 55th St.

Land Ownership private

Habitat:

General Habitat Description

Dense grassy meadow

Dominant Plant Community

Native and introduced grasses

Drainage Type: Perennial Stream _____

Ephemeral Stream _____

Pond/Lake _____

Ditch _____

Other

no on-site stream or lake

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 _____

Weather conditions prior to and during survey _____

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



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

AUG 25 2003

Robert Stoecker
Stoecker Ecological Consultants, Inc.
279 Forest Lane
Boulder, Colorado 80302

Dear Mr. Stoecker:

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), habitat assessment report submitted with your letter of August 8, 2003. This report regards the proposed site plan review for the **Hogan/Pancost Property** on 55th Street in Boulder County, Colorado.

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, therefore, a Preble's trapping survey is not needed at this time. Thus, the Service concludes that the proposed project on this site should not have direct adverse affects to Preble's. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered under the ESA.

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

Sincerely,

Susan C. Linner
Colorado Field Supervisor

cc: Michael Boyers, Del Mar Interests
Spagnuolo

Reference: BJS\Boulder\Hogan.wpd

Appendix B. Ute Ladies' Tresses Orchid Survey and Habitat Assessment

William F. Jennings
Botanical Consultant
P.O. Box 952
Louisville, CO 80027
303-666-8348

July 25, 2008

Tom Finley
MacKenzie House LLC
7887 East Belleview Avenue
Suite 800
Englewood CO 80111

Dear Mr. Finley:

As requested, I have visited the Hogan and Pancost properties on 55th Street at the southeast edge of the city of Boulder, Boulder County, Colorado. This letter report updates four previous surveys of these properties for the federally threatened plant species *Spiranthes diluvialis* (Ute ladies'-tresses orchid). The properties were visited on July 25, 2008, and had previously been surveyed for the orchid on April 1, 2008, July 25, 2007, July 28, 2003; and July 26, 1994 (Hogan) and August 17, 1994 (Pancost). Prior surveys (except for the April 1, 2008 survey) were performed during the period when the orchid is in bloom. The current survey was completed when the orchid is in bloom. In prior surveys, no orchids were found on the properties. In the current survey, no orchids were found and suitable habitat is minimal.

The two properties are in T1S R70W section 4 S1/2 and are shown on the Louisville USGS 7.5' Quadrangle map. The site is on 55th Street, north of South Boulder Road and immediately southwest of the East Boulder Community Park and Recreation Center.

The orchid blooms in July and August, usually starting bloom around July 20. By September it is in fruit. When in bloom, the porcelain-white flowers immediately call attention to the plant. During the winter and spring, the orchid is usually not detectable, except by the presence of dead standing stems from the prior year. On the day prior to the survey, the well-known population on City of Golden Open Space, along Clear Creek just west of the US 6 bridge, was visited. At that site, 32 orchids were observed in bloom, in bud, and vegetative. This population, first observed in 1980, is a reliable indicator of the condition of the orchid. If the orchid were present on the Hogan and Pancost properties, it should have been in bloom, but no orchids were found there.

As observed in prior surveys, the Hogan and Pancost properties are heavily disturbed by grazing, overseeding of exotic grasses for forage improvement, weeds, and prairie dogs. The site is nearly surrounded by urban development. In general, the properties can be divided into three areas: a pasture to the west; ranch outbuildings and corrals in the center, and an eastern pasture across 55th Street. The area had been used as pasture for horses sometime in the not too distant past, as droppings were seen, but no livestock was seen on the day of the July 2008 survey. Horses and a donkey were seen in 2007. No livestock was seen in 2003. In 1994, 25 cattle and one horse were present.

