



FORT COLLINS NATURAL AREAS PROGRAM

FOOTHILLS NATURAL AREAS MANAGEMENT PLAN

March 21, 2007



naturally yours

Foothills Natural Areas Management Plan


2007 Update

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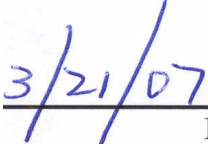
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Memorandum of Adoption

The Foothills Natural Areas Management Plan 2007 Update is hereby administratively adopted by the Natural Resources Director on this day, March 21, 2007.



John Stokes, Natural Resources Director



Date

Introduction

Scope and Purpose of Plan

The foothills natural areas consist of those sites that encompass the transitional zone between the high plains and foothills along the western edge of the City of Fort Collins. The areas included in this plan are Reservoir Ridge Natural Area, #04FH1 (Andrijeski), Maxwell Natural Area, Pineridge Natural Area, Coyote Ridge Natural Area, and those portions of the Foothills Trail managed, but not owned, by the City of Fort Collins.

The purpose of the Foothills Natural Areas Management Plan Update is to “check-in” with the original 1997 plan, identify existing management techniques that work well and determine how to improve other areas of management. The goals and actions identified in this update can be categorized into four broad goals: (1) define methods to provide more diverse recreation opportunities, (2) continue to protect and restore the natural values of the foothills natural areas, (3) invite professional and public comment regarding management of these natural areas, and (4) provide opportunities for public education. As many of the specific actions identified in the plan are part of on-going management, it is difficult to assign a completion date; hence this plan identifies short term (0-3 year) goals and long term (3-10 year) goals. The intent is to implement as many of these actions as resources permit. This plan will be reviewed and updated again in 10 years.

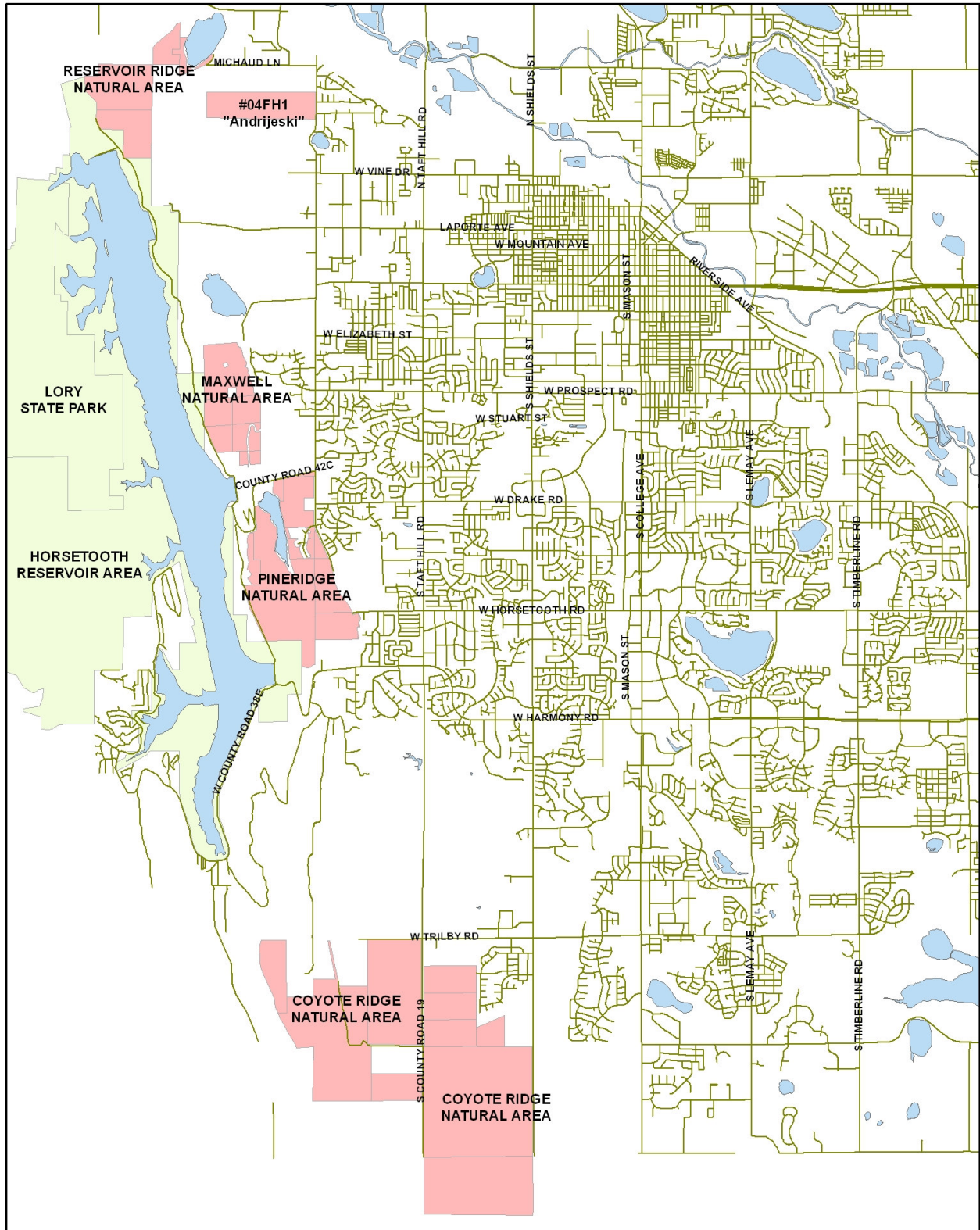
Natural Areas Program Mission

The mission of the City of Fort Collins Natural Areas Program is to protect and enhance lands with existing or potential natural areas values, lands that serve as community separators, agricultural lands, and lands with scenic values. Protection of natural habitats and features is the highest priority, while providing for education and appropriate recreation for the Fort Collins community.

Public Input

Two public open houses were held providing an opportunity for the public to review proposed actions of this plan. They were held from 4 – 7 p.m. on October 10, 2006 at Harmony Library and October 18, 2006 at the main library. They were announced to the public through a press release, ads in the Coloradoan, information on the City’s web site, and flyers in natural area brochure racks. The information packet was also on the web site, with an invitation for comment. The management plan was also reviewed by the City of Fort Collins Land Conservation and Stewardship Board. Appendix E lists all comments from the public and from the board.

MAP WITH ALL FOOTHILLS SITES



Guidelines for all sites

- 6 Protect and preserve the wildlife habitat and viewing opportunities.
- 6 Provide recreational opportunities.
- 6 Preserve scenic views.
- 6 Provide interpretive features that contribute to an enlightening recreational experience.
- 6 Preserve, maintain, and enhance native vegetative features.
- 6 Maintain good relations with neighboring private property owners.
- 6 Contribute to the City's economic vitality.
- 6 Improve environmental health.
- 6 Contribute to a safer community.
- 6 Design and implement "static recreation" opportunities (i.e. sitting and relaxing, wildlife viewing, having a picnic lunch, etc.).
- 6 Design and implement opportunities to expand the number and distance of accessible trails. In this management plan, the term "accessible" refers to providing opportunities for persons of various ability levels to have meaningful recreational experiences in a natural setting.

Overview

Sensitive Classification Description

The “General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department,” upon which site management plans are based, suggests appropriate activities for natural areas that are intended to facilitate public enjoyment, to ensure reasonable and prudent human safety, and to promote ecological protection/enhancement. The document identifies three classifications of natural areas: sensitive, urban, and restorative. All of the sites covered by the Foothills Natural Areas Management Plan are considered sensitive, which is defined as follows:

Sensitive Natural Areas

Sites that have sensitive plant or animal species, or geological features, that need special consideration when developing a site management plan. These include sites that support rare plants, unique native plant communities, concentrations of large raptors, rare nesting birds, concentrations of migratory bird species, and key areas for wintering deer, as well as fragile rock outcrops or other geological features that can be impacted by high visitor use. This designation carries with it the understanding that the primary function of management is the maintenance and protection of those sensitive species and features.

Vegetation

The vegetation types found in the foothill natural areas are dominated by ponderosa pine forests, foothill shrublands, mixed and short grasslands.

Ponderosa Pine/Foothills Forest

The ponderosa pine (*pinus ponderosa*) forests of the foothill natural areas are typically dense with a shaded understory of grasses and forbs. The grasses are mostly invasive: cheatgrass (*Bromus tectorum*) and Japanese brome (*Bromus japonicus*). There is a larger diversity of forbs, typically including various species of sage (*Artemisia sp.*), scurfpea (*Psoralea tenuiflora*), and goldenrod (*Solidago sp.*).

Foothills Shrubland

The shrublands consist mostly of mountain mahogany (*Cercocarpus montanus*) rabbit brush (*Chrysothamnus nauseosus*), three-leaf sumac (*Rhus trilobata*) and some woods rose (*rosa woodsii*). In the foothill natural areas the understory is mostly invasive cheatgrass. Many mountain mahogany plant communities are considered globally rare as they occur only in this part of Colorado and southern Wyoming. Due to the mostly non-native condition of the grasses on the natural areas, these plant communities are at threat. Hopefully the Natural Areas Program’s efforts to reduce cheatgrass in the foothills will help restore these vulnerable plant communities.

Mixed-grass

The majority of the grassland area in the foothill natural areas is mixed grass, generally comprising of these species: blue gramma (*Bouteloua gracilis*), little bluestem (*Schizachyrium*

scoparium), needle-and-thread (*Hesperostipa comata*), green needle grass (*Stipa viridula*), scurfpea, scarlet globemallow (*Sphaeralcea coccinea*), and yucca (*yucca glauca*). These areas are at threat to invasion by smooth brome (*Bromus inermis*) and cheatgrass. An imperiled xeric tallgrass prairie plant community has been identified on two of the natural areas and can serve as an example for grassland restoration goals.

Shortgrass

Native shortgrass areas typically consist of blue gramma, buffalograss (*Buchloe dactyloides*), and western wheat (*Pascopyrum smithii*) with a variety of forbs often including: fringed sage (*Artemisia frigida*), scarlet globemallow, coneflower (*Ratibida columnifera*), purple or white prairie clover (*Dalea purpurea* or *canidida*), and yucca. Although these species exist on the foothill natural areas, the dominant species are non-native grasses. Bell’s twinpod, a globally imperiled plant, occurs on the shale soils and rocky outcrops on many of the foothill natural areas.

Endangered, Threatened and Rare Vegetation Species/Communities

The presence and often dominant cover of invasive plants, particularly cheatgrass, makes for degraded conditions in our foothill vegetation communities. However, there are several intact stands of native plants and communities including some that are rare and tracked by Colorado Natural Heritage Program (CNHP). There is one federally threatened plant and several imperiled and/or vulnerable plant communities found in our natural areas.

Common Name	Scientific Name	CNHP State Ranking/Status	Natural Area
Plants			
Bell’s twinpod	<i>Physaria bellii</i>	Imperiled	MAX, PRN, CRN
Ute lady’s tresses	<i>Spiranthes diluvialis</i>	Imperiled/ Federally threatened	ANJ
Slim-pod venus looking glass	<i>Triodanis leptocarpa</i>	Imperiled	PRN, MAX
Plant Communities			
Foothills ponderosa pine scrub woodlands: Ponderosa pine/ mountain mahogany/ big bluestem	<i>Pinus ponderosa/ Cercocarpus montanus/ Andropogon gerardii</i>	Imperiled	PRN, CRN
Foothill shrubland: Mountain mahogany/ New Mexico feather grass	<i>Cercocarpus montanus/ Hesperostipa neomexicana</i>	Imperiled/ vulnerable	PRN
Mixed foothill shrubland: Mountain mahogany/ three-leaf sumac/ big bluestem	<i>Cercocarpus montanus/ Rhus trilobata/ Andropogon gerardii</i>	Imperiled/ vulnerable	PRN
Xeric tallgrass prairie: Big bluestem/ little bluestem	<i>Andropogon gerardii/ Schizachyrium scoparium</i>	Imperiled	PRN,CRN

Most of these plant communities are unique to the Colorado/ Wyoming Front Range and serve as a target for restoration. The butterfly species discussed below depend on these native plant communities for survival. The main threat to these native communities is invasion of non-natives plants. Recreation activities also create disturbance to these habitats (social trails, erosion and spread of exotic plants).

Threats to the globally imperiled Bell's twinpod are the same: crowding out by invasive plants and excessive trampling through recreation and social trails. A monitoring program with the Colorado Natural Heritage program commenced in summer 2006 and will give Natural Areas Program staff more information on the impacts of invasive plants and recreation on the Bell's twinpod population.

The only documented population of the federally threatened Ute ladies tresses plant in Larimer County is found on Andrijeski (and surrounding area). There are fewer than 20 other locations of the plant in Colorado. Ute ladies tresses are found in wet meadow areas with permanent sub irrigation and well drained soils. It is not tolerant of shade. The main threats to this population could include an altered water regime, timing of grazing, and competition from invasive plants.

Vegetation & Weed Management

In general, non-native and noxious plant management actions are intended to improve the quality of habitat. Vegetation management may include some, or all, of the following steps:

- 6 Noxious weed control.
- 6 Maintenance of stable vegetation cover to prevent soil erosion and provide cover and forage for wildlife.
- 6 Convert non-native vegetation to native vegetation.
- 6 Diversify vegetation species to include native forbs and shrubs (where appropriate).
- 6 Mimic natural disturbances to maintain balance of successional stages in native plant communities through utilization of prescribed grazing and fire.

The foothill natural areas are a priority for restoring to native vegetation due to the widespread expansion of cheatgrass and other non-native plants and the diversity of wildlife dependant on these habitats. Restoration will be achieved primarily by controlling cheatgrass and noxious weeds. A combination of sheep grazing and herbicide applications will be utilized to contain the spread of cheatgrass and noxious weeds and to create a less competitive growing environment, thereby allowing native grasses and forbs to flourish.

Grazing may be an effective means to control cheatgrass in steep terrain and areas where mechanical equipment is difficult to use. Sheep grazing commenced in the spring of 2006 and will be monitored for its success. Maintaining stable vegetation cover within prairie dog colonies will require balancing the need to retain native wildlife species with native plant species. Natural Areas Program staff are collecting data on prairie dog population densities and characterizing vegetation cover to determine thresholds and needed management actions to maintain sustainable population densities. This is addressed in further detail in the *Wildlife Management Guidelines* completed in early 2007.

The noxious weeds of highest concern in the foothill natural areas are dalmation toadflax (*Linaria dalmatica*) and diffuse knapweed (*Centaurea diffusa*). These species do not yet have a solid hold in the Fort Collins area, making them a priority target. These species have been found on most of the foothill natural areas and a combination of hand-pulling and herbicide treatments have been effective in reducing the spread of these noxious weeds. The Natural Areas Program will continue to treat these and other noxious weeds in accordance with our Vegetation Management Guidelines, which include Integrated Pest Management techniques.

