

City Of Boulder Prairie Dog Relocation Mitigation Proposal for the Richardson II Receiving Site

Revised 5/27/2011

I. Introduction

The City of Boulder has a long history working with multiple community values and perspectives about the protection of the black-tailed prairie dog. Much of the Boulder Valley was historically grassland and prairie dogs are part of the landscape. The Boulder Valley community will continue to balance protection of the native wildlife with human land use and other aspects that contribute to our quality of life.

Much time and effort has been spent over the past ten years identifying the city's wildlife protection values and policies for managing prairie dogs within the city and on city-owned open space land. The Boulder City Council adopted a prairie dog protection ordinance in 2004, which emphasizes protection or relocation of prairie dogs over the use of lethal control. Since then, two city plans have been adopted that provide guidance on where prairie dogs should be protected, removed or relocated. In an effort to implement the city's Urban Wildlife Management Plan (UWMP) (2006) and the Open Space and Mountain Parks Department Grassland Ecosystem Management Plan (2010), the city is applying to the Colorado Division of Wildlife for a permit to relocate prairie dogs from city property around the Foothills Community Park to the Richardson II city open space property northeast of the Gunbarrel subcommunity. The removal area is located within the city limits on property designated as a near-term removal area in the UWMP. The Richardson II site is identified as a Prairie Dog Conservation Area and is a potential prairie dog receiving site in the Grassland Management Plan.

The City of Boulder has received extensive public input on this project from the community adjacent to and around the Richardson II receiving site as well as community members concerned about the protection of prairie dogs. Staff has reviewed these comments and identified concerns that could be addressed through a change in project objectives, communication or on-site mitigation measures. This document summarizes the concerns expressed by the public, discusses proposed mitigation measures, and provides responses to some of the comments received over the past several months.

II. Summary of Public Comments

In September 2010, City of Boulder staff solicited public feedback on a proposal to relocate approximately 500 prairie dogs from 39 acres of public land in the northwest part of the city to the Richardson II city open space property at 75th Street and Lookout Road. Several hundred comments were received over the past eight months through e-mail, by phone, and at a public meeting on March 8, 2011. The complete list of concerns identified by the public and responses are included at the end of this document. The following is a summary of the primary concerns expressed by the public:

- A. Impacts to property and property value
- Increased potential for prairie dogs to disperse onto and/or burrow into neighboring properties, which could cause damage to landscaping and structures, and placing an ongoing financial burden on the private property owner to remove prairie dogs and repair damages.
 - Potential impacts to parklands in Gunbarrel Estates, resulting in an increased financial burden for the homeowners association.
 - Potential increase in weed infestation on open space from the increase in prairie dog population on the Richardson II property resulting in the spread of weeds to private property.
- B. Impacts to human and pet health and safety
- Increased plague risk to people and their pets .
 - Potential health impacts to people and their pets near Foothills Community Park from the use of pesticides (deltamethrin) as part of the relocation process.
- C. Humane treatment and protection of prairie dogs
- The need to protect prairie dogs and that, without a relocation site, roughly 500 prairie dogs would need to be lethally controlled near Foothills Community Park.
- D. Impacts to public property and grassland habitat
- Potential increase in the density of prairie dogs above the carrying capacity of the Richardson II site and an adverse impact on the grassland habitat by decreasing vegetation cover, promoting weed infestation, and erosion.
 - A higher density of prairie dogs could impact the aesthetic value of the Richardson II property.
 - Potential impacts to agricultural operations on open space properties in the area.
 - Air quality impacts (dust) from decreased vegetation cover on Richardson II.
 - Potential damage to detention ponds and berms on the south side of Richardson II.
- E. Safety
- Potential conflicts with recreational use (e.g. biking, dog walking, horseback riding) of the property, making it unsafe or undesirable for visitors. For example, horses could be injured if they were to step into burrows and prairie dogs could run in front of bikes or attack dogs.
 - Potential increase in the amount of road kill on Lookout Road.
 - Increase in the number of predators in the area, such as coyotes and mountain lions, resulting in a higher threat to people and their pets.
 - Potential increase in prairie dogs on other open space properties in the area and decreased safety for people, dogs and horses using these properties.
- F. Public Process
- Concern that there has been insufficient public process and not enough involvement by the public in the decision-making process.
 - Concern that there has been insufficient response from city staff to the community's concerns.
 - Concern that the city is moving its problem outside of the city to other areas in the county.