As noted in previous surveys, the vegetation of the western pasture is composed of exotic species, most notably: smooth brome (*Bromus inermis*), timothy (*Phleum pratense*), lotus (*Lotus tenuis*) and red clover (*Trifolium pratense*). At the time of the current survey, no grazing had been done for some time and grasses and other plants were easily identifiable. Much of the area is dry and weedy. Scotch thistle (*Onopordum acanthium*), diffuse knapweed (*Acosta diffusa*), musk thistle (*Carduus nutans*), chicory (*Cichorium intybus*), mullein (*Verbascum thapsus*), and curly dock (*Rumex crispus*) were identifiable weeds during the current survey. In the drier parts of the property, prairie dogs have dug burrows and prickly-pear cactus (*Opuntia macrorhiza*) is present. A ditch lateral follows the south property boundary west from 55th Street and then follows the west property boundary north. The south-side ditch had been noted as having been excavated deeper in April 2008. A fence has been built north of the south-side ditch. Both of these ditches were flowing during the current survey. The west-side ditch was choked with vegetation and no orchid habitat is present. A ditch parallels the northeast property boundary, but mostly outside the fence and apparently on land owned by the City of Boulder. This ditch was flowing. No ditch diversions were being made into the western pasture, although some low areas were moist. Low, moist areas can be orchid habitat, but no orchids were found.

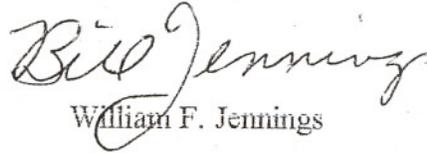
The central area is composed of ranch outbuildings and corrals. The natural vegetation is no longer present; only weeds and other exotic species are present, or no vegetation is present at all. Prairie dog holes were noted. None of this area is suitable for orchid habitat, as it is too highly disturbed and too dry.

East of 55th Street, the pasture had not been grazed recently. Smooth brome and red clover were noted. In the area where 55th Street makes a sweeping curve to the east, the pasture is too dry to support orchids. The pasture is moister toward the center. Vegetation is similar to the area across 55th Street, but with a very bad infestation of teasel (*Dipsacus fullonum*) here, which has crowded out all other vegetation. Other woody species were Canada thistle (*Cirsium arvense*) and ox-eye daisy (*Chrysanthemum leucanthemum*). The same ditch as parallels the northeast fence west of 55th Street crosses the property. No habitat remains for the orchid. The easternmost portion of this pasture is somewhat wooded with cottonwoods, but generally rather dry, and unsuitable for orchids.

In prior surveys, none of the plant species were seen that are commonly associated with the orchid (*Agalinis tenuifolia*, *Lobelia siphilitica*, *Verbena hastata*, *Asclepias incarnata*). If they had been present, they should have been in bloom or identifiable. In my opinion, the Hogan and Pancost properties are too heavily disturbed by livestock operations for them to be orchid habitat. In general, the quality of the site seems to be declining. The teasel and Scotch thistle were not present in 1994, but had become noticeable in 2003, and the teasel was overwhelming the eastern pasture in 2007, as well as in the current survey. The number of native species present seems to be declining and the number of weedy species seems to be increasing.

This letter should be of assistance in obtaining any permits needed from the US Army Corps of Engineers and the US Fish & Wildlife Service.

Sincerely



William F. Jennings

PLANT SPECIES PRESENT
HOGAN AND PANCOST PROPERTIES
BOULDER, COLORADO

Native trees & shrubs

- Populus deltoides* – plains cottonwood
- Salix exigua* – coyote willow
- Prunus americana* – wild plum
- Prunus virginiana* – chokecherry

Introduced trees & shrubs

- Elaeagnus angustifolia* – Russian-olive
- Salix fragilis* – crack willow
- Ulmus pumila* – Siberian elm

Native forbs

- Alisma triviale* – water-plantain
- Ambrosia psilostachya* – ragweed
- Apocynum cannabinum* – dogbane
- Asclepias speciosa* – showy milkweed
- Erigeron* sp. – fleabane; daisy
- Glycyrrhiza lepidota* – wild licorice
- Grindelia squarrosa* – gumweed
- Maianthemum stellatum* (*smilacina stellata*) – Solomon's-seal
- Oenothera villosa* – tall evening-primrose
- Opuntia macrorhiza* – pricklypear cactus
- Potentilla norvegica* – cinquefoil
- Rosa arkansana* – wild rose
- Sagittaria cuneata* – arrowhead
- Solidago* sp. – goldenrod
- Thalictrum dasycarpum* – meadowrue
- Toxicodendron rydbergii* – poison ivy