Some vegetation management accomplishments since the 1997 plan include: (see site-specific section for more detailed accomplishments)

- 6 Weed assessment and the Weed Management Plan (incorporating Integrated Pest Management) were completed (1998-1999).
- 6 Vegetation Management Guidelines (replaces Weed Management Plan) was completed (2004).
- 6 Colorado Natural Heritage Program survey for rare and imperiled animals, plant and plant communities (2004).



Bell's twinpod.



Ute lady's tresses

Wildlife

Wildlife species found in the foothills natural areas include mule deer, coyote, foxes, mountain lions, bear, prairie dogs, raptors, songbirds, rabbits, rattlesnakes, other reptiles, amphibians, and other rodent species. The foothills natural areas are part of a large mule deer winter concentration area as identified by the Colorado Division of Wildlife. Several butterflies are associated with foothill plant communities and serve as indicators of high quality plant communities. The foothills are also important foraging grounds for bats, including the sensitive/imperiled Townsend's big eared bat, which does not roost in the foothills natural areas but forages in the habitat that some sites provide (open grassy meadows and near water).

There are two mammals and several butterfly/moth species tracked by Colorado Natural Heritage Program that have been documented in the foothill natural areas:

Common Name	Scientific Name	CNHP State Ranking/Status	Natural Area
Mammals			
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	Apparently secure/ USFS sensitive	MAX, PRN, CRN
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Critically imperiled Federally threatened	RRN, ANJ
Butterfly/Moths			
Otte skipper	<i>Hesperia ottoe</i>	Imperiled USFS sensitive	ANJ, RRN, MAX, PRN
Rhesus skipper	<i>Polites rhesus</i>	Imperiled/ vulnerable	ANJ, RRN, MAX, PRN
Dusted skipper	<i>Atrytonopsis hianna</i>	Imperiled	ANJ, RRN, MAX, PRN
Arogoa skipper	<i>Atrytone arogos</i>	Imperiled	ANJ, RRN, MAX, PRN
Moss' Elfin	<i>Callophrys mossii schryveri</i>	Imperiled/ vulnerable	ANJ, RRN, MAX, PRN
Crossline skipper	<i>Polites origenes</i>	Vulnerable	ANJ, RRN, MAX, PRN
Regal fritillary	<i>Speyeria idalia</i>	Critically imperiled USFS sensitive	ANJ, RRN, MAX, PRN
Smokey eyed brown	<i>Satyroides Eurydice fumosa</i>	Critically imperiled	ANJ
Mottled duskywing	<i>Erynnis martialis</i>	Imperiled/ vulnerable	RRN

Wildlife Management

Some general wildlife management accomplishments since the 1997 plan include: (see site-specific section for more detailed accomplishments)

- 6 Colorado Natural Heritage Program survey for rare and imperiled animals, plant and plant communities (2004).
- 6 The Wildlife Management Guidelines, completed in 2007 guides wildlife for all the natural areas but is subordinate to specific site plans.

In general, wildlife management goals are to improve habitat through vegetation management. The diversity of wildlife in our foothills natural areas serve as an indicator of well managed lands. Wildlife management goals include increased management of prairie dog population densities, surveying potential habitat for the threatened Preble's meadow jumping mouse, and restoring habitat to meet the needs of several rare and vulnerable butterfly species.

Cultural

Areas that are to be disturbed by construction of trails, parking lots, etc. are surveyed for the presence of prehistoric cultural resources. To date no resources of significance have been found. Any artifacts found will be archived at the Fort Collins Museum or preserved in-situ. The "A" on Maxwell Natural Area is a noteworthy cultural landmark standing for "Aggies" the nick-name for Colorado State University.

Recreation and Public Improvements

The foothills properties include some of the most actively used sites in the natural areas system. There are over 17 miles of natural surface trails that are regularly used by bikers, hikers, and equestrians alike. These trails roam through the edge of the plains and climb through and beyond the first ridgeline of the foothills, providing a variety of recreational activity levels for the public to choose from. Coyote Ridge Natural Area, with its wider trail, is especially popular with the equestrian community. Additionally, the presence of Dixon Reservoir at Pineridge Natural Area makes it a popular destination for local fishing aficionados. The Foothills Trail also runs from Reservoir Ridge south through Maxwell and Pineridge. It provides over six miles of trails and provides wonderful views of Fort Collins and the plains to the east as well as Horsetooth Reservoir and the foothills to the west. Since the adoption of the original Foothills Natural Areas Management Plan, the Natural Areas Program has completed a variety of projects designed to make site access more convenient and to enhance the public's recreational experience. Projects include the building of parking lots, installation of restroom facilities, maintenance of trails, and installation of directional signage.

A number of trail connections have been completed and are in various stages of development. When all of these connections are completed, site users will be able to access over 30 miles of trail from any access point in the foothills natural areas. Larimer County opened the Blue Sky Trail in 2006. The existing connection from Coyote Ridge (through Rimrock Open Space) to the Blue Sky Trail allows for access to a trail system that extends from Devil's Backbone to Horsetooth Mountain Park. The Foothills Trail will be extended to the southeast through Pineridge Natural Area and connect to both the Spring Creek and Fossil Creek trails (this will coincide with the development and opening of Spring Canyon Park). In the conceptual stage is the development of a trail through the Andrijeski property that will connect to Reservoir Ridge on the west and cross Overland Trail Road to connect with the northern Poudre River Trail.

The Natural Areas Program will carefully examine and implement improvements for "static recreation" opportunities (i.e. sitting and relaxing, wildlife viewing, having a picnic, etc.). In terms of site development, approaches could include building and installing benches, picnic tables, and possibly even small sun shelters at certain specific, carefully chosen, sites.

The Natural Areas Program will expand the number and distance of accessible trails. The geographic nature of the foothills natural areas presents a considerable challenge when developing trails that are accessible to people with physical disabilities. The rugged terrain, amount of elevation gain, and erosive nature of the soils pose significant hurdles to providing complete trail systems that meet accessibility guidelines. The Natural Areas Program will examine the trail system throughout the foothills natural areas for opportunities to expand accessible trails, focusing on a limited number of suitable areas to develop features that allow for meaningful experiences for both people with various disabilities and the general public.

Education

The mission of the City of Fort Collins Natural Areas Education Program is to increase the public's awareness of natural areas; promote understanding of natural systems, and foster each individual's realization of the importance and meaning natural places add to our lives. Education materials and presentations will be scientifically accurate. In many instances education is integrated with on-site recreation, providing experiential and participatory learning opportunities.

Education activities in foothills natural areas seek to instill a sense of stewardship toward natural areas, stewardship that may manifest as appropriate behavior while visiting foothills natural areas; a desire for some passive types of recreation (bird watching, reflecting); and in many other large and small influences in each person's life.

Education activities in foothills natural areas seek to help citizens become aware of the overall values realized by the preservation of these natural areas in our urban setting. The approach is primarily interpretive - using presentations, brochures, signage, and displays as tools to stimulate that sense of stewardship. This means taking technical concepts and language of natural science and making it meaningful to non-scientists - arousing people's interest, making the information relevant, encouraging participation, and revealing meanings and relationships in our local natural heritage.

Research

Two recreation surveys (a count by user type and a user satisfaction survey) were completed in 2006 on local natural areas in the City's inventory (sites that were open to recreation). Future system-wide recreation surveys will again include the foothills natural areas. If needed, site-specific surveys may be done on foothills sites to evaluate certain topics, e.g., effectiveness interpretive features.

Various research projects, noted in Appendix B, have been conducted on these sites.

Resource & Visitor Protection

Keeping natural area visitors safe and resources protected is the job of the Natural Areas and Trails Rangers. Rangers work with the public to encourage responsible use, educate the public about natural areas, and when necessary, issue warnings and/or citations to those who violate established regulations. The Ranger's mission is to provide a safe, peaceful, and enjoyable environment for all natural area visitors and trail users while ensuring the protection of the wildlife, habitat, scenic and other natural resources. In that pursuit rangers work in partnership

with Fort Collins Police Services, Animal Control, Larimer County Sheriffs Office & Open Land Rangers, Colorado Division of Wildlife, and natural area visitors to provide a safe environment for citizens to recreate, seek solitude, and enjoy.

Law enforcement actions adhere to guidelines and objectives established in the Natural Areas and Trails Ranger Manual. Natural Areas and Trails Ranger personnel will provide primary law enforcement responsibilities which include patrolling the natural area sites. While patrolling, rangers monitor for vandalism and misuse of sites, respond to and assist during emergency situations, communicate information to visitors, note gang related activity, educate the public about rules, regulations and resource management, and issue warnings and/or citations. Rangers maintain a visible presence to facilitate crime prevention and to aid in emergency response.

Rangers have a limited commission to enforce Natural Areas regulations and City of Fort Collins municipal code. In situations involving criminal activities, rangers will call for appropriate assistance. Criminal activities will be handled by Fort Collins Police Services or Larimer County Sheriffs Office.

Site Specific Plans: Reservoir Ridge Natural Area

This 311.19-acre site, which has been open to the public since the 1980s, extends west from Michaud Lane into the valley below Horsetooth Dam where it fronts Centennial Drive. It was acquired in four separate transactions in 1985, 1989, 1996, and 2002. The City's cost was \$493,313; donations brought the total to \$1,253,713. Funding for the original purchases in the 1980s came from the Conservation Trust Fund and the Capital Funds for Open Space and Trails West of Taft Hill. The Water Department contributed funds to use the site for a microwave relay station, allowing control and monitoring of the water intake at Water Plant No.1. The 1996 and 2002 acquisitions were primarily donations.

The vegetation/habitat types at Reservoir Ridge include mixed grasses, shrubland, and foothills forest. About 43% of the area is grassland in mostly native condition. About 42% of the area is covered by foothills shrubland communities and 15% in foothills forest (ponderosa pine forest).

Updates from 1997 plan

Resource Management enhancements/projects since '97

- 6 Problematic weed species targeted for control included Dalmatian toadflax, leafy spurge, Canada thistle, hoary cress, and cheatgrass.
- 6 Released leafy spurge beetles in cooperation with USDA-APHIS.
- 6 Hand-pulled Dalmatian toadflax from a total of 53 acres.
- 6 Weed notices received from the Larimer County Weed District have decreased: in 2003 – 2 notices; in 2004 – 1 notice; in 2005 and 2006 – zero notices.

Recreation/P.I. enhancements/projects since '97

- 6 In addition to the existing parking lot along Centennial Drive, a 19-space (17-car spaces, one handicap space, and one bus/horse trailer space) parking lot at the west end of Michaud Lane was completed in 2005.
- 6 Restroom installed.
- 6 Kiosk installed with site map and interpretive features.
- 6 Received grant to help pay for and rerouted approx. ¼ mile of heavily eroded trail.
- 6 Installed trash cans, pet pick-up bag dispensers, and a bike rack for user convenience.

Interpretation/Education enhancements/projects since '97

- 6 In response to requests for a map of the Foothills Trail, a trails brochure was published in 2005 showing recreational opportunities from Reservoir Ridge Natural Area south through Pineridge Natural Area.

Goals and Actions

Resource Management Overall Long Term Goals (2007 - 2017)

- 6 Mimic natural disturbance regimes using prescribed fire and prescribed grazing to manage for species and structural diversity. Utilize NRCS range site descriptions to assist in goal setting.

- 6 Restore vegetation to 70% native plant cover.
- 6 Manage vegetation to support habitat if Preble's meadow jumping mouse is found. Other protection measures could include re-routing trails or constructing bridges to avoid riparian areas (mouse habitat). Populations would be monitored with US Fish and Wildlife Services.
- 6 Enhance habitat for butterfly species found on site through planting larval host plants and adult nectar sources (big bluestem, little bluestem, blue gramma, astragalus, Eurydice's milkvetch, penstemons, sedum, carex, buckbrush and a diversity of forbs). Other habitat enhancements may include maintaining grassland structure and re-establishing natural mosaic of small patch burns.

Resource Management Short Term Goals and Actions (2007 - 2009)

- 6 Commence restoration of native grassland and shrubland vegetation by working to reduce cheatgrass cover by 25% through an integrated program of sheep grazing and herbicide applications. Spring and fall flash grazing will be done to reduce weedy competition with native grasses and forbs.
- 6 Complete survey for Preble's meadow jumping mouse in potential habitat areas as delineated by US Fish and Wildlife Services to determine if population exists on site.

Public Improvements Overall Long Term Goals (2007 - 2017)

- 6 Continue maintaining and relocating heavily eroded trails.
- 6 Increase Accessible Trail options.

Public Improvements Short Term Goals and Actions (2007 - 2009)

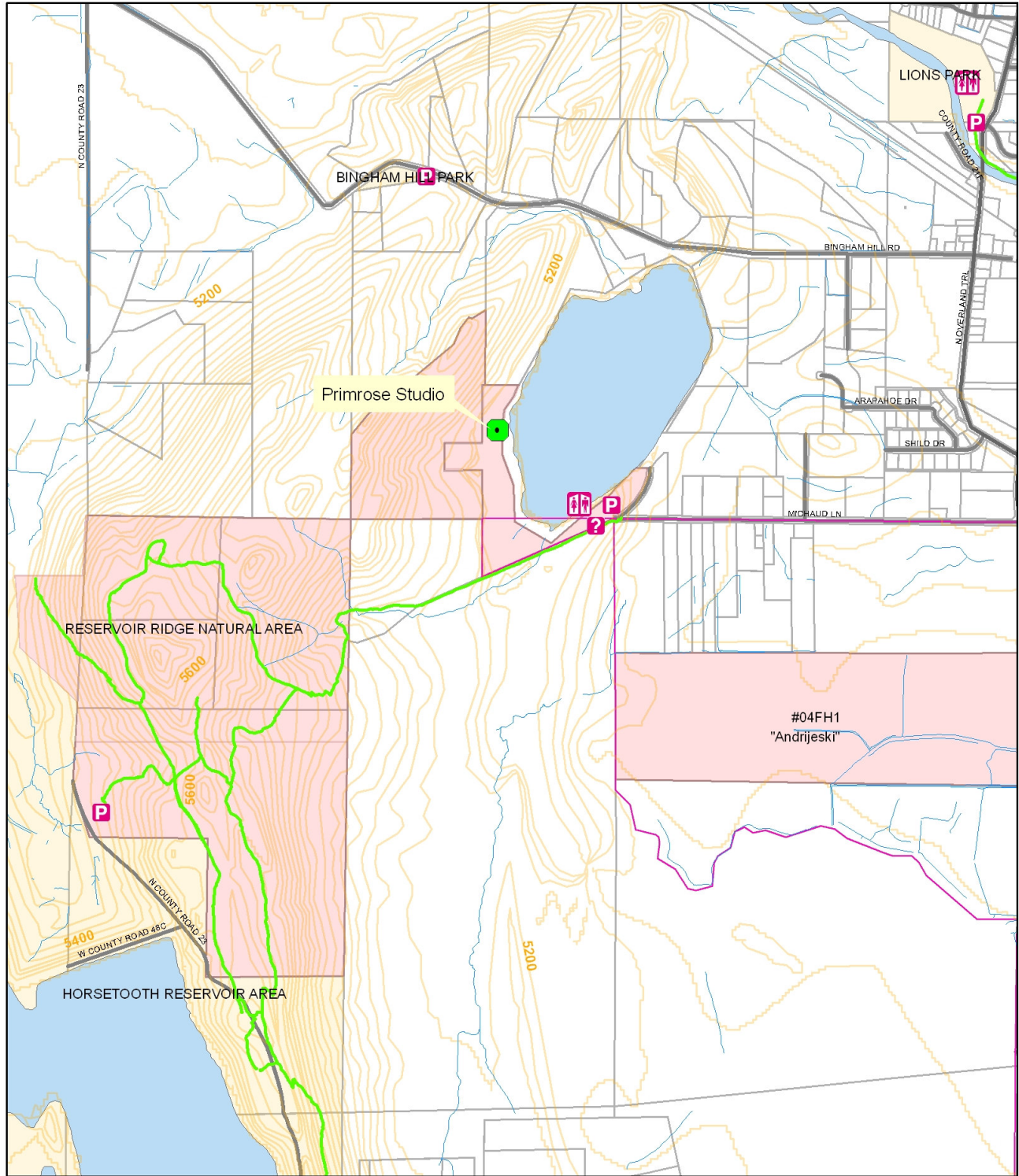
- 6 Refurbishing of on site studio to serve as classroom setting for environmental education and art programming.
- 6 Remove section of barbed wire fencing along trail from parking lot and replace with single rail wood fence.
- 6 Stabilize, maintain, and/or reroute eroded and non-sustainable sections of trail.