III. Mitigation Plan for Richardson Receiving Site

Summary of Proposed Mitigation Measures

Project Modifications

- Forty percent (40%) reduction in the number of prairie dogs to be relocated from 500 to 300.

Site Mitigation

- Installation of hay bale barrier on western boundary of colony
- Maintenance of unmowed vegetative buffer around colony
- Funding for passive relocation along western buffer
- Avoid relocation into area of flood control structures
- Relocation into previously existing burrow systems
- Installation of raptor perches
- Installation of educational signage
- Education about plague in cooperation with Boulder County Health Department

Mitigation on adjacent properties

- Technical advice for private landowners
- Potential for outside organization support for private landowners (passive relocation, fencing, etc.)

A. Project Modifications

Recent prairie dog counts in the Foothills Community Park (removal site) area suggest that the number of animals currently on the site and needing relocation is lower than previously estimated. In any case, in response to public comment, the number of prairie dogs relocated to the Richardson II site will be limited to no more than 300 in order to reduce the potential impacts to the site and to the adjacent neighborhood. This modification is a 40% decrease in the number of prairie dogs to be relocated to the Richardson II site and will result in lower initial occupancy and likely in a slower overall growth rate of the colony.

B. Site Mitigation

To address concerns related to movement of prairie dogs off the receiving site at Richardson II, a variety of proposed management actions designed to help mitigate potential impacts on adjacent properties are proposed. These actions were selected because of their cost feasibility, likelihood of success, lack of negative impacts to other aspects of the ecosystem, and attractiveness to neighbors. These mitigation measures include:

- barriers;
- vegetation management;
- maintaining a prairie dog free buffer adjacent to the neighborhood;
- targeting relocation to avoid problem areas;
- encouraging and supporting raptor use of the site;
- signs and education; and

- working with Boulder County Health Department to raise awareness about plague.

Barriers

A straw-bale barrier will be installed along the western boundary of the prairie dog colony. This barrier will be located just east of the Cottontail Trail and help to deter prairie dog movement toward the neighborhood. Large straw bales (~~6'-8' square by 8'-10' long~~) will be stacked two-high and secured with metal t-posts. Straw bales will not completely prevent prairie dog movement over the long-term. However, given the size of the site, this technique is recommended as a cost-effective deterrent to dispersal.

Vegetation management

Tall grass vegetation currently covers much of the area around the existing prairie dog colony. Tall vegetation typically slows prairie dog movement as the animals prefer lower vegetation because they can better see potential predators. A 50-foot wide buffer of unmowed vegetation will be maintained around the eastern, northern and southern boundaries of the colony. Along the western edge adjacent to the neighborhood, a buffer of unmowed vegetation will also be maintained between the trail, straw-bale barrier and the prairie dog colony.

Prairie dog free area adjacent to neighborhood

The City of Boulder will commit up to \$2,000 annually to passively relocate prairie dogs and destroy new burrows in order to maintain a burrow-free buffer between the colony and the neighborhood along the west side of the Richardson II site. This is not a feasible mitigation strategy along the northern or eastern boundary of Richardson II because prairie dog colonies extend onto the adjacent private properties.

Targeting relocation

Prairie dogs will only be relocated to sites with existing prairie dog burrows. Consequently, the number of prairie dogs that will be relocated to Richardson II will be limited to the extent of the area inhabited by prairie dogs prior to 2008 (when the population was reduced in size by plague). In other words, the department will not be constructing new artificial burrows or expanding the colony beyond its previous size. In addition, prairie dogs will not be relocated to any burrow systems that are within or near the county's flood detention structure. The previous colony did not extend into the detention area.