Introduced forbs

- Achillea millefolium* – yarrow
- Acosta* (*Centaurea*) *diffusa* – diffuse knapweed
- Alyssum* sp. – alyssum
- Arctium minus* – burdock
- Asparagus officinalis* – cultivated asparagus
- Carduus nutans* – musk thistle
- Chrysanthemum leucanthemum* – ox-eye daisy
- Cichorium intybus* – chicory
- Cirsium arvense* – Canada thistle

Convolvulus arvensis – bindweed
Conyza canadensis - horseweed
Coronilla varia – crown-vetch
Daucus carota – wild carrot
Dipsacus fullonum (*Dipsacus sylvestris*) – teasel
Erodium cicutarium – crane's-bill
Hecatonia scelerata – blister buttercup
Impatiens capensis – jewelweed
Lactuca serriola – prickly-lettuce
Lepidium campestre - peppergrass
Lotus tenuis – lotus
Medicago sativa - alfalfa
Onopordum acanthium – Scotch thistle
Persicaria sp. – smartweed
Plantago major – plantain
Rumex crispus – curly dock
Tanacetum vulgare – tansy
Tragopogon dubius - salsify
Trifolium pratense – red clover
Trifolium repens – white clover
Verbascum thapsus - mullein

Native grasses and grass-like

Juncus arcticus – rush
Juncus interior – rush
Schoenoplectus lacustris (*Scirpus lacustris*) – tule
Spartina pectinata – prairie cordgrass
Typha latifolia - cattail

Introduced grasses

Bromus inermis – smooth brome
Festuca arundinacea – alta fescue
Phleum pratense – timothy

QUALIFICATIONS OF SURVEYORS

William F. Jennings

Education: B.S., M.S., University of Colorado, Boulder

Rare Plant Survey Experience (Representative): Spiranthes diluvialis, Boulder and Jefferson counties, Colorado, 1989-1992, 1999; Aletes humilis, Larimer County, Colorado, 1989, 1990; Limnorchis zothecina, Mesa, Montrose, and San Miguel counties, Colorado, 1991; Sisyrinchium pallidum, Park County, Colorado, 1990; Physaria bellii, Boulder and Larimer counties, Colorado, 1989; Penstemon harringtonii, Eagle County, 1997; various species, Guanella Pass, Park and Clear Creek counties, 1995-1996; Cottonwood Pass, Gunnison County, 1996; Eustoma grandiflorum, Boulder County, 2000, 2001; Survey of Winter Park ski area (Draba grayana; Botrychium spp.), 2004.

Familiarity with Spiranthes diluvialis: Observation of flowering populations in Jefferson County, most years since 1981. Observation of flowering populations in Boulder County all years since 1985. Also observed flowering and fruiting plants in Daggett County, Utah, 1981, 1989; Uintah County, Utah, 1989 (overwinter rosette, 1990); Wayne County, Utah, 1989; Garfield County, Utah, 1989, 2003. Research cited in USFWS Final Rule Listing Spiranthes diluvialis as a threatened species. Assistance acknowledged by C. J. Sheviak in original description of species (Brittonia 36: 8-14). Observation of sprouting individuals in Boulder County populations, October, 1989, February, 1990, and January to April 1992. Observation of sprouting individuals in Jefferson County populations, March to April, 1992.

Documentation of Familiarity: Spiranthes diluvialis: text and photos in Rare Plants of Colorado, Colorado Native Plant Society, 1989 (first edition); 1996 (second edition); figure 1 of this report



Figure 1

Spiranthes diluvialis (Ute ladies'-tresses orchid) in bloom, photographed July 26, 1994 in Van Vleet Field, Boulder Open Space, adjacent to US 36 in Boulder County. Note that the lowermost flowers are near prime while the uppermost flowers are in tight bud; typical of the plant and contributing to the long blooming season of the orchid.

Appendix C. Bakeman's Assessment of Preble's Meadow Jumping Mouse Habitat on
the Project Site

Ensign

1798 Hauck Street, Suite 100

Erie, Colorado 80516

Technical Services, Inc.

Phone 303-665-5060, Fax 303-665-2542, e-mail ensight1@msn.com

December 17, 2008

Mr. Charles Gee
MH-BCC, LLC
2020 Nineteenth Street
Boulder, CO 80302

Dear Mr. Gee:

I recently reviewed the status of the Preble's meadow jumping mouse (PMJM) on the Hogan Pancost property in Boulder County, at the request of David Johnson with Western Ecological Resource.