Interpretation/Education Overall Long Term Goals (2007 - 2017)

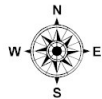
- 6 Monitor interpretive features for fabrication stability and topic appropriateness.

Interpretation/Education Short Term Goals and Actions (2007 - 2009)

- 6 In 2007, offer classes and events at the former art studio (e.g., programs offered through the City's Recreation Program, events conducted by Master Naturalists, etc.). Develop policies for use of the facility.
- 6 In 2007, develop and install interpretive features throughout the site. Topics may include wildlife of the site; geology; and general site information.
- 6 Place interpretive features at the end of the accessible trail.

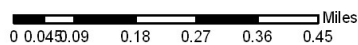


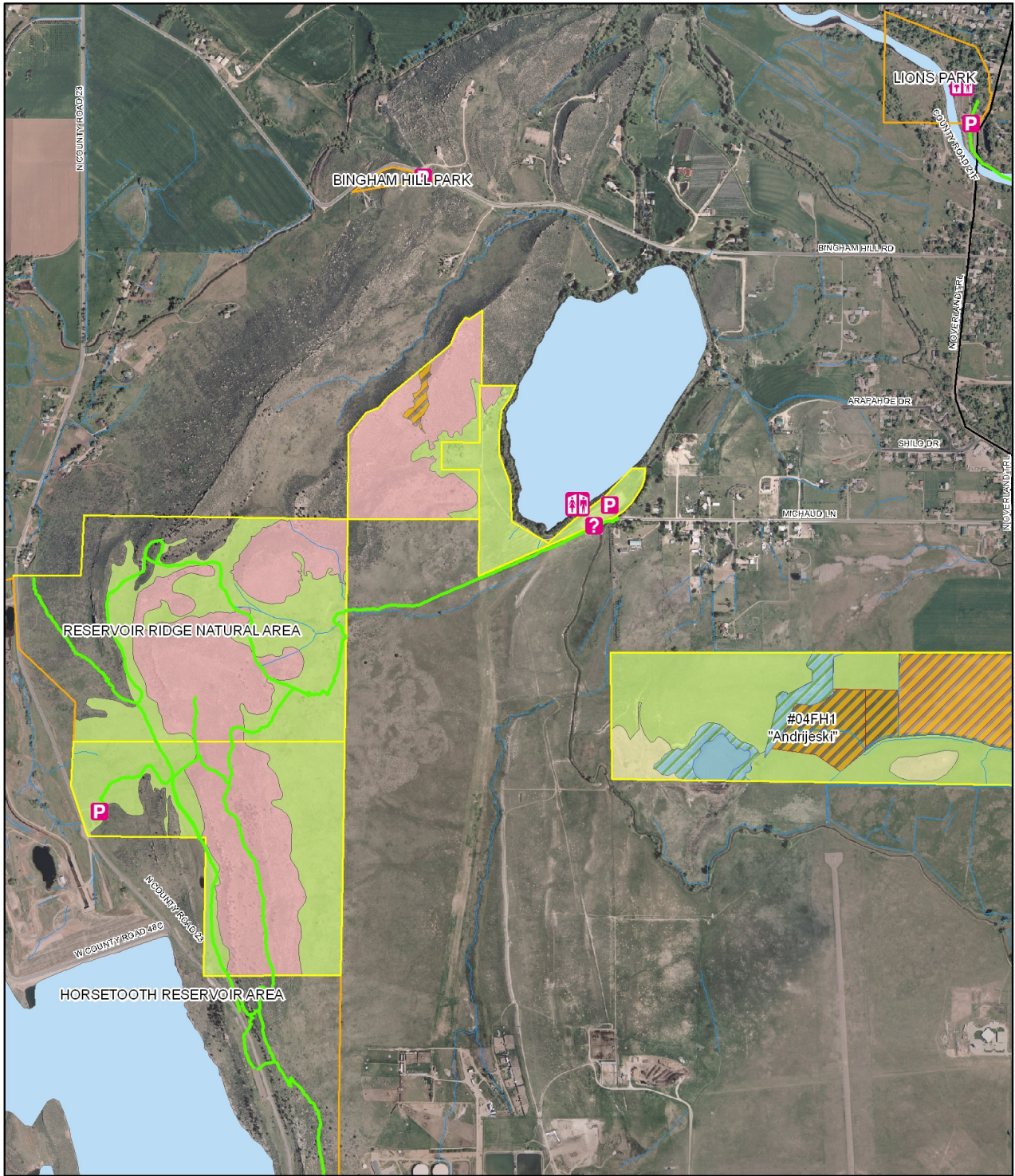
Reservoir Ridge Natural Area



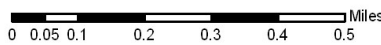
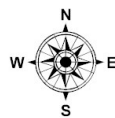
Legend

- Water Features
- Natural Surface Trail
- Growth Management Area
- City of Fort Collins Natural Area
- Larimer County
- Information Kiosk
- Parking
- Restroom
- Parcels





Reservoir Ridge Natural Area Vegetation Cover



Legend

- Aquatic
- Wet Meadow
- Information Kiosk
- Native Upland Foothills Forest
- Native Grassland
- Parking
- Native Upland Foothills Shrubland
- Non-native Grassland
- Restroom
- Emergent Wetland
- Larimer County
- City of Fort Collins Natural Area
- Existing Trails

#04FH1 (Andrijeski)

This site, which is not yet open to the public, has not been officially named. If additional land is acquired connecting this site to Reservoir Ridge, the Andrijeski site will simply be folded into Reservoir Ridge, and no new name will be needed. This 158-acre agricultural site is on Overland Trail between Michaud Lane and Lee Lake, extending approximately one mile west from Overland Trail. The site was purchased in two transactions in 2004 for a total of \$1,701,199.

The vegetation types at Andrijeski are cropland, grassland, wet meadow and wetlands. About 38% of the site is agricultural cropland (corn and wheat), currently being farmed through a lease with the previous owner. The grassland area is mostly native and covers 47% of the natural area. The 4-acre pond and associated wetland and wet meadow are of particular interest at this site. The wetland covers about 7% of the area, and about 6% is wet meadow. Water is always of significance in the foothills area as it is a scarce resource, and the wet meadow is the needed habitat for the federally threatened plant, Ute lady's tresses, which is known to occur in this natural area and on the neighboring property.

Updates since 1997 Plan

Resource Management enhancements/projects since '97

- 6 Worked with CSU students to develop draft management plans for this natural area.

Recreation/Public Improvement enhancements/projects since '97

- 6 Cleanup around the house and sheds from wind damage.

Interpretation/Education enhancements/projects since '97

- 6 To date, there have been no interpretative projects on the site.

Goals and Actions:

Resource Management Overall Long Term Goals (2007 - 2017)

- 6 Manage vegetation to support habitat if Preble's meadow jumping mouse is found. Other enhancement measures could include re-routing trails or constructing bridges to avoid riparian areas (mouse habitat). Populations will be monitored with US Fish and Wildlife.
- 6 Mimic natural disturbance regimes using prescribed fire and prescribed grazing to manage for species and structural diversity. Utilize NRCS range site descriptions to assist in goal setting.
- 6 Enhance habitat for butterfly species found on site through planting larval host plants and adult nectar sources (big bluestem, little bluestem, blue gramma, astragalus, Eurydice's milvetch, penstemons, sedum, carex, buckbrush, and a diversity of forbs). Other habitat enhancements may include maintaining grassland structure and re-establishing natural mosaic of small patch burns.

Resource Management Short Term Goals and Actions (2007 - 2009)

- 6 Continue cattle grazing and cropping regimes for the short term while restoration plans are being developed. Develop comprehensive restoration plan for grasslands and wetlands.

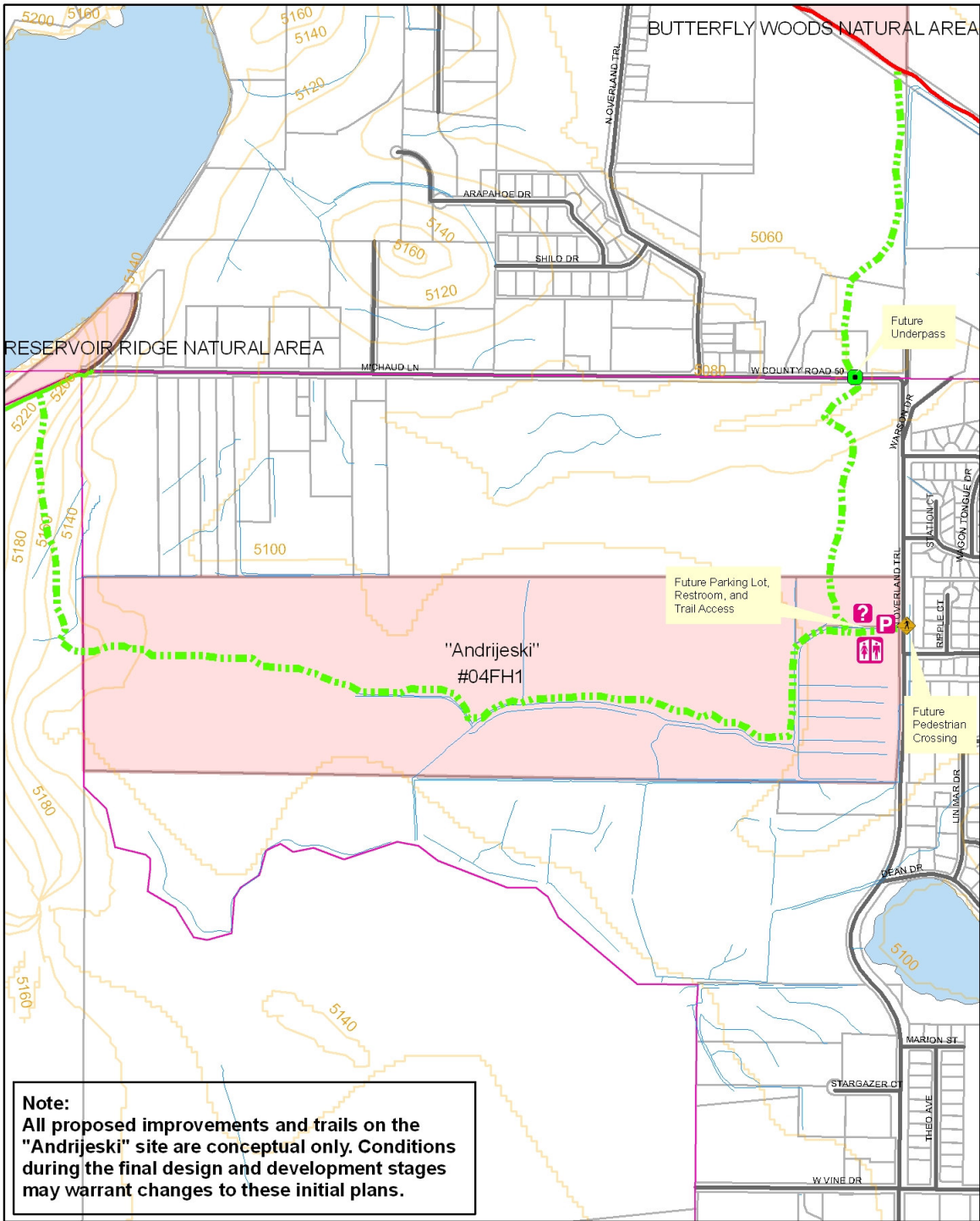
- 6 Manage for the persistence of and habitat improvement for Ute lady's tresses by reducing the competition from cattails and other aggressive plant species. This will be done by prescriptive winter grazing, spring mowing, and prescribed burning.
 - o Identify current hydrologic regime of the wetland and wet meadow area and modify as needed to ensure persistence of Ute lady's tresses population.
 - o Attract local pollinators by planting other forbs and willows near orchid habitat.
 - o Identify and understand other current or potential future threats to the existence of the Ute lady's tresses orchid and manage to reduce or eliminate these threats.
 - o Continue yearly monitoring of population existence, size, and distribution.
 - o Work with CSU land managers and other neighboring property owners to ensure continued existence of Ute lady's tresses on the neighboring properties.
- 6 Complete survey for Preble's meadow jumping mouse in potential habitat areas as delineated by U.S. Fish and Wildlife Services to determine if populations exist on site.

Recreation /Public Improvements Overall Long Term Goals (2007-2017)

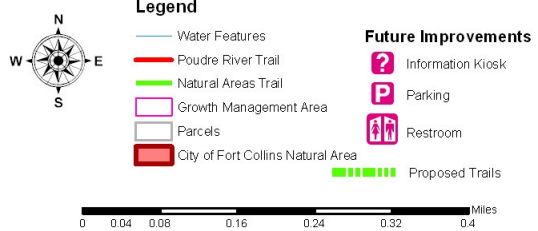
- 6 Look for options to connect the property to both the Foothills and the Poudre River trail systems.
- 6 Develop connection (possibly a street crossing) between the site and the neighborhood to the east.
- 6 Fabricate and install site sign.
- 6 Design and construct about one mile of natural surface trail.
- 6 Design and construct parking lot.
- 6 Install vault toilet.
- 6 Determine the ultimate use of the house and buildings on the site (e.g., lease it out, public use for a community center/meeting space, sell the house, remove, etc.)