Raptor perches

Staff will install raptor perches in and around the prairie dog colony on the Richardson II site to encourage more raptor predation of prairie dogs. This action will also enhance the quality of wildlife viewing on the property and promote conservation of native raptor species.

Signs

Signs will be installed on the Richardson II property cautioning visitors of the potential for prairie dogs to be on or near the trail. These signs will serve to warn bicyclists and other users to be wary of the possibility of animals on the trail.

Education about sylvatic plague

Information about sylvatic plague will be provided to visitors and the local community in coordination with the Boulder County Health Department. Signs will be installed providing information about sylvatic plague and precautions to take to minimize the risk to humans and their pets. The signs will be updated as needed to provide information on current outbreaks in the area and the level of risk to humans and pets. The city will notify the Boulder County Health Department if there is any suspicion of plague on the site and follow county recommendations for minimizing risk to members of the public or their pets. Currently, there is no reason to suspect that the prairie dogs being relocated or those that remain on the Richardson II property are carrying the plague.

C. Mitigation on Private Property

Site visits, technical advice:

City staff will be available to consult with adjacent landowners on issues or conflicts that may arise with prairie dogs from the Richardson II colony. If needed, staff will visit the property, provide technical advice to landowners and outline options for addressing their concerns.

Help from outside organizations:

Nonprofit organizations may provide services or funding to mitigate conflicts between prairie dogs on Richardson II and adjacent properties. This organizational support would supplement efforts by the city to minimize the potential impacts of relocated prairie dogs on neighboring properties.

D. Other Mitigation Options Evaluated

The following is a list of additional mitigation options that were evaluated but not included in this plan due to high cost, lack of effectiveness or other limitations.

Vegetative, hardware cloth, vinyl, or metal barriers

It is difficult to completely prevent prairie dogs from moving around large, open areas such as in the landscape around Richardson II. Isolating prairie dogs to one area is also not desirable for ecological, practical and aesthetic reasons. No matter what type of barrier is constructed, it will not be effective in the long-term as prairie dogs will naturally move to new ground by burrowing under barriers, even if they extend underground, or crossing over property boundaries. Installation and maintenance of effective barriers other than straw bales would be very costly and not practical or prudent at the Richardson II site. A vegetative barrier with woody shrubs would also be costly, and if it did become established, would take several years. Switchgrass (*panicum virgatum*) was suggested by some members of the public as a tall grass for planting, but would not grow on the dry, upland terrain of the Richardson II site. Vinyl barriers are also costly and difficult to maintain due to the high winds in the area.

Population control on the Richardson II property through lethal control

One method of controlling the spread of prairie dogs is to use lethal control on a portion of the colony. This management action is inconsistent with the city's policy to protect prairie dogs as outlined in its wildlife protection ordinance, the Urban Wildlife Management Plan

and the Grassland Ecosystem Management Plan. Prairie dog populations grow and decline cyclically throughout the region, making targeted control costly and largely ineffective over the long-term. Repeated use of lethal control would be necessary every year at the Richardson II site to maintain prairie dog densities.

Population control through relocation

This mitigation technique would be inconsistent with the Grassland Ecosystem Management Plan, inefficient for low numbers of animals (since CDOW permits are required) and very costly on a regular basis. It would also result in an inefficient use of future relocation sites that will be needed for larger removal areas.

Dusting receiving site with deltamethrin dust

Required dusting of burrow holes at the *sending site* and specific treatment of captured animals ensures that potential plague-carrying fleas are not brought to the receiving site by relocated prairie dogs. This is required by CDOW for any relocation effort. Prairie dog activity at Richardson II suggests that plague is currently not present at the site. The city avoids the use of deltamethrin dust when possible to minimize non-target impacts. As a result, deltamethrin will not be used at Richardson II as part of the relocation.

