

# Level 4 Potential Conservation Area (PCA) Report

Name East Lowry Range Uplands

Site Code S.USCOHP\*25671

## IDENTIFIERS

Site ID 2240 Site Class PCA  
 Site Alias None

## Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

## LOCATORS

Nation United States Latitude 393552N  
 State Colorado Longitude 1043401W

## Quad Code Quad Name

39104-E5 Watkins SE  
 39104-F5 Watkins

## County

Arapahoe (CO)  
 Elbert (CO)

## Watershed Code Watershed Name

10190003 Middle South Platte-Cherry Creek

## SITE DESCRIPTION

Minimum Elevation	5,820.00 Feet	1,773.94 Meters
Maximum Elevation	6,190.00 Feet	1,886.71 Meters

## Site Description

Old inactive and fresh active diggings of a subspecies of the northern pocket gopher (*Thomomys talpoides macrotis*) are sparsely scattered throughout. The area is characterized by fairly homogenous grassland dominated by blue grama (*Chondrosium gracile* / *Bouteloua gracilis*) and buffalograss (*Buchloe dactyloides*) with scattered forbs including scurfpea (*Psoralidium tenuiflorum*), fringed sage (*Artemisia frigida*), and low daisy (*Erigeron pumilus*), and graminoids including needleleaf sedge (*Carex stenophylla* ssp. *eleocharis*), six weeks fescue (*Vulpia octoflora*), and junegrass (*Koeleria macrantha*). Midgrass species, including needle-and-thread (*Hesperostipa comata*), western wheatgrass (*Pascopyrum smithii*), and sideoats grama (*Chondrosium curtispendula* / *Bouteloua curtispendula*) are scattered throughout and become more dominant in small sparsely scattered areas. Although we classified all of Lowry's grasslands within the Foothills and Piedmont Grasslands ecological system, livestock management and grazing intensity has resulted in a grassland complex functioning more as a shortgrass prairie. In general, midgrass prairie can be expressed when annual precipitation exceeds 20 inches and grazing is moderate. Though average annual precipitation at Lowry is lower (about 17 inches), we predict that during higher than average precipitation years, and with a low-intensity cattle grazing operation, the species composition would change more towards that of a midgrass prairie. The midgrass prairie composition would most likely have more diverse grass composition than is currently present. In general, the grasslands are relatively weed-free with the exceptions being scattered patches dominated by cheatgrass (*Anisantha tectorum*), and scattered musk thistle (*Carduus nutans*). Shrubs are very sparse with the exception of yucca (*Yucca glauca*) that occurs rather consistently on hilltops of the site's north end. An important corridor connecting populations of the pocket gopher on the Lowry Range with populations just outside the southeastern boundary travels across Boxelder Creek, which, in general, is dominated by non-native species including smooth brome (*Bromus inermis*), cheatgrass, Kentucky bluegrass (*Poa pratensis*), leafy spurge (*Euphorbia esula*), and Canada thistle (*Breca arvensis*). However, scattered along the drainage are mature plains cottonwood (*Populus deltoides*), peachleaf willow (*Salix amygdaloides*), and areas that support dense wetland vegetation including native sedges (e.g. *Carex simulata*, *C. nebrascensis*, *C. praegracilis*), spikerush (*Eleocharis palustris*), Baltic rush (*Juncus balticus*), wild licorice (*Glycyrrhiza lepidota*), and sandbar willow (*Salix exigua*). Most of the grassland is in good condition and supports abundant grassland birds including Horned Lark (*Eremophila alpestris*), Lark Bunting (*Calamospiza melanospiza*), and Western Meadowlark (*Sturnella neglecta*). Pronghorn (*Antilocapra americana*) and black-tailed prairie dog (*Cynomys ludovicianus*) are also present and species associated with prairie dog complexes were observed within the site including swift fox (*Vulpes velox*), Burrowing Owl (*Athene cunicularia*), Ferruginous Hawk (*Buteo regalis*), and Prairie Falcon (*Falco mexicanus*). Northern leopard frogs (*Rana pipiens*) are present within wetlands associated with the Boxelder Creek drainage and of course *T. t.*

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*macrotis*, for which the site was developed, also occupies the area.

## Key Environmental Factors

The major factors and environmental variables driving the vegetative structure are annual precipitation and livestock grazing. The distribution of the northern pocket gopher *macrotis* subspecies on the Lowry Range and within the site is influenced by the distribution of loam soils, soil drainage, forage availability and the presence of prairie dogs and plains pocket gophers (*Geomys bursarius*), which compete with northern pocket gophers.

## Climate Description

Climate of the Lowry Range is somewhat characteristic of the High Plains, but is modified by the Rocky Mountains to the west and by the high areas of the Black Forest to the south. Annual precipitation ranges from 15-20 inches, and characteristic of the plains seasonal cycle a large proportion (70 to 80 percent) falls during the growing season from April through September. In July, typically the warmest month, mean maximum highs are 85° F and mean minimums are 56° F. During January, the coldest month, mean maximum highs are 43° F and mean minimums are 15° F.