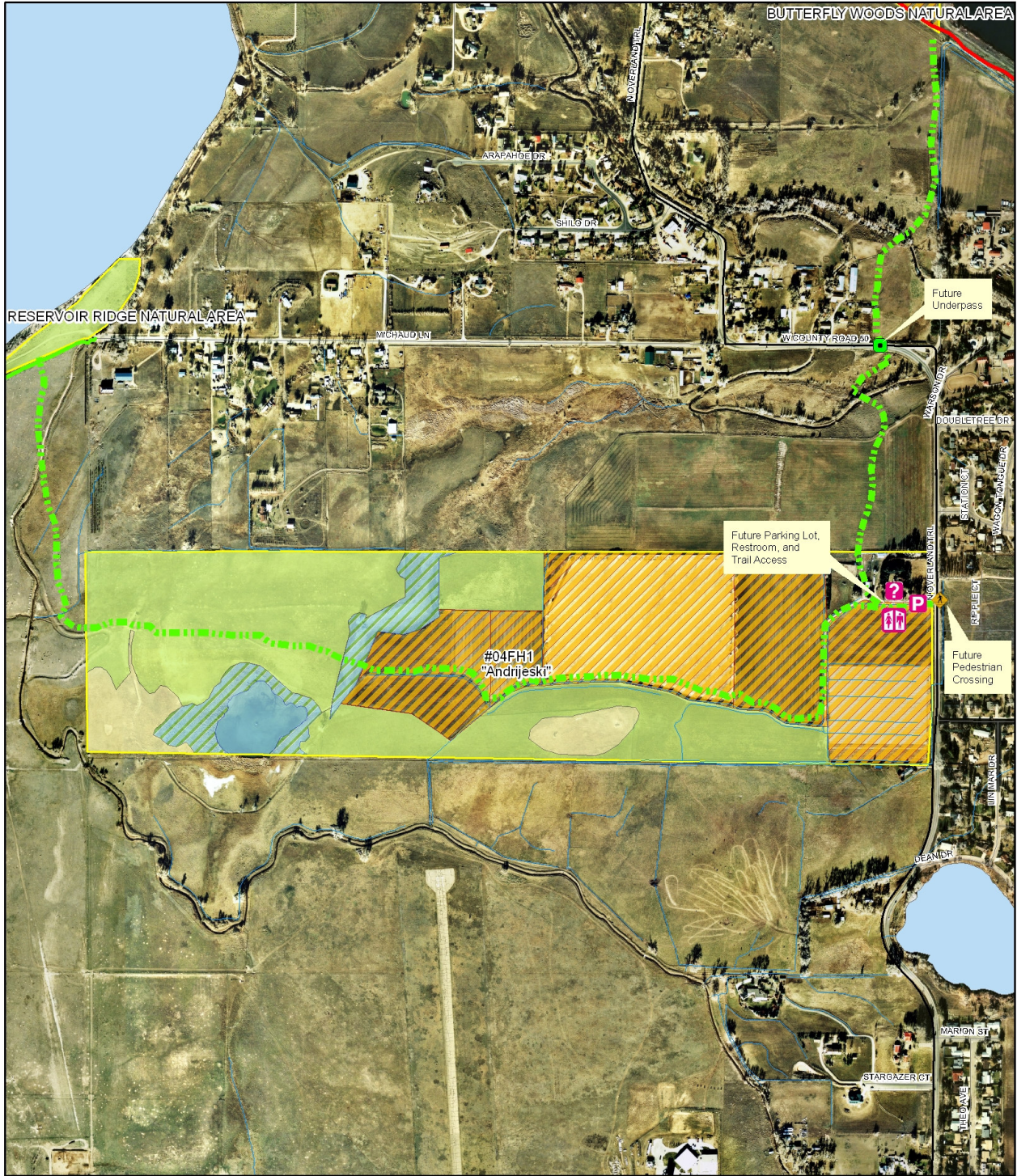
Interpretation/Education Overall Long Term Goals (2007-2017)

- 6 In coordination with determination of recreational connections and uses, establish educational goals for this site.

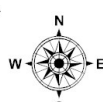


#04FH1 "Andrijeski" Natural Area





#04FH1 "Andrijeski" Natural Area Vegetation Cover



Legend

- | | | | |
|-----------------------------------|-----------------------------|------------------|--------------------|
| City of Fort Collins Natural Area | Aquatic | Emergent Wetland | Information Kiosk |
| Native Upland Foothills Shrubland | Native Upland Plains Forest | Wet Meadow | Parking |
| Non-native Upland Plains Forest | Non-native Grassland | Restroom | Poudre River Trail |
| Proposed Trails | Natural Areas Trail | | |

Maxwell Natural Area

This 289.61-acre natural area, which has been open to the public since the 1970s, is immediately west of CSU's Hughes Stadium. It was acquired in six separate transactions from 1976 through 1996. The City's cost was \$240,170; a donation valued at \$369,500 brought the total to \$609,670. It was funded from the 1974 capital improvement sales tax and the 1992 ¼-cent natural areas City sales tax.

CSU's "Aggie A" is on a permanent easement on the west side of the site. In 1995, the Colorado Historical Society placed the "A" on the state register of historical properties.

The vegetation/habitat types at Maxwell are grasslands, shrubland, and foothills forest. Most of the site is covered in grassland (59%) that is mostly non-native. About 27% of the natural area is covered by foothills shrubland and 14% by ponderosa pine forest.

Updates from 1997 Plan:

Resource Management enhancements/projects since '97

- 6 Problematic weed species targeted for control included Dalmatian toadflax, leafy spurge, Canada thistle, and cheatgrass.
- 6 Installed and maintained vinyl prairie dog barriers.
- 6 Monitored and fumigated prairie dogs in buffer zones.
- 6 Planted and maintained 4,300 native shrubs as prairie dog barriers ('99 – '01).

Recreation / Public Improvements/projects since '97

- 6 Mini-kiosks (providing regulatory information) have been installed at all legal site entrances.
- 6 Completed installation of directional trail markers in '05.
- 6 Closed approx. 2000 feet of trail and constructed a 1 mile trail reroute as a result of damage from the flood of 1997.
- 6 Installed 2 trail bridges and a turnpike (raised trail surface) through wet areas.
- 6 Rerouted a short section of trail to minimize access to private ditch road that runs through site.
- 6 Began process of establishing boundary line and relocating trail off of CSU property after dam reconstruction completed.
- 6 Removed an illegal bike course.

Interpretation/Education enhancements/projects since '97

- 6 A trails brochure was published in 2005 showing recreational opportunities from Reservoir Ridge Natural Area south through Pineridge Natural Area.

Goals and Actions

Resource Management Overall Long Term Goals (2007 - 2017)

- 6 Mimic natural disturbance regimes using prescribed fire and prescribed grazing to manage for species and structural diversity. Utilize NRCS range site descriptions to assist in goal setting.

- 6 Restore vegetation to 70% native plant cover.
- 6 Enhance habitat for butterfly species found on site through planting larval host plants and adult nectar sources (big bluestem, little bluestem, blue gramma, astragalus, Eurydice's milkvetch, penstemons, sedum, carex, buckbrush, and a diversity of forbs). Other habitat enhancements may include maintaining grassland structure and re-establishing natural mosaic of small patch burns.
- 6 Maintain balance of prairie dog population density and vegetation cover.

Resource Management Short Term Goals and Actions (2007 - 2009)

- 6 Commence restoration of native grassland and shrubland vegetation by working to reduce cheatgrass cover by 25% through an integrated program of sheep grazing and herbicide applications. Spring and fall flash grazing will be done to reduce weedy competition with native grasses and forbs.
- 6 Identify sustainable prairie dog population density ranges that do not exceed ecological thresholds that help maintain a stable vegetation cover. This is addressed in further detail in the Wildlife Management Guidelines (2007).

Public Improvements Overall Long Term Goals (2007 - 2017)

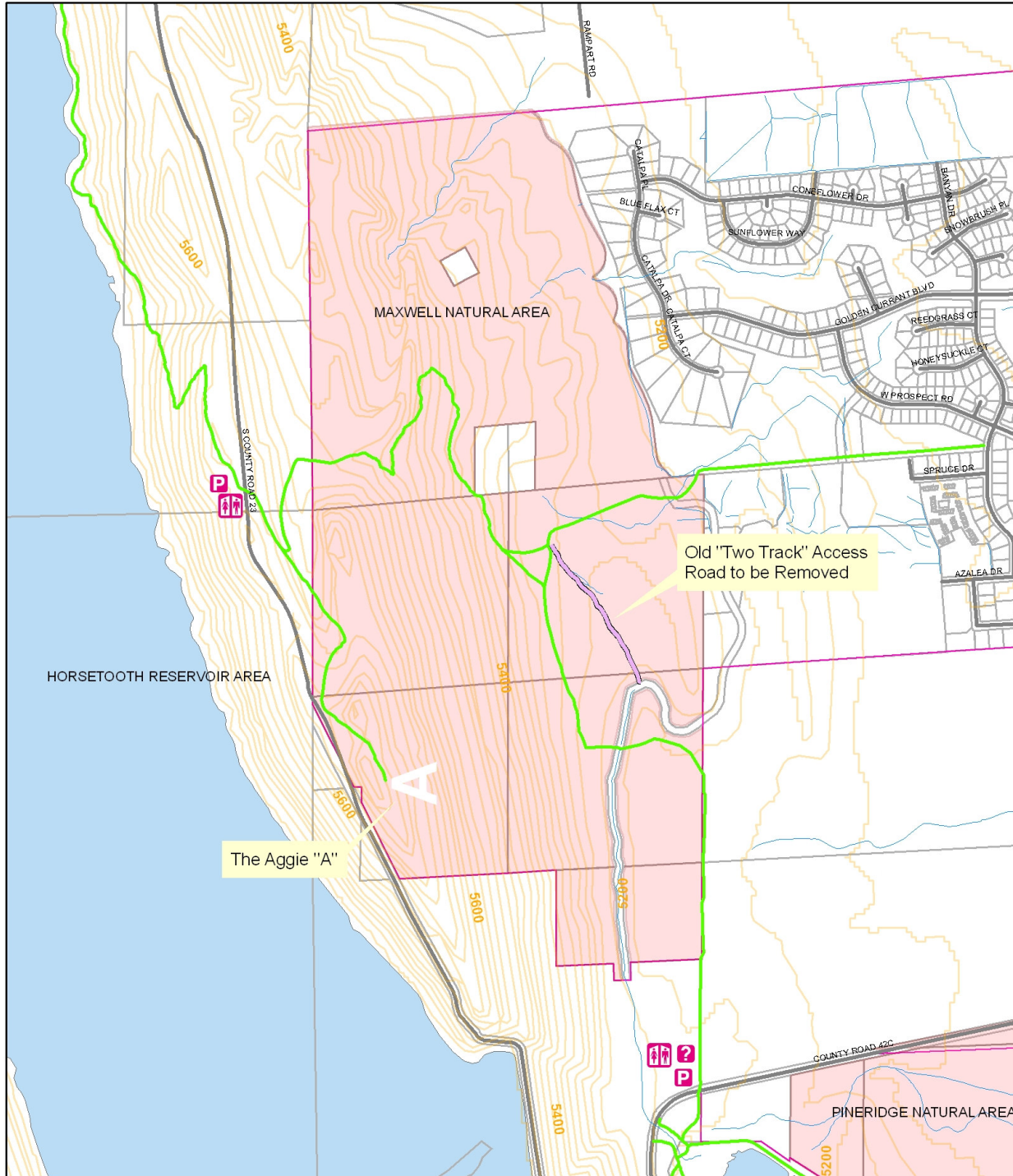
- 6 Work to erase scars from old Foothills Trail and closed eastern approach to the "A"
- 6 Formalize and streamline user access point along County Road 42C.
- 6 Increase Accessible Trail options.

Public Improvements Short Term Goals and Actions (2007 - 2009)

- 6 Complete construction of parking lot and trailhead at southern end of site along CR 42C (to include restroom and kiosk).
- 6 Construct new trail from parking lot to connect to existing Foothills Trail.
- 6 Re-establish berm at existing ditch crossing and reroute trail west of ditch to create sustainable standards.
- 6 Remove and restore old "two-track" that extends from ditch road north to access road.
- 6 Fabricate and install site sign at new parking lot.
- 6 Determine feasibility of constructing Accessible Trail through lower portion of site (would include interpretive features and small sun shelter).
- 6 Look at the possibility of closing the western approach to the "A" and rerouting the trail to the eastern side of the approach to provide an overlook facing the city and access to the top of the "A."

Interpretation/Education Short Term Goals and Actions (2007 - 2009)

- 6 Install interpretive feature in kiosk at the parking lot.
- 6 Work with Public Improvements crew to determine interpretive opportunities for accessible trail in lower portion of the site.

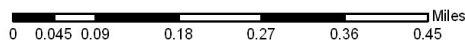


Maxwell Natural Area



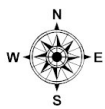
Legend

- Water Features
- Natural Surface Trail
- Growth Management Area
- CITY OF FORT COLLINS NATURAL AREA
- COUNTY OR CITY OPEN LANDS
- Parcels
- ? Information Kiosk
- P Parking
- ♿ Restroom



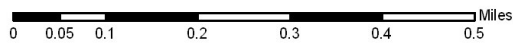


Maxwell Natural Area Vegetation Cover



Legend

- | | | |
|-------------------|-----------------------------------|-----------------------------------|
| Information Kiosk | City of Fort Collins Natural Area | Aquatic |
| Parking | Larimer County | Native Upland Foothills Forest |
| Restroom | Natural Surface Trail | Native Upland Foothills Shrubland |
| | | Riparian Forest |
| | | Native Grassland |
| | | Non-native Grassland |



Pineridge Natural Area

This 661.09-acre natural area, which has been open to the public since the 1970s, extends approximately 1½ miles south from County Road 42C and ¾ mile west from Spring Canyon Community Park. Some portions of the site extend east of Overland Trail and south of Spring Canyon Community Park. It was acquired in 14 separate transactions from 1976 through 2004. The City's cost was \$2,553,812; donations brought the total to \$2,708,402.

The vegetation types at Pineridge are foothills forest, shrubland, and grassland. Approximately 15% of the natural area is covered by ponderosa pine forest. Approximately 8% is a foothills shrubland. Three percent of the land is riparian forest/shrub cover along Dixon Creek and Spring Creek. The majority of the area (74%) is grassland. Of the grassland area, more than half is mixed grasses with shortgrass comprising the rest. Also, a little more than half the grassland area is mostly non-native. The site includes hills, swales, valleys, natural springs/seeps, rocky outcrops and ridges. Not included in these habitats are Dixon Reservoir, its shoreline, and Dixon Woods (portions of these are owned by other entities but managed by the City of Fort Collins). The water, riparian forest and wetland shoreline all provide critical resources of water and cover for many species that make Pineridge unique.