Wait for another receiving site

The Richardson II property is the only receiving site identified in the Grassland Ecosystem Management Plan that currently meets relocation criteria and has space for relocated prairie dogs. It is uncertain how long it will be before an alternate site becomes available. Due to the amount of land fragmentation in the Boulder Valley, all potential receiving sites on city property pose certain constraints and conflict with human uses in the area. Further delay in relocation will probably mean there will be more prairie dogs needing to be relocated from the Foothills Community Park site.

IV. Responses to Public Comment

| Comment | Response |
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| Decreased property value | <p>Aesthetics and land use of adjacent property can affect property value. Buyer preference could be for tall vegetation as opposed to an active prairie dog colony, or could be for increased wildlife-viewing opportunities.</p> <p>Prairie dogs have been present on the Richardson II open space property continuously for longer than 10 years. If the presence of prairie dogs influences property values, the effect has cycled with the prairie dogs over the past decade. Existing occupancy by prairie dogs on-site make it unlikely that the incremental effect of the proposed relocation will have significant long-term effect on property values in excess of what would be expected through natural expansion of the existing colony.</p> |
| Misuse of taxpayer money | <p>Each year, the city creates a budget considering a breadth of community interests. Funding for prairie dog relocation was identified in the 2011 Open Space and Mountain Parks and Parks and Recreation departments' approved budgets. When accepting the Grassland Ecosystem Management and Urban Wildlife Management Plan, City Council prioritized non-lethal prairie dog management primarily through relocation after considering the relative benefits, feasibility and costs of other options.</p> |
| Moving city problem out of the city | <p>Opportunities for conservation of Black-tailed prairie dogs on City of Boulder-owned land exist primarily on Open Space and Mountain Parks properties. Almost all prairie dog habitat and occupied prairie dog colonies are outside city limits. As a result, all relocation opportunities now and in the future will be outside the city limits but on city-owned property. The majority of prairie dog colonies prioritized for relocation in Open Space and Mountain Parks' Grassland Plan are outside the city limits with the notable exception of those near Foothills Community Park.</p> |
| Increased risk from plague | <p>The human health risk for exposure to plague from prairie dogs is considered low, particularly without direct contact with burrows or dead animals by people or their pets. No cases of plague resulting from contact with prairie dogs are known from Boulder, and human cases of plague nation-wide are very rare*. For a number of reasons, people very rarely contract plague from prairie dogs. Most often, human plague cases result from contact with animals more commonly encountered near homes such as squirrels, rats, mice and other small rodents.</p> |

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| | <p>Prairie dogs already occupy the Richardson II property and have continually for at least 10 years. Any risk associated with plague already has existed on the property for at least that long. State regulations require that the burrows of prairie dogs to be relocated must be treated to kill fleas, which can carry plague. In addition, once trapped, individual prairie dogs are sprayed with insecticide and combed to ensure they are flea free. These actions make it very unlikely that plague could be transported to the receiving site by prairie dog relocation.</p> <p>*There were 49 human cases of plague in Colorado from 1975-2005 per the Colorado Department of Public Health and the Environment, fatal for seven of those 49.</p> |
| <p>Damage to habitat on Richardson II property-</p> | <p>Grasslands with active prairie dog colonies differ from grasslands without prairie dogs. Some of these differences include the types, number and cover by plant species. The impact of prairie dogs depend upon several factors such as the landscape context, underlying plant community, and historical agricultural use. Consequently, the impacts of prairie dogs vary from place to place and contribute to the patchiness or heterogeneity of the grasslands. This variety is beneficial because it supports a wide range of plant communities and a diversity of wildlife. Some areas may have high degrees of bare ground under heavy prairie dog occupation, in particular soil types and during droughts. However, many plants and animals are well adapted to live in these areas including some ground nesting birds, small mammals rarely found outside prairie dog colonies, burrowing owls and others.</p> <p>In order to provide habitat for prairie dogs and their associated species, some areas of city open space will be visibly affected by prairie dogs. The Grassland Plan identified several areas, including the Richardson II site, as appropriate for this sort of prairie dog occupation.</p> |
| <p>Recreational conflict-</p> | <p>The receiving site and area where prairie dogs currently live is fenced from the trail and receives minimal visitation. However, visitors entering this area have in the past and will continue to experience prairie dog burrows regardless of whether or how many prairie dogs are relocated to the area. On other areas of OSMP and Boulder Parks and Recreation lands, numerous trails are located directly through prairie dog colonies and continue to be heavily used with few conflicts. Open space staff regularly maintain trails to standards (free of prairie dog burrow entrances) and promptly respond to visitors' calls about unsafe conditions on trails. Conflicts with prairie dogs tend to end badly for the prairie dog rather</p> |