## Land Use History

In 1938, in an attempt to stimulate the economy after acquiring the Lowry Range and surrounding property from numerous private owners, the City of Denver sold the land to the War Department, which established the Lowry Bombing and Gunnery Range. The Lowry Range has been a military installation since 1938 and experienced active bombing maneuvers during World War II and again up until 1958 during the Korean War with an intermittent period between wars where the area of the Range was leased and used as pasture for livestock grazing. In the 1960s the federal government deeded part of the Lowry Range back to the City of Denver and since this time the major use of the range has been ranching, but the site still supports active military training.

## Cultural Features

No Data

## SITE DESIGN

Site Map Y - Yes

Mapped Date 02/03/2011

Designer Sovell, J.R.

## Boundary Justification

The boundary was developed primarily using distribution information from the results of field surveys conducted in 2005 and 2010 identifying both active and inactive diggings where either specimens of *T. t. macrotis* were collected, fresh diggings were observed from areas of old *T. t. macrotis* location records, or from inactive diggings that exhibited conspicuous earthen ridges (casts or eskers) on the surface, characteristic of northern pocket gopher winter activity where subsurface soils are pushed into tunnels in the snow. As snow melts in the spring these garlands of soil are lowered intact to the ground. Given low levels of snowfall in recent years at the Lowry Range, few of these esker-like structures were observed. Many more inactive diggings without the eskers were observed, but could not be attributed to northern pocket gophers with absolute certainty. The boundary includes habitat suitable for the northern pocket gopher as dictated by shallow loam soils, elevation along a low ridge with drainages into both Coal and Boxelder creeks, and absence of the plains pocket gopher (*Geomys bursarius*), a competitor of *T. t. macrotis*, which was common in the Coal and Boxelder creek floodplains. The boundary traverses Boxelder Creek offering a corridor of connectivity with a colony of *T. t. macrotis* just outside the southeast boundary of the Lowry Range. The presence of both prairie dogs and plains pocket gophers in this corridor and the sandy soil characteristic of the floodplain may make it unsuitable for occupancy by *T. t. macrotis*, but it is suitable for *T. t. macrotis* dispersal. This boundary is based on currently available information. Further survey work east and upslope of Boxelder Creek might identify additional populations of *T. t. macrotis* requiring expansion of the boundary to the east along the entire extent of the Lowry Range across Boxelder Creek.

Primary Area 8,283.90 Acres

3,352.39 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

## Biodiversity Significance Comments

This site supports a good (B-ranked) occurrence of the globally critically imperiled subspecies (G5T1/S1), the northern pocket gopher (*Thomomys talpoides macrotis*). Although not drawn for these species, it also supports other animals of conservation priority including Burrowing Owl, Ferruginous Hawk, Prairie Falcon and colonies of black-tailed prairie dog that are part of a larger prairie dog complex extending across both the west and east halves of the Lowry Range. Multiple dens of a swift fox family, resident on the range for

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many years, were also observed and at one such den two pups were noted. Further attesting to the integrity of the grassland and its associated prairie dog complex is the numerous populations of songbirds observed throughout the summer including the Lark Bunting.

Other Values Rank No Data

## Other Values Comments

No Data

## LAND MANAGEMENT ISSUES

### Land Use Comments

No Data

### Natural Hazard Comments

No Data

### Exotics Comments

There are some small patches of sparsely scattered cheatgrass (*Anisantha tectorum*), but it is not threatening the integrity of the site. The area of the site where it crosses Boxelder Creek is dominated by leafy spurge (*Euphorbia esula*), as is true of the most riparian areas on the range, and removal of this invasive weed is required to restore the ecological integrity of the riparian areas.

### Offsite

The areas outside of the Lowry Range to the west and south are currently experiencing intense residential and commercial development and the area to the north is currently for sale with Aurora seeking to purchase, annex, and develop the site for residential occupancy. Areas outside of the Lowry Range further to the north are under tilled agriculture and the area to the east is ranchland with sparsely scattered homesites.

### Information Needs

Survey work to the east of Boxelder Creek outside of the Lowry Range is needed to identify the current distribution of *T. t. macrotis* in the area. New records of *T. t. macrotis* east of Boxelder Creek would require modification of the current site boundaries to include both those new populations and corridors connecting current populations on the Lowry Range to the new populations.

## ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global</u>	<u>State</u>	<u>Driving</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Rank</u>	<u>Rank</u>	<u>Site Rank</u>
19995	<i>Thomomys talpoides macrotis</i>	Northern Pocket Gopher Subsp	G5T1	S1	Yes

## REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
198716	Sovell J.R., L. Grunau, G. Doyle, and M. Menefee. 2006. CNHP Final Report: Lowry Range Biological Survey 2005. Colorado Natural Heritage Program, Fort Collins, CO.
198686	Sovell, J.R. and R.J. Rondeau. 2011. CNHP Final Report: Lowry Range Biological Survey 2010 Update. Colorado Natural Heritage Program, Fort Collins, CO.

## ADDITIONAL TOPICS

### Additional Topics

Original site design by Sovell, J.R. 2005-11-30.

## VERSION

Version Date 02/03/2011  
Version Author Sovell, J.R.

## Disclaimer

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