Updates from 1997 Plan

Resource Management enhancements/projects since '97

- 6 Problematic weed species targeted for control included Dalmatian toadflax, leafy spurge, Canada thistle, mush thistle, horay cress, jointed goat-grass, and Russian olives. All Russian olives were removed by 2005. Return treatments will be required.
- 6 Installed and maintained vinyl prairie dog barriers.
- 6 Monitored and fumigated prairie dogs in buffer zones.
- 6 Planted and maintained 3,500 native shrubs and 500 vines as prairie dog barriers ('99 – '01).
- 6 Re-seeded spillway and planted willows along stream to re-vegetate 1997 flood damaged areas ('98).
- 6 Planted shrubs at south end of Dixon Reservoir as riparian buffer/habitat enhancement (2001).
- 6 Intensive re-vegetation efforts on northeast corner of site as area became increasingly denuded due to prairie dog densities, drought conditions, and high winds. This area has been tilled in windrows, seeded with cover crops and native grasses and forbs, and planted with 2,400 native shrubs (2005 – 2006). Prairie dogs were also removed from this site to relieve grazing pressure, and a cover crop of winter wheat planted in the fall of 2006 is successfully growing.
- 6 Total acreage of Dalmatian toadflax handpulled
 - 2004: 88
 - 2005: 134
- 6 Weed notices from the Larimer County Weed District have decreased: 2003 – 1 notice; 2004 – 1 notice; 2005 and 2006 – zero notices.

Recreation and Public Improvements/projects since '97

- 6 Created sledding section along portion of western side of parking lot.
- 6 Reroute of approximately 500 feet of trail by Quail Ridge subdivision to enhance neighborhood access and prevent users from trespassing on private property.
- 6 50 feet boardwalk installed just south of Dixon Reservoir through drainage to alleviate maintenance and resource damage issues caused by frequently wet conditions.
- 6 Closed just over 1½ miles of social trails that fragmented the site, disrupted wildlife, and had unsustainable alignments.
- 6 Designed and installed directional trail markers in 2004.
- 6 Mini-kiosks (providing regulatory information) installed at each legal access.
- 6 Installed pet pick-up dispensers and trash cans at major access points.
- 6 Rerouted approximately 350 feet of trail section along Timber Trail to reduce erosion issues.
- 6 Installed kiosks at major access points at Horsetooth and west parking lot to provide site and interpretive information.
- 6 Installed emergency call box at entrance to west parking lot.
- 6 Installed restroom in west parking lot.
- 6 Established designated climbing area at Piano Boulders.

Interpretation/Education enhancements/projects since '97

- 6 Interpretive signs were installed in trailhead kiosks and along the trail in 2003.
- 6 In 2006, the City received a grant from REI to provide school buses to bring students to Pineridge for science-based ecological education during the 2006 calendar year.

Goals and Actions

Resource Management Overall Long Term Goals (2007 - 2017)

- 6 Mimic natural disturbance regimes using prescribed fire and prescribed grazing to manage for species and structural diversity. Utilize NRCS range site descriptions to assist in goal setting.
- 6 Restore vegetation to 70% native plant cover.
- 6 Enhance habitat for butterfly species found on site through planting larval host plants and adult nectar sources (big bluestem, little bluestem, blue gramma, astragalus, Eurydice's milkvetch, penstemons, sedum, carex, buckbrush, and a diversity of forbs). Other habitat enhancements may include maintaining grassland structure and re-establishing natural mosaic of small patch burns.
- 6 Continue monitoring Bell's twinpod populations and use monitoring data to base management actions on conservation requirements of the plant population.
- 6 Maintain balance of prairie dog population density and vegetation cover.

Resource Management Short Term Goals and Actions (2007-2009)

- 6 Commence restoration of native grassland and shrubland vegetation by working to reduce cheatgrass cover by 25% through an integrated program of sheep grazing and herbicide applications. Spring and fall flash grazing will be done to reduce weedy competition with native grasses and forbs.

- 6 Identify sustainable prairie dog population density ranges that do not exceed ecological thresholds that help maintain a stable vegetation cover. This is addressed in further detail in the Wildlife Management Guidelines (2007).
- 6 Protect unique habitat Dixon Reservoir creates in the dry foothills landscape. The reservoir has both riparian shoreline and wetland habitats that attract an abundance of wildlife. Despite the high visitor use at this site, Pineridge appears to have the most wildlife diversity of the foothill sites due to the presence of water and associated habitats.
- 6 Commence monitoring of Bell's twinpod populations to determine threats affecting changes in population dynamics.
- 6 Determine necessity and timing of seasonal closure of Piano Boulders climbing area for nesting hawks per Division of Wildlife recommendations.

Public Improvements Overall Long Term Goals (2007-2009)

- 6 Deal with water issues along Timber Trail from seeps in western hillside (could involve trail relocation and/or structures to provide for adequate drainage).
- 6 Look to expand and enhance appropriate recreational activities on the site.
- 6 Combine fragmented social trails at northwest corner and eastern entrance of site to minimize user impacts on resources and wildlife population.
- 6 Look to increase Accessible Trail options and possibly add a picnic shelter.
- 6 Monitor hawk nesting activity at nest near Piano Boulders; depending on necessity, enforce seasonal closures.

Public Improvements Short Term Goals and Actions (2007 - 2009)

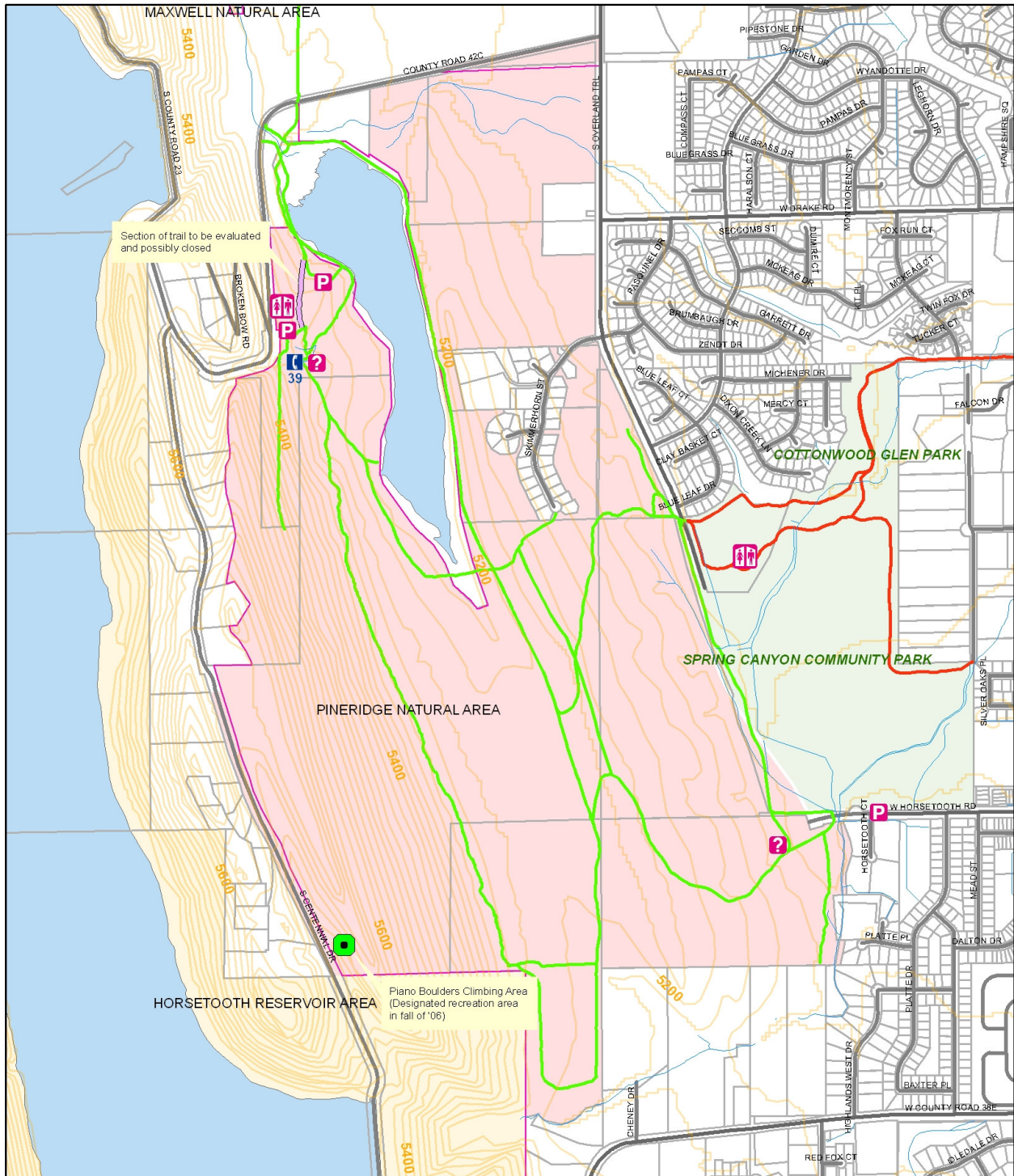
- 6 Evaluate Timber Trail for drainage and erosion issues and target sections for work to be done to minimize the need for closures.
- 6 Evaluate and possibly close section of trail heading north from upper west portion of parking lot.
- 6 Evaluate and prioritize social trails for closing along the north side of the dam.
- 6 Construction of .25 miles of paved trail along south eastern edge of site to coincide with construction of Spring Canyon Park. This will provide a connection between Spring Creek Trail, Fossil Creek Trail, and Pineridge's trail system.
- 6 Enhancement of eastern access point to coincide with construction of Spring Canyon Park. This will streamline the site's eastern entranceway and alleviate potential confusion and unnecessary resource impacts arising from multiple entrances.

Interpretation/Education Overall Long Term Goals (2007 - 2017)

- 6 Monitor and evaluate interpretive features for fabrication stability and topic appropriateness.

Interpretation/Education Short Term Goals and Actions (2007 - 2009)

- 6 With a major interpretive project (i.e., development and installation of interpretive features in kiosks and along the trail) having been completed recently, there are no major interpretive goals for the immediate future.

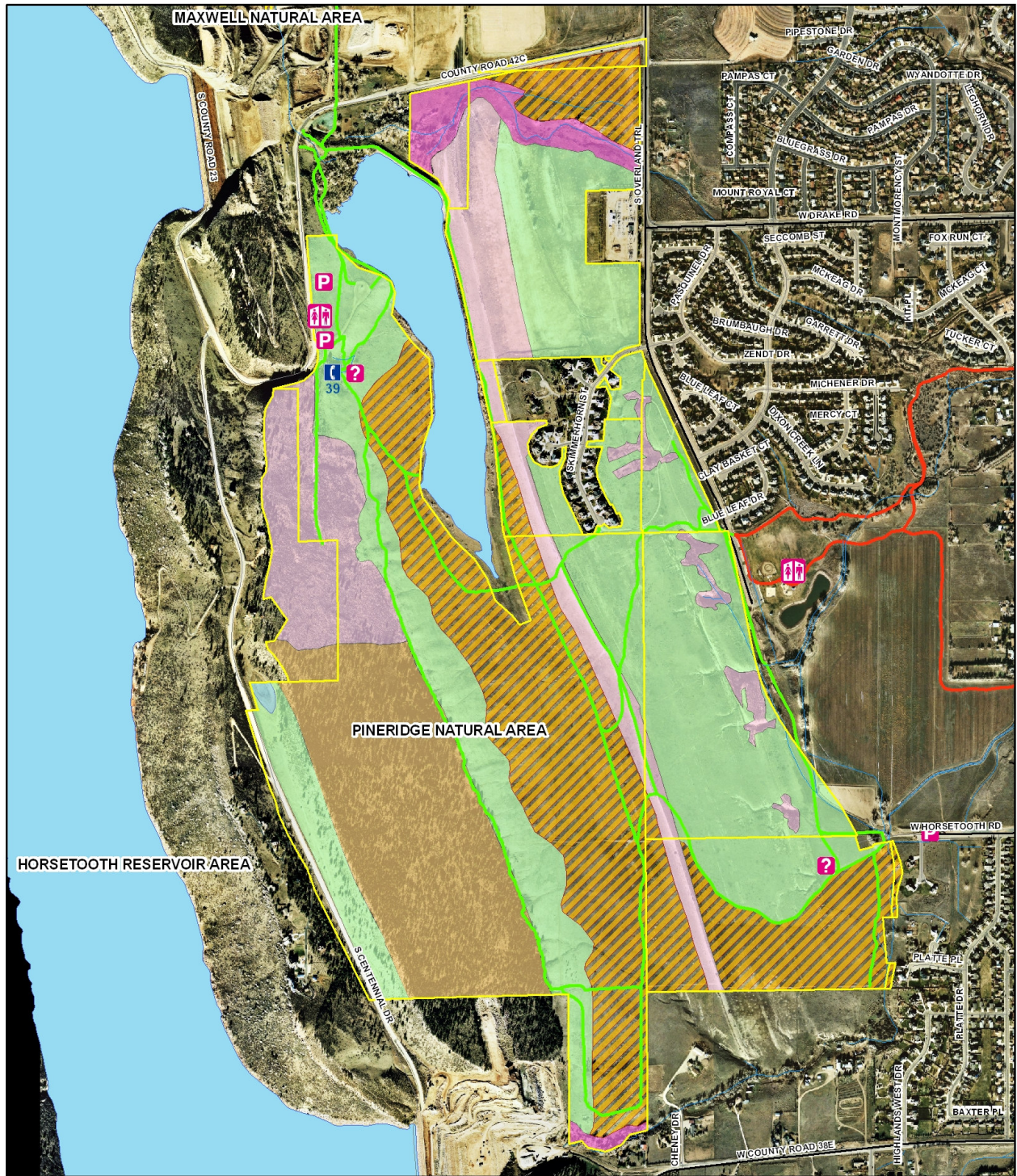


Pineridge Natural Area

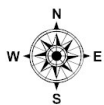


Legend

- Water Features
- Natural Surface Trail
- Paved Surface Trail
- Growth Management Area
- Parcels
- Parks
- City of Fort Collins Natural Area
- Larimer County
- Information Kiosk
- Parking
- Restroom
- Call Boxes



Pineridge Natural Area Vegetation Cover



Legend

- Natural Surface Trail
- Paved Surface Trail
- City of Fort Collins Natural Area
- C Call Boxes
- ? Information Kiosk
- P Parking
- P Restroom
- Aquatic
- Native Grassland
- Native Upland Foothills Forest
- Native Upland Plains Shrubland
- Non-native Grassland
- Riparian Forest

Coyote Ridge Natural Area

This 2,090.67-acre natural area, which has been open to the public since 2000, is of irregular configuration, extending over one mile west and approximately ½ mile east from Taft Hill Road, and approximately 1 ½ miles south from the Larimer County Landfill. The site was acquired in 8 separate transactions from 1994 through 2000. The City's cost was \$5,602,326; donations and partner contributions brought the total to \$6,147,400.