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| | than the visitor or pet. |
| Damage to private property- | Potential damage from prairie dogs to private property bordering open space is a challenge encountered across the open space land system. A large percentage of open space properties have numerous adjacent private land owners. This potential conflict is likely to persist on open space properties where protection of black-tailed prairie dogs is prioritized and valued by the community. Some mitigation options are available and are included in this mitigation plan. |
| Unsustainable prairie dog density | The city does not manage prairie dogs to a particular population density. Such an approach would require continual lethal control to “thin out” the population. In addition to being inconsistent with City of Boulder policies and ordinances, it is also expensive and not cost effective. |
| Public not involved in decision-making process | <p>During both the process of developing the Urban Wildlife Management Plan and Grassland Ecosystem Management Plan, multiple opportunities were provided for the public to learn about and comment on the plans as they were developed. During the Grassland Ecosystem Management Plan development, Open Space and Mountain Parks sent postcards to all property owners adjacent to Richardson II, inviting them to attend an open house or to comment on the draft plan. Staff included concerns about residents living adjacent to prairie dog colonies in issue identification and discussed these concerns during meetings with the Open space Board of Trustees and City Council. These issues were also included in the public comment summary in the Grassland Plan.</p> <p>In addition to comments opposing prairie dog relocation, some county residents, especially those living adjacent to prairie dog colonies slated for removal, supported the plan’s approach to prairie dog conservation.</p> |
| Insufficient public process | In 2010, city staff put the project on hold when it became clear that some neighbors did not feel they had adequate time to understand the Urban Wildlife Management Plan and Grassland Plan or to comment on the relocation plan. The city hosted a public meeting in response to community concerns near the relocation site on March 8, 2011 and extended the public comment period by nine months. |
| Prairie dogs do not require protection | Black-tailed prairie dogs are not protected under state or federal law. City Council has repeatedly approved plans prioritizing the management, protection and conservation of prairie dogs and associated species. Strong community support for this position has been repeatedly evident at public hearings and in comments submitted in response to staff |

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| | proposals for grassland and wildlife management. |
| Attraction of predators dangerous to humans and pets | There is no reason to believe that relocation will significantly affect levels of predation on the Richardson II property above historic levels. Prairie dogs are prey for a variety of predators, including coyotes and raptors. The Richardson II property has supported prairie dogs both historically and recently for at least 10 years, well in excess of the number of prairie dogs proposed for relocation. Prairie dogs are currently present on the property and predators are likely to be present now, as they have been in the past, and will be present in the future. |
| Increased road kill | There is no reason to believe that relocation will significantly affect levels of road kill near the Richardson II property above historic levels. The Richardson II property has supported prairie dogs both historically and recently, in numbers exceeding the number of prairie dogs proposed for relocation. Although unfortunate and unpleasant to encounter, prairie dog and vehicle collisions are difficult to prevent. |
| Danger to livestock on adjacent property | Based on adjacent neighbor comments, it has been made clear that the agricultural properties adjacent to the relocation area currently have prairie dog populations on their private property. This combined with the current occupation that exists on Richardson II suggest that relocation will not create impacts that do not already exist. |
| Prairie dogs do not belong on this property | Prairie dogs historically occupied this property. The most current occupation began around 1998 when prairie dogs moved onto the property naturally. Prairie dogs were not previously relocated to this property by the City of Boulder. Prairie dogs are native to the grasslands of Boulder County. |
| Weed source for adjacent land | Open Space and Mountain Parks is responsible for weed management on all its properties including Richardson II, and will manage weeds there in accordance with the city's Integrated Pest Management strategies and the priority assigned to the species by the state and county. Many of the adjacent and nearby properties are residential lots with bluegrass lawns. Under current conditions (weed species present, precipitation), weed establishment from the nearby prairie dog colony is unlikely to pose a significant risk to these properties. It is also important to note that weed seeds from roadsides and private property are also seed sources in the area. These areas often see less weed management than city open space. |
| Danger to dogs | The city has been managing prairie dog colonies near and adjacent to residential development for over 40 years and has never received a report of a prairie dog attacking a domestic dog on open space. Such attacks are unlikely, especially if unprovoked. The prairie dog's natural response to danger is to retreat into its burrow. |