David and I visited the property on December 15, 2008. He showed me the vegetation features on-site and discussed past and current management operations, with particular attention to irrigation and ditch management. He has also asked me to review past PMJM Hogan Pancost site reports by Dr. Robert Stoecker, and provide any additional information on PMJM that may be pertinent to your project.

Preble's are found within heavily vegetated riparian corridors and associated upland habitats in the Front Range of Colorado and Southeastern Wyoming. PMJM have also been found on ditch habitat in Boulder County, generally within a mile of the source stream (primarily South Boulder and St. Vrain Creeks). These ditches usually have heavy herbaceous or shrub cover. The moist, shaded, and cooler environments associated with streams and ditches provide the core habitat that is required by PMJM; upland habitat coupled with riparian/ditch areas are used for feeding and hibernation sites. PMJM are occasionally found where there is adequate riparian but little upland habitat, but they are never found where there is adequate upland habitat and no riparian habitat.

The Hogan Pancost property falls into the latter category, where there is upland habitat but no suitable riparian/ditch habitat. The ditches on the property do not have the shrub cover that is typically present on PMJM-occupied ditches, and vegetation cover is low. The few, scattered wetland areas on the property also do not provide the necessary cover that PMJM require.

Based on site habitat features, I concur with Dr. Stoecker's assessment that the site would not support a PMJM population, and a live-trapping survey is not needed. I would further add that the U.S. Fish and Wildlife Service (Service) generally provides live-trapping exclusions based on past agricultural and landscaping use of a property, and this

property would qualify for those exclusions. The Service also concurred with Dr. Stoecker's assessment.

You should also be aware of another issue related to PMJM that might affect your property. PMJM are known from many locations on South Boulder Creek; the stretch from El Dorado Canyon to Baseline Road has many positive PMJM surveys, with most of the property owned and managed by the City of Boulder. Meaney et al. (2001) conducted a long-term study on trail impacts on small mammals on South Boulder Creek on City of Boulder Open Space, including the area just east of your eastern parcel. This was a high-profile study and is well known in Boulder County.

Because some of the positive capture locations are in close proximity to your eastern parcel, the Service would generally take a close look at any potential habitat near such sites. Another consideration that might emerge is the possibility that PMJM might use potential habitat on your property to travel, or emigrate to new habitats. Although Dr. Stoecker mentioned this in his report, I want to provide a few details on this issue because it is the primary biological concern related to PMJM and your property.

The issue that might surface in future discussions is: "Although the property does not support the habitat needed by a PMJM population, would PMJM use the Hogan Pancost property to move into other adjacent habitats?" Since such movement is usually along riparian corridors or ditches, the question would be refined by asking "do PMJM use the ditches on Hogan Pancost to move to adjacent habitats?"

In this case, the only source population is from South Boulder Creek east of the property. If PMJM entered the Hogan Pancost property and traveled along a ditch, could this pathway be a viable corridor to suitable habitat? I do not believe so for the following reasons:

- The sparse vegetation on the ditches and laterals would not favor PMJM use; and
- There is no viable PMJM habitat to the west, south and north of the Hogan Pancost property. There is established residential development to the south and west of the property (obviously non-habitat). The East Boulder Recreation Center lies to the north, with maintained playing fields, dog walking areas, and the main building and associated structures, none of which are suitable habitat.

Thus, any potential travel by PMJM from the eastern source across the Hogan Pancost property (which is unlikely to begin with) would lead to a "dead end," and the animal would be unsuccessful in the attempt to move to new habitat.

Although the Service did not mention this directly in their concurrence letter, it is likely they took this into consideration when they made their decision.

Please call if you have any further questions on these issues.

Regards,



Mark Bakeman, Ph.D.
President, Ensign Technical Services, Inc.

cc:
David Johnson, Western Ecological Resource
file: 2008-12-01M

References

Meaney, C.A., A.K. Ruggles, N.W. Clippinger, and B.C. Lubow. 2001. The impact of recreational trails and grazing on small mammals in the Colorado piedmont. Submitted to The Prairie Naturalist, February 2001.