The vegetation type at Coyote Ridge is predominantly mixed grasses, covering 77% of the area. About 13% of the area is foothills shrubland, and only 1% of the area is forested. Coyote Ridge has several hidden treasures as small ravines, and natural springs break up the rocky ridgelines creating small oases with fully-grown cottonwood trees. These ravines flow into one drainage on the east side of Coyote Ridge where about 4% of the area is covered in wetlands and 5% in wet meadow.

Updates from 1997 Plan

Resource Management enhancements/projects since '97

- 6 Problematic weed species targeted for control include Dalmatian toadflax, diffuse knapweed, and Canada thistle.
- 6 Qualitative vegetation survey completed (2003).
- 6 105 acres just west of Taft Hill Road were planted with native seed (1998). Prior to planting, the area was dominated by several species of weedy annual grasses and forbs. In a survey done five years after the planting, the 105 acres had a variety of results, but for the most part it is in moderately good condition with over 50% of the cover in native vegetation.
- 6 87 acres just west of Taft Hill Road (just north of planting mentioned above) were planted with native seed (1999). The drainage area is now in great condition with more than 85% native vegetation including western wheat, green-needle grass, and plenty of native forbs.
- 6 Restoration efforts have also been made in the northern section east of Taft Hill Road with a native planting on 41 acres (2002). This planting was unsuccessful, and a subsequent planting of winter wheat was done in 2005 encompassing a larger area (132 acres) east of Taft Hill Road. Once the annual weedy species can be controlled, native seeds will be planted.
- 6 Restoration efforts in the southern section, east of Taft Hill Road have been largely successful. A prescribed burn in 2005 helped convert 80 acres of this area to mostly native with little extra work needed (weed control and supplemental forb planting).
- 6 Weed notices from the Larimer County Weed District have decreased: 2004 – 1 notice; 2005 and 2006 – zero notices.

Recreation and Public Improvements/projects since '97

- 6 Constructed and later expanded parking lot to accommodate increased site use. It now has 1 handicapped space, 19 parking spaces, and 5 horse trailer pull through spots.
- 6 Constructed accessible trail loop around on-site cabin (including a new deck for the cabin itself).

- 6 Connected the trail to Rimrock Open Space.
- 6 Removed pole barn
- 6 Installed ADA parking space and trail section to interpretive kiosk.
- 6 Installed vault toilet.
- 6 Installed horse hitches and bike rack at parking lot.
- 6 Mini-kiosks (providing regulatory information) installed at each legal access.
- 6 Constructed buck-n-rail fence along Trilby and Taft Hill Roads to prevent people accessing the site in 4X4's.

Interpretation/Education enhancements/projects since '97

- 6 Interpretive features were installed in two phases (2000 and 2001).
- 6 Scheduled interpretive nature walks occur most years during the fall.

Goals and Actions

Resource Management Overall Long Term Goals (2007 - 2017)

- 6 Mimic natural disturbance regimes using prescribed fire and prescribed grazing to manage for species and structural diversity. Utilize NRCS range site descriptions to assist in goal setting.
- 6 Restore vegetation to 70% native plant cover.
- 6 Enhance habitat for butterfly species found on site through planting larval host plants and adult nectar sources (big bluestem, little bluestem, blue gramma, astragalus, Eurydice's milkvetch, penstemons, sedum, carex, buckbrush, and a diversity of forbs). Other habitat enhancements may include maintaining grassland structure, and re-establishing natural mosaic of small patch burns.
- 6 Continue monitoring Bell's twinpod populations and use monitoring data to base management actions on conservation requirements of the plant population.
- 6 Maintain balance of prairie dog population density and vegetation cover.

Resource Management Short Term Goals and Actions (2007 - 2009)

- 6 Commence restoration of native shrubland vegetation by working to reduce cheatgrass cover by 25% through an integrated program of sheep grazing and herbicide applications. Spring and fall flash grazing will most likely be prescribed to reduce weedy competition with native grasses and forbs.
- 6 Identify sustainable prairie dog population density ranges that do not exceed ecological thresholds that help maintain a stable vegetation cover. This is addressed in further detail in the Wildlife Management Guidelines (2007).
- 6 Commence monitoring of Bell's twinpod populations to determine threats affecting changes in population dynamics.
- 6 Implement grassland restoration on 200 – 300 acres per year. In addition to sheep grazing, this will include herbicide treatments, plowing, seeding native plants, and/or prescribed fires to convert old agricultural fields to native grasslands.

Public Improvements Overall Long Term Goals (2007 - 2017)

- 6 Maintain trails as needed
- 6 Look to increase accessible trail options.

Public Improvements Short Term Goals and Actions (2007 - 2009)

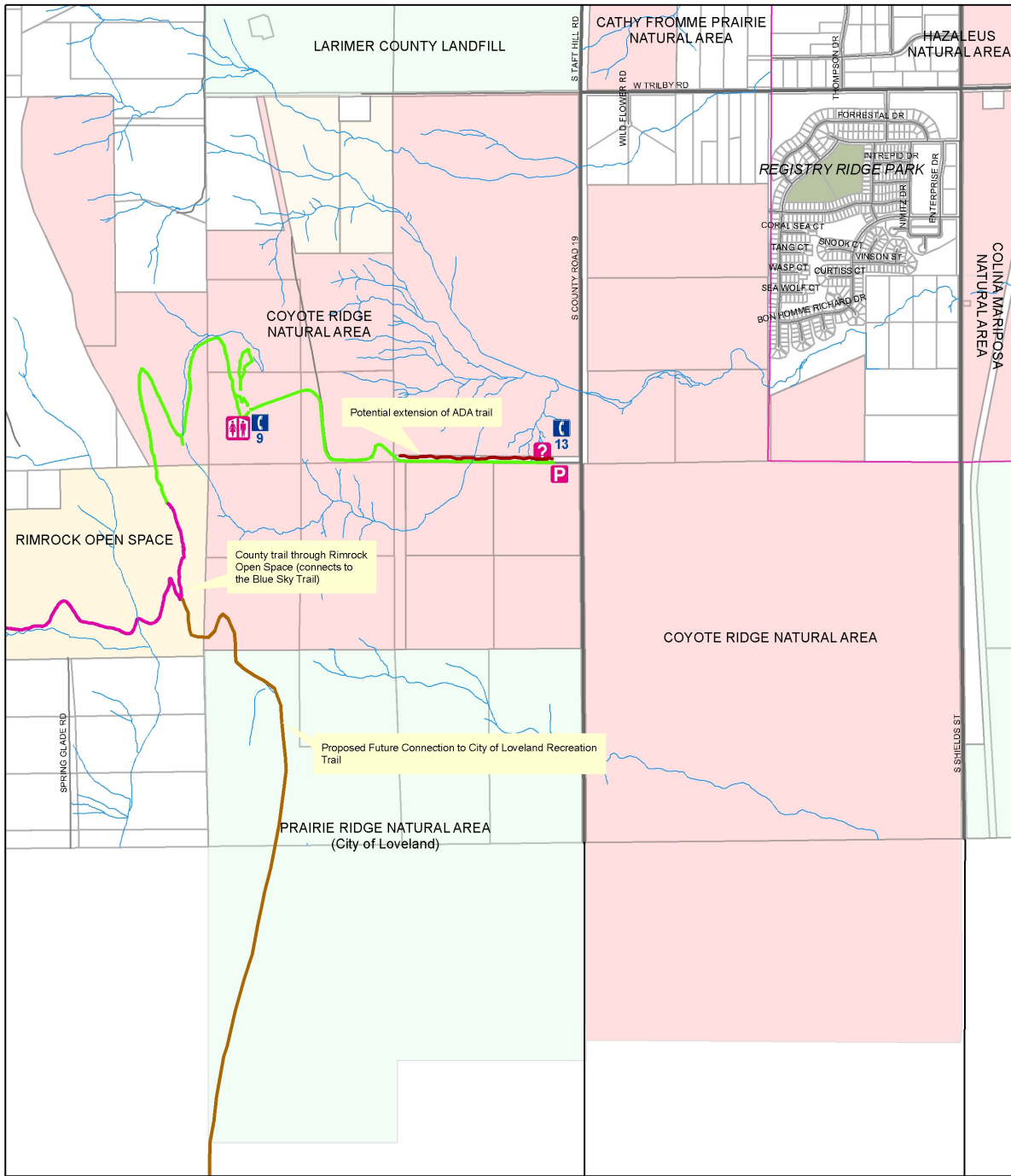
- 6 Extend ADA trail to base of first ridgeline, and possibly construct small sun shelter at its end.

Interpretation/Education Overall Long Term Goals (2007 - 2017)

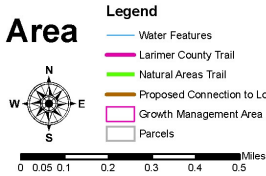
- 6 Monitor and evaluate interpretive features for fabrication stability and topic appropriateness.

Interpretation/Education Short Term Goals and Actions (2007 - 2009)

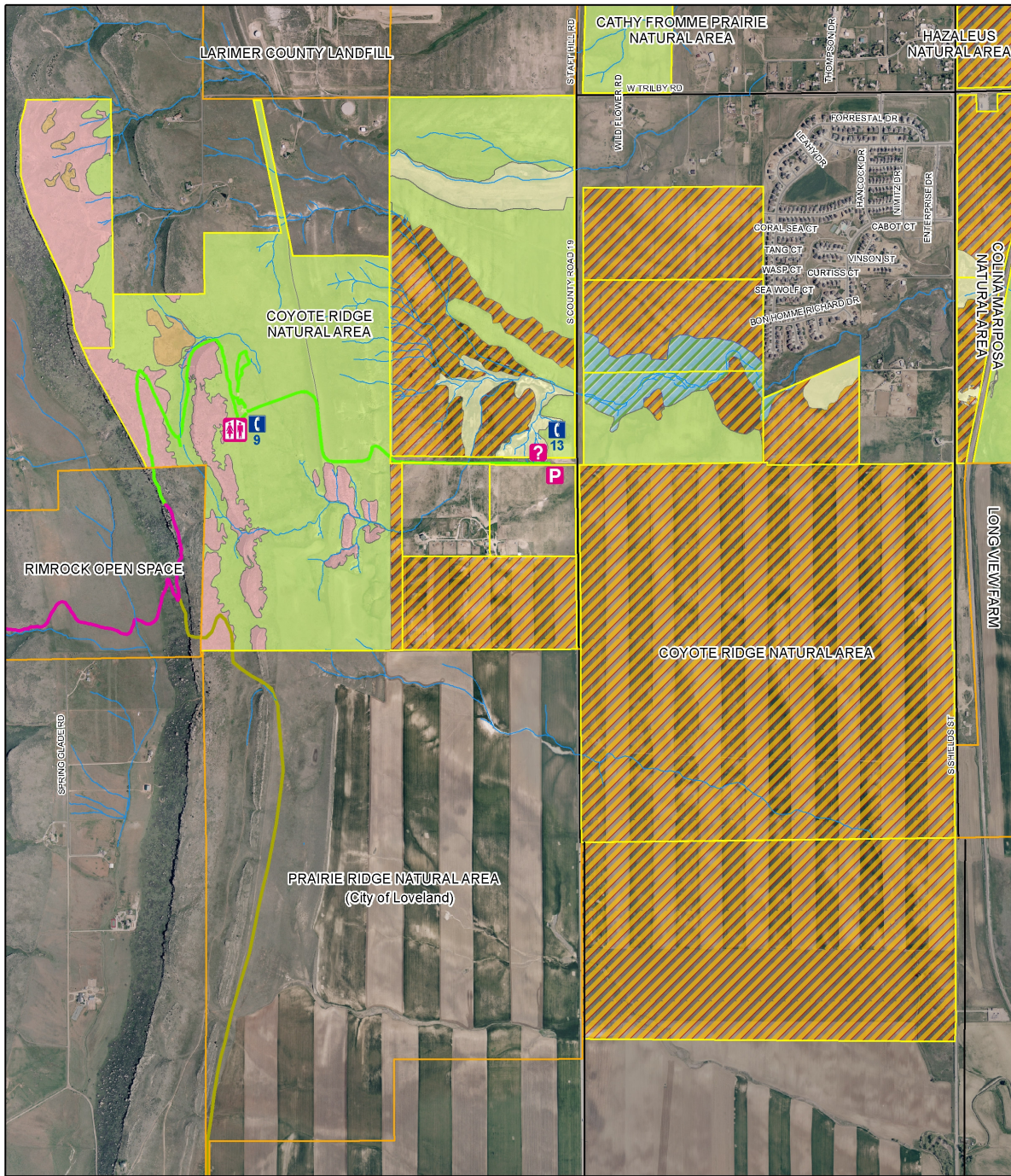
- 6 Continue offering interpretive events in the fall if they prove popular with the public. These include having Master Naturalists conduct nature walks along the trail as well as being available at the cabin deck on certain weekend days to provide interpretive information to site visitors as they pass through.



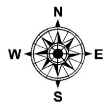
Coyote Ridge Natural Area



- CITY OF FORT COLLINS NATURAL AREA
- CONSERVATION EASEMENT
- COUNTY OR CITY OPEN LANDS
- LARIMER COUNTY, STATE OR CSU NATURAL AREA
- PARKS
- Call Boxes
- Information Kiosk
- Parking
- Restroom

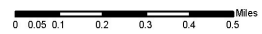


Coyote Ridge Natural Area Vegetation Cover



Legend

- | | | | |
|-------------------|--|-----------------------------------|---------------------------------|
| Information Kiosk | Larimer County | Aquatic | Native Upland Plains Forest |
| Parking | Loveland Open Space | Emergent Wetland | Non-native Grassland |
| Restroom | City of Fort Collins Natural Area | Native Grassland | Non-native Upland Plains Forest |
| Call Boxes | Water Features | Native Upland Foothills Forest | Wet Meadow |
| | Larimer County Trail | Native Upland Foothills Shrubland | |
| | Natural Areas Trail | | |
| | Proposed Connection to Loveland Recreation Trail | | |



Foothills Trail

The Foothills Trail currently runs between Pineridge, Maxwell, and Reservoir Ridge natural areas. In addition to the sections in the natural areas, the trail crosses through a portion of Horsetooth Reservoir County Park, as well as through trail easements granted by the Bureau of Reclamation and Colorado State University. The trail is managed jointly by the Natural Areas Program and Larimer County. The County maintains those sections of trail west of County Road 23 (Centennial Drive), while everything on the east side of the road is the responsibility of the Natural Areas Program. Substantial portions of the Foothills Trail were closed for a number of years while the dam reconstruction was being completed for Horsetooth Reservoir.