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| Threat to children at schools | The Heatherwood Elementary school is over one mile from the receiving site. Other prairie dog colonies both on and off OSMP lands are closer to the elementary school than the Richardson II property. As a result, the relocation to this site is not expected to have an additional impact upon the elementary school. |
| Likely to move into other open space areas | The Grassland Plan describes how the city manages prairie dogs on city open space. Prairie dogs would be slated for removal from areas not designated for their occupation. Relocation would offer no significant increase in the risk of prairie dog migration. The current population at Richardson II is as likely to leave the property as relocated individuals. In addition, many of these adjacent open space areas already contain active prairie dog colonies. |
| Dust/erosion | High winds blowing across the dryland fields on Gunbarrel Hill disturb soil from both plowed fields and other areas of disturbed soil such as prairie dog towns. Wind erosion of exposed soils is sometimes a result of managing prairie dog colonies. Like reduced vegetation from prairie dog grazing, wind erosion also helps create the natural mosaic of soil conditions that support a diverse set of habitats. As a result, dust and erosion are natural conditions likely to impact neighbors in many areas adjacent to open space or agricultural properties. |
| Insufficient response to community concern | Staff have collected, read and analyzed every comment submitted by community members. These comments were used to identify issues and develop responses, including this mitigation plan, as required as part of the relocation permit application that will be submitted to the Colorado Division of Wildlife. |
| Potential impacts to flood mitigation structures | Current and historic prairie dog occupation on Richardson II has not adversely affected existing flood mitigation structures. These structures include large boulders embedded in the soil which creates habitat unsuitable for prairie dogs. |
| Impact to Gunbarrel Estates Metropolitan Park and Recreation District Park | The location and distance of the park from Richardson II make any direct impacts from the proposed relocation unlikely. There have been no known past impacts from prairie dogs to this/these parks. |
| Impacts to nursing mothers, children, pets and honeybees with the use of toxic pesticides (deltamethrin) as part of relocation process | The CDOW requires successful relocation permit applicants to treat prairie dogs and prairie dog burrows prior to relocation to reduce the possibility of plague. The burrows at the sending site are dusted with deltamethrin dust. This occurs seven days before relocation. In addition, the prairie dogs are sprayed with an insecticide derived from chrysanthemums when captured to ensure that no fleas are transported from the sending site to the receiving |

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| | <p>site.</p> <ul style="list-style-type: none">• It is true that deltamethrin, an insecticide, is highly toxic to insects. However, during prairie dog relocation projects, the insecticide is applied directly to the ground in the burrow entrance, not onto plants. While insects (including honeybees) may come in contact with the dust and be killed if they land in the burrow, there is no indication that plants can absorb the toxin from the soil.• Signs of toxicity have been shown in mammals (rats, dogs, humans) when high doses were in contact with skin or orally ingested.• A 2006 study found deltamethrin residue in breast milk of mothers in areas of South Africa where deltamethrin is sprayed inside the homes of nursing mothers for malaria control and where there is nearby agricultural use of the substance. The continuous use of the substance indoors and adjacency to agricultural spraying represents a considerably different situation than when applied in single applications on prairie dog burrows where human contact is minimal to non-existent. In keeping with the city's IPM protocols, Foothills Community Park will be signed with pesticide application warning signs prior to any application of deltamethrin. |
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