Major projects completed/undertaken since '97

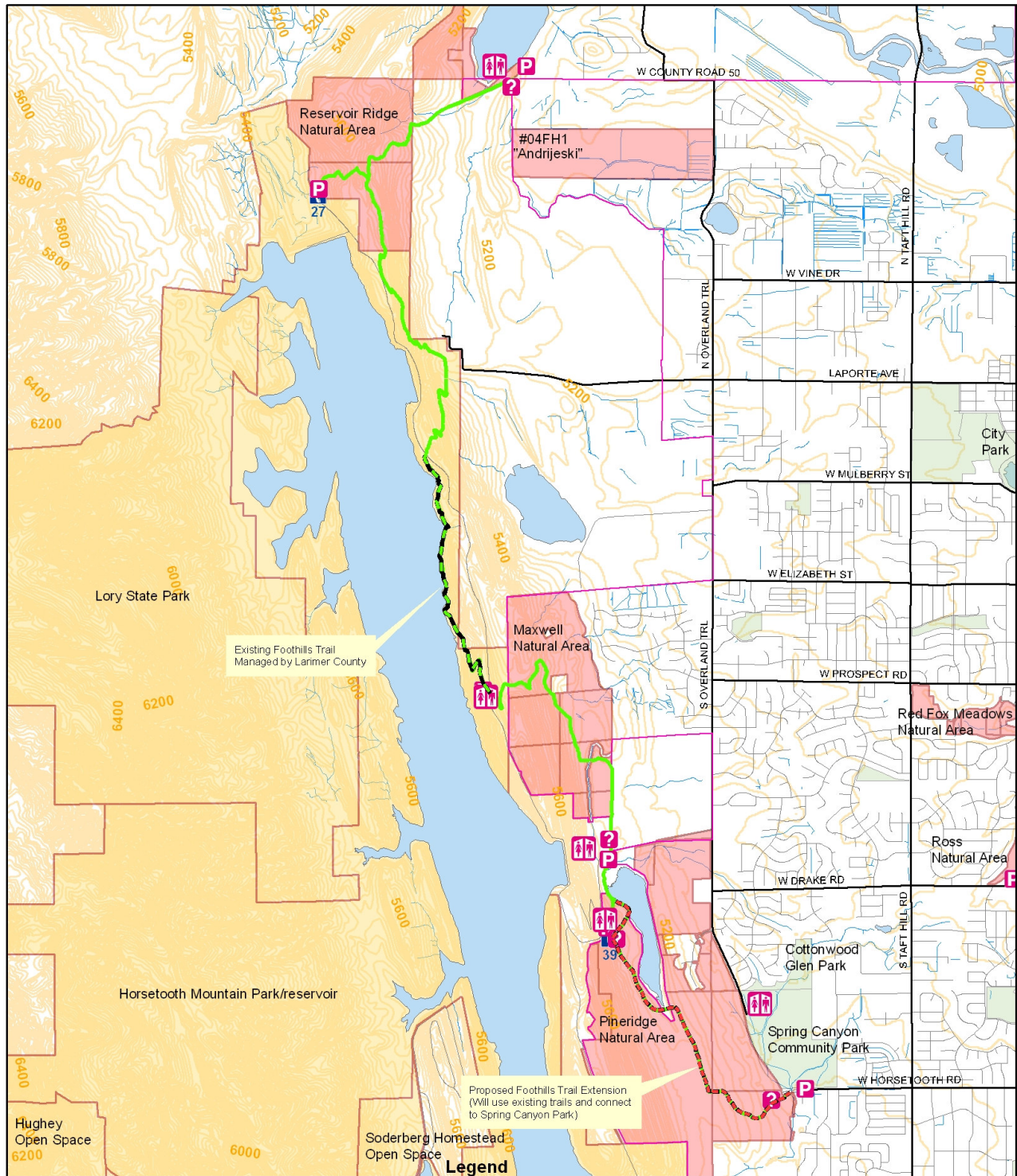
- 6 Rerouted just over ½ mile of trail at the base of Soldier Canyon Dam to reconnect the trail and move it beyond the security perimeter established by the Bureau of Reclamation.
- 6 Installed water diversion structures and steps along the ½ mile of trail to the north of Soldier Canyon Dam.
- 6 Installed bridge over ditch crossing at southern end of Soldier Canyon Dam.

Overall Long Term Goals (2007 - 2017)

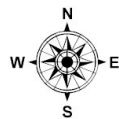
- 6 Continue to improve those sections of trail managed by the Natural Areas Program.
- 6 Work with Larimer County to develop collaborative projects that will improve the experience of all users along the entire length of the Foothills Trail.

Short Term Goals and Actions (2007 - 2009)

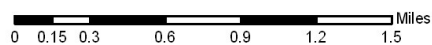
- 6 Continue to maintain trails as needed.
- 6 Develop a combined work project with the County to improve a section of trail.



Foothills Trail



- | | | |
|--------------------------------|-----------------------------------|-------------------|
| Foothills Trail | Parks | Information Kiosk |
| Growth Management Area | City of Fort Collins Natural Area | Parking |
| Larimer County and State Parks | Restroom | Water Features |



Appendix A: Research

Research Conducted on Reservoir Ridge Natural Area

Research Topic	Year	Permit #
Bird count	'01	0170
Chronic wasting disease	'02	0215
Rodent research regarding plague	'02	0247
Tularemia	'04	0460
Canada thistle predator	'05	0564

Research Conducted on Maxwell Natural Area

Research Topic	Year(s)	Permit #
Raptor use/durability and prairie dog breaching of plastic barriers	'99	9956
Bird count	'00	0062
Effect of season length on the interactions between galling fly and its parasitoids	'01	0143
Raptor use of artificial prairie dog barriers	'01	0144
Bird count	'01	0170
Chronic wasting disease	'02	0215
Rodent research re. plague	'02	0247
Tularemia	'04	0460
Canada thistle predator	'05	0564
Determine mosquito over-wintering areas	'05	0505

Research Conducted on Coyote Ridge Natural Area

Research Topic	Year(s)	Permit # (no # = staff initiated study)
Prairie dog study	'97	
Avian density/species composition	'00	0003
Bell's twinpod	'00, '01, '02	0019, 0163, 0221
Rodent research regarding plague	'02	0247
Invasive plant dispersal by ants/invasive plant seed predation by rodents/birds	'03	0345
Plant frequency/density	'03	0352
Tularemia	'04	0460
Determine mosquito over-wintering areas	'05	0505
Canada thistle predator	'05	0564

Research Conducted on Pineridge Natural Area

Research Topic	Year(s)	Permit #
Chorus frog study conducted by Steve Corn (CSU student, now with USDI National Biological Service in Fort Collins)	'80s	
Small mammal trapping and general wildlife observations conducted by the CSU Student Chapter of the Wildlife Society	'91-'94	
Burrowing owl	'99	9926
Raptor use/durability and prairie dog breaching of plastic barriers	'99	9956
Insects	'00	0036
Prairie dog genetics	'00	0044
Prairie dogs	'01	0131
Ground-nesting solitary wasps	'01	0135
Bird count	'01	0170
Other species use of prairie dog burrows	'02	0204
Chronic wasting disease	'02	0215
Bell's twinpod	'02	0221
Rodent research re. plague	'02	0247
Prairie dogs	'02	0254
Plant sampling	'02	0263
Impacts of prairie dogs on vegetation	'02	0271
Invasive plant dispersal by ants/invasive plant seed predation by rodents/birds	'03	0345
Bird count	'03	0372
Selenium hyperaccumulators	'04	0415
Tularemia	'04	0460
Plant sampling	'05	0502
Determine mosquito over-wintering areas	'05	0505
Vegetation inventory	'05	0550
Canada thistle predator	'05	0564
Plant frequency	'05	0568

Appendix B: Species Lists

Animal Species Observed on Foothills Natural Areas

Sites: Reservoir Ridge Natural Area (RR), #04FH1 (AN) (“Andrijeski Property”), Maxwell Natural Area (MX), Pineridge Natural Area (PR), Coyote Ridge Natural Area (CR).

Species: U = unusual; I = Introduced (to North America for Birds; to Fort Collins for other species); FT = Federal Threatened; FE = Federal Endangered; ST = Colorado Threatened; SC = Colorado Species of Concern.

Occurrence: X = recorded on site; XN = nests on site; XD = density on site.

Sources: Compiled from observations by Kevin Cook (1990-91), Phil Friedman (2001), Paul Gertler (1979), Joe Lafleur (2001-03), Dave Leatherman (1985-91), Benjamin Nolan (2002), Thomas O’Shea (2001-03), Mike Shraiberg (1996), CSU and Natural Areas Program volunteers (1991-99), Colorado Field Ornithologists’ reports (1991-2006); Natural Areas Program staff (1991-2006). Not all sites have been intensively surveyed; therefore, some species may be present on a site and not yet be reflected in these tables.

Birds	Site				
	RR	AN	MX	PR	CR
Canada goose	X	X	X	X	X
Snow goose				X	
Wood duck				X	
Gadwall				X	
American wigeon				X	
Mallard	X	X	X	X	X
Blue-winged teal				X	
Cinnamon teal				X	
Northern shoveler				X	
Northern pintail				X	
Green-winged teal				X	
Canvasback				X	
Redhead				X	
Ring-necked duck				X	
Lesser scaup				X	
Common goldeneye				X	

Birds	Site				
	RR	AN	MX	PR	CR
Hooded merganser				X	
Common merganser				X	
Chukar (U, I)					X
Ring-necked pheasant (I)				X	
Blue grouse (U)				X	
Pied-billed grebe				X	
Eared grebe				X	
Western grebe				X	
American white pelican				X	
Double-crested cormorant				X	
Great blue heron		X		X	X
Green heron (U)				X	
Black-crowned night-heron				X	
Turkey vulture	X	X	X	X	X
Osprey				X	
Bald eagle (FT, ST)			X	X	X
Northern harrier			X	X	X
Sharp-shinned hawk	X			X	X
Cooper's hawk				X	
Northern goshawk				X	
Swainson's hawk			X	X	X
Red-tailed hawk	X	XN	X	XN	X
Ferruginous hawk (SC)	X		X	X	X
Rough-legged hawk			X	X	X
Golden eagle	X		X	X	X
American kestrel	X	X	X	X	X
Merlin				X	
Peregrine falcon (SC)				X	

Birds	Site				
	RR	AN	MX	PR	CR
Prairie falcon	X		X	X	X
Sora				X	
American coot				X	
Sandhill crane (SC)				X	
Killdeer	X	X	X	X	X
American avocet				X	
Greater yellowlegs				X	
Lesser yellowlegs				X	
Solitary sandpiper				X	
Spotted sandpiper				X	
Upland sandpiper (U)				X	
Long-billed curlew (U)				X	
Wilson's snipe				X	
Franklin's gull				X	
Ring-billed gull	X	X	X	X	X
California gull				X	
Herring gull				X	
Caspian tern				X	
Forster's tern				X	
Rock pigeon (I)	X	X	X	X	X
Mourning dove	X	X	X	X	X
Barn owl				X	
Eastern screech-owl				X	
Great horned owl	X			X	
Northern pygmy-owl (U)				X	
Burrowing owl (U, ST)			X	X	
Long-eared owl (U)				X	
Short-eared owl (U)				X	

Birds	Site				
	RR	AN	MX	PR	CR
Common nighthawk	X		X	X	X
Common poorwill				X	
Chimney swift				X	
White-throated swift				X	
Broad-tailed hummingbird	X		X	X	X
Belted kingfisher	X			X	
Lewis' woodpecker (U)				X	
Red-naped sapsucker (U)				X	
Downy woodpecker	X	X	X	X	X
Hairy woodpecker				X	
Northern flicker	X	X	X	X	X
Olive-sided flycatcher				X	
Western wood-pewee				X	
Alder flycatcher				X	
Willow flycatcher				X	
Least flycatcher				X	
Eastern phoebe (U)				X	
Say's phoebe				X	X
Great crested flycatcher (U)				X	
Cassin's kingbird (U)				X	
Western kingbird	X	X	X	X	X
Eastern kingbird				X	X
Loggerhead shrike				X	
Northern shrike				X	
Yellow-throated vireo (U)				X	
White-eyed vireo (U)				X	
Plumbeous vireo				X	
Warbling vireo				X	

Birds	Site				
	RR	AN	MX	PR	CR
Philadelphia vireo (U)				X	
Red-eyed vireo (U)				X	
Steller's jay				X	X
Blue jay	X	X		X	
Western scrub jay (U)				X	X
Pinyon jay (U)				X	
Clark's nutcracker (U)				X	
Black-billed magpie	X	X	X	X	X
American crow	X	X	X	X	X
Common raven	X		X	X	X
Horned lark	X	X	X	X	X
Tree swallow	X			X	
Violet-green swallow	X			X	
Northern rough-winged swallow	X			X	
Cliff swallow	X		X	X	
Barn swallow	X	X		X	
Black-capped chickadee	X	X	X	X	X
Mountain chickadee				X	
Bushtit (U)				X	
Red-breasted nuthatch	X			X	X
Brown creeper				X	
Rock wren				X	X
Canyon wren				X	X
House wren	X			X	
Golden-crowned kinglet				X	X
Ruby-crowned kinglet				X	
Blue-gray gnatcatcher				X	X
Eastern bluebird (U)				X	

Birds	Site				
	RR	AN	MX	PR	CR
Western bluebird	X			X	X
Mountain bluebird	X		X	X	X
Townsend's solitaire	X		X	X	X
Veery				X	
Swainson's thrush				X	
Hermit thrush				X	
American robin	X	X	X	X	X
Gray catbird	X			X	
Northern mockingbird (U)				X	
Brown thrasher (U)				X	
European starling (I)	X	X	X	X	X
Cedar waxwing				X	
Blue-winged warbler (U)				X	
Golden-winged warbler (U)				X	
Orange-crowned warbler				X	
Nashville warbler (U)				X	
Virginia's warbler				X	X
Northern parula (U)				X	
Yellow warbler	X			X	
Chestnut-sided warbler (U)				X	
Magnolia warbler (U)				X	
Cape May warbler (U)				X	
Black-throated blue warbler (U)				X	X
Yellow-rumped warbler	X			X	X
Black-throated gray warbler (U)				X	
Black-throated green warbler (U)				X	
Townsend's warbler				X	
Blackburnian warbler (U)				X	

Birds	Site				
	RR	AN	MX	PR	CR
Palm warbler (U)				X	
Bay-breasted warbler (U)				X	
Blackpoll warbler				X	
Black-and-white warbler (U)				X	
American redstart				X	
Prothonotary warbler (U)				X	
Worm-eating warbler (U)				X	
Ovenbird				X	
Northern waterthrush				X	
MacGillivray's warbler				X	
Common yellowthroat				X	
Wilson's warbler	X			X	
Canada warbler (U)				X	
Yellow-breasted chat				X	
Summer tanager (U)				X	
Scarlet tanager (U)				X	
Western tanager	X			X	X
Green-tailed towhee	X		X	X	X
Spotted towhee	X		X	X	X
American tree sparrow	X		X	X	X
Chipping sparrow	X			X	X
Clay-colored sparrow				X	X
Brewer's sparrow				X	
Field sparrow				X	
Vesper sparrow				X	X
Lark sparrow	X	X	X	X	X
Black-throated sparrow (U)				X	
Lark bunting (U)				X	X

Birds	Site				
	RR	AN	MX	PR	CR
Savannah sparrow				X	
Grasshopper sparrow (U)				X	
Song sparrow	X	X	X	X	X
Lincoln's sparrow				X	
White-throated sparrow				X	
Harris's sparrow (U)				X	
White-crowned sparrow	X			X	X
Dark-eyed junco	X	X	X	X	X
Northern cardinal (U)				X	
Black-headed grosbeak (U)				X	
Blue grosbeak (U)				X	X
Lazuli bunting				X	
Indigo bunting (U)				X	
Red-winged blackbird	X	X	X	X	X
Western meadowlark	X	X	X	X	X
Brewer's blackbird				X	
Common grackle	X	X		X	
Brown-headed cowbird				X	
Bullock's oriole	X			X	X
Gray-crowned rosy-finch (U)				X	
Cassin's finch				X	
House finch	X	X	X	X	X
Red crossbill				X	
Common redpoll (U)				X	
Pine siskin				X	
Lesser goldfinch				X	
American goldfinch	X	X	X	X	X
Evening grosbeak				X	

Birds	Site				
	RR	AN	MX	PR	CR
House sparrow (I)	X	X	X	X	X
TOTAL BIRDS	58	30	43	212	65

MAMMALS	SITE				
	RR	AN	MX	PR	CR
Big brown bat				X	
Eastern cottontail	X	X	X	X	X
Black-tailed jackrabbit	X			X	X
Yellow-bellied marmot (U)				X	
Thirteen-lined ground squirrel	X		X	X	X
Rock squirrel			X	X	
Black-tailed prairie dog	X		X	X	X
Tassel-eared squirrel (U)				X	
Fox squirrel	X	X	X	X	X
Deer mouse	X			X	
Bushy-tailed woodrat	X				
Mexican woodrat	X				
Prairie vole				X	
Meadow vole				X	
Muskrat				X	
House mouse	X		X	X	X
Porcupine (U)	X				
Coyote	X		X	X	XD
Red fox	X		X	X	X
Black bear (U)				X	X
Raccoon	X		X	X	X
Badger (U)				X	X
Striped skunk	X		X	X	X

MAMMALS	SITE				
	RR	AN	MX	PR	CR
Mountain lion (U)	X		X	X	X
Bobcat (U)				X	X
Mule deer	X		X	X	X
Elk (U)	X				X
TOTAL MAMMALS	17	2	12	22	16

AMPHIBIANS AND REPTILES	Site				
	RR	AN	MX	PR	CR
Chorus frog	X		X	X	X
Short-horned lizard	X			X	X
Prairie lizard	X		X	X	X
Racer				X	X
Bullsnake	X	X	X	X	X
Plains garter snake	X	X	X	X	X
Prairie rattlesnake	X		X	X	X
TOTAL HERPTILES	6	2	5	7	7

FISHES	Site				
	RR	AN	MX	PR	CR
Common carp (I)				X	
Black bullhead				X	
Channel catfish				X	
Bluegill (I)				X	
Black crappie (I)				X	
Yellow perch (I)				X	
TOTAL FISHES				6	

Invertebrates Observed on Foothills Natural Areas

Species	Foothills General (not site specific)	Pineridge
Dragonflies and damselflies (Odonata)		
<i>Enallagma signatum</i> (R)		X
Grasshoppers and crickets (Orthoptera)		
<i>Melanoplus</i> sp. (“Grasshopper”)		X
<i>Oecanthus</i> sp. (“Tree cricket”)		X
True bugs (Hemiptera)		
<i>Sinea</i> sp. (“Assasin bug”)		X
Cicadas, hoppers (Homoptera)		
<i>Exuvia</i> sp. (“Leaf hopper”)		X
Beetles (Coleoptera)		
<i>Alticini</i> sp. (“Leaf beetle”)		X
<i>Notoxus</i> sp. (“Ant-like beetle”)		X
Butterflies and Moths (Lepidoptera)		
Swallowtails (Papilionidae)		
Old world swallowtail (<i>Papilio machaon</i>)	X	
Two-tailed swallowtail (<i>Papilio multicaudata</i>)	X	
Black swallowtail (<i>Papilio polyxenes</i>)	X	
Western tiger swallowtail (<i>Papilio rutulus</i>)	X	
Anise swallowtail (<i>Papilio zelicaon</i>)	X	
Whites and sulphurs (Pieridae)		
Alexandra’s sulphur (<i>Colias alexandra</i>)	X	
Southern dogface (<i>Colias cesonia</i>)	X	
Orange sulphur (<i>Colias eurytheme</i>)	X	
Clouded sulphur (<i>Colias philodice</i>)	X	
Large marble (<i>Euchloe ausonides</i>)	X	
Olympia marble (<i>Euchloe olympia</i>)	X	
Mexican yellow (<i>Eurema mexicana</i>)	X	
Dwarf yellow (<i>Nathalis iole</i>)	X	

Species	Foothills General (not site specific)	Pineridge
Pine white (<i>Neophasia menapia</i>)	X	
Cabbage white (<i>Pieris rapae</i>)	X	
Western white (<i>Pontia occidentalis</i>)	X	
Checkered white (<i>Pontia protodice</i>)	X	
Gossamer Wings (Lycaenidae)		
Apama hairstreak (<i>Callophrys apama</i>)	X	
Juniper hairstreak (<i>Callophrys grynea</i>)	X	
Hops blue (<i>Celastrina humulus</i>) (HC)	X	
Spring azure (<i>Celastrina ladon</i>)	X	
Western tailed blue (<i>Everes amyntula</i>)	X	
Silvery blue (<i>Glaucopsyche lygdamus</i>)	X	
Reakirt's blue (<i>Hemiargus isola</i>)	X	
Marine blue (<i>Leptotes marina</i>)	X	
Melissa blue (<i>Plebejus melissa</i>)	X	
Gray copper (<i>Lycaena dione</i>)	X	
Purplish copper (<i>Lycaena helloides</i>)	X	
Blue copper (<i>Lycaena heteronea</i>)	X	
Bronze copper (<i>Lycaena hyllus</i>)	X	
Ruddy copper (<i>Lycaena rubidus</i>)	X	
Acmon blue (<i>Plebejus acmon</i>)	X	
Boisduval's blue (<i>Plebejus icarioides</i>)	X	
Behr's hairstreak (<i>Satyrium behrii</i>)	X	
California hairstreak (<i>Satyrium californica</i>)	X	
Striped hairstreak (<i>Satyrium liparops</i>)	X	
Coral hairstreak (<i>Satyrium titus</i>)	X	
Gray hairstreak (<i>Strymon melinus</i>)	X	
Brushfoots (Nymphalidae)		
Gulf fritillary (<i>Agraulis vanillae</i>)	X	

Species	Foothills General (not site specific)	Pineridge
Goatweed emperor (<i>Anaea andria</i>)	X	
Hackberry emperor (<i>Asterocampa celtis</i>)	X	
Common wood nymph (<i>Cercyonis pegala</i>)	X	
Gorgone checkerspot (<i>Chlosyne gorgone</i>)	X	
Ringlet (<i>Coenonympha tullia</i>)	X	
Monarch (<i>Danaus plexippus</i>)	X	
Variiegated fritillary (<i>Euptoieta claudia</i>)	X	
Viceroy (<i>Limenitis archippus</i>)	X	
Weidemeyer's admiral (<i>Limenitis weidemeyerii</i>)	X	
Riding's satyr (<i>Neominois ridingsii</i>)	X	
Mourning cloak (<i>Nymphalis antiopa</i>)	X	
Milbert's tortoiseshell (<i>Nymphalis milberti</i>)	X	
Field crescent (<i>Phyciodes campestris</i>)	X	
Pearl crescent (<i>Phyciodes tharos</i>)	X	
Question mark (<i>Polygonia interrogationis</i>)	X	
Satyr anglewing (<i>Polygonia satryus</i>)	X	
Zephyr anglewing (<i>Polygonia gracilis zephyrus</i>)	X	
Aphrodite fritillary (<i>Speyeria aphrodite</i>)	X	
Coronis fritillary (<i>Speyeria coronis</i>)	X	
Edward's fritillary (<i>Speyeria edwardsii</i>)	X	
Regal fritillary (<i>Speyeria idalia</i>) (HC)	X	
Mormon fritillary (<i>Speyeria mormonia</i>)	X	
West Coast lady (<i>Vanessa annabella</i>)	X	
Red admiral (<i>Vanessa atalanta</i>)	X	
Painted lady (<i>Vanessa cardui</i>)	X	
American lady (<i>Vanessa virginiensis</i>)	X	
Skippers (Hesperiidae)		
Oslar's roadside-skipper (<i>Amblyscirtes oslari</i>)	X	

Species	Foothills General (not site specific)	Pineridge
Arogos skipper (<i>Atrytone arogos</i>) (HC)	X	
Delaware skipper (<i>Atrytone delaware</i>)	X	
Silver-spotted skipper (<i>Epargyreus clarus</i>)	X	
Afranius duskywing (<i>Erynnis afranius</i>)	X	
Martial duskywing (<i>Erynnis martialis</i>) (HC)	X	
Persius duskywing (<i>Erynnis persius</i>)	X	
Dun skipper (<i>Euphyes vestris</i>)	X	
Common brouded skipper (<i>Hesperia comma</i>)	X	
Juba skipper (<i>Hesperia juba</i>)	X	
Pawnee skipper (<i>Hesperia leonardus</i>)	X	
Nevada skipper (<i>Hesperia nevada</i>)	X	
Ottoo skipper (<i>Hesperia ottoe</i>) (HC)	X	
Pahaska skipper (<i>Hesperia pahaska</i>)	X	
Uncas skipper (<i>Hesperia uncas</i>)	X	
Green skipper (<i>Hesperia viridis</i>)	X	
Yucca giant-skipper (<i>Megathymus yuccae</i>)	X	
Garita skipperling (<i>Oarisma garita</i>)	X	
Common sootywing (<i>Pholisora catullus</i>)	X	
Russet kipperling (<i>Piruna pirus</i>)	X	
Golden skipper (<i>Poanes taxiles</i>)	X	
Peck's skipper (<i>Polites coras</i>)	X	
Long dash (<i>Polites mystic</i>)	X	
Crossline skipper (<i>Polites origines</i>) (HC)	X	
Rhesus skipper (<i>Polites rhesus</i>) (HC)	X	
Tawny-edged skipper (<i>Polites themistocles</i>)	X	
Common checkered-skipper (<i>Pyrgus communis</i>)	X	
Small checkered-skipper (<i>Pyrgus scriptura</i>)	X	
Ants, Wasps, Bees (Hymenoptera)		
<i>Orius</i> sp. ("Bee")		X

Species	Foothills General (not site specific)	Pineridge
Bumble bee (<i>Bombus huntii</i>)		X
Spider wasp (<i>Priocnessus apache</i>) U		X
Ponerine ant (<i>Proceratum pergandei</i>) U		X
Total invertebrate species	93	11

Plant Species Observed on Foothills Natural Areas

Sites: Reservoir Ridge Natural Area (RR), #04FH1 (AN) (“Andrijeski Property”), Maxwell Natural Area (MX), Pineridge Natural Area (PR), Coyote Ridge (CR).

Species: N = Native to the Fort Collins Growth Management Area (GMA); I = Introduced, not native to the Fort Collins GMA; FT = Federal Threatened; CR = Colorado Rare Plant (Colorado Natural Heritage Program); U = Uncommon Species in GMA.

Occurrence: X = recorded on site.

Source: Compiled from surveys by Lisa Schell (1996-97), Rick Shory (2001), Ellen Wheeling (1994-95), and Natural Areas Program staff (1990-2006). Not all sites have been intensively surveyed, therefore, some species may be present on a site and not yet be reflected in these tables. Nomenclature follows William A. Weber and Ronald C. Wittmann (1996: “Colorado Flora: Eastern Slope”).

TREES AND SHRUBS	Site				
	RR	AN	MX	PR	CR
Thinleaf alder (<i>Alnus incana tenuifolia</i>) N				X	
Saskatoon serviceberry (<i>Amelanchier alnifolia</i>) N	X		X	X	X
Indigobush amorphia (<i>Amorpha fruticosa</i>) N	X		X	X	X
Fringed sage (<i>Artemisia frigida</i>) N	X	X	X	X	X
Four-winged saltbush (<i>Atriplex canescens</i>) N		X	X		X
Western river birch (<i>Betula fontinalis</i>) N					X
New Jersey tea (<i>Ceanothus herbaceus</i>) N	X			X	
Sand cherry (<i>Cerasus pumila besseyi</i>) N			X	X	
True mountain mahogany (<i>Cercocarpus montanus</i>) N	X		X	X	X
Rubber rabbitbrush (<i>Chrysothamnus nauseosus</i>) N	X	X	X	X	X
Low rabbitbrush (<i>Chrysothamnus viscidiflorus</i>) N	X	X	X	X	X

TREES AND SHRUBS	Site				
	RR	AN	MX	PR	CR
Cerro hawthorn (<i>Crataegus erythropoda</i>) N				X	
Western hawthorn (<i>Crataegus macracantha</i> var. <i>occidentalis</i>) N				X	
Russian olive (<i>Elaeagnus angustifolia</i>) I	X	X	X	X	
Green ash (<i>Fraxinus pensylvanica</i>) I	X		X	X	
Broom snakeweed (<i>Gutierrezia sarothrae</i>) N	X	X	X	X	X
Common winterfat (<i>Krascheninnikovia lanata</i>) N	X			X	X
Common honeysuckle (<i>Lonicera tatarica</i>) I				X	
Inland boxelder (<i>Negundo aceroides</i> ssp. <i>interius</i>) N				X	
Boulder raspberry (<i>Oreobatus deliciosus</i>) N	X		X	X	X
Common chokecherry (<i>Padus virginiana melanocarpa</i>) N	X	X	X	X	X
Mountain ninebark (<i>Physocarpus monogynus</i>) N			X	X	
Common ninebark (<i>Physocarpus opulifolius</i>) N, U			X	X	
Blue spruce (<i>Picea pungens</i>) I		X			
Ponderosa pine (<i>Pinus ponderosa</i>) N	X	X	X	X	X
Lanceleaf cottonwood (<i>Populus x acuminata</i>) N	X	X	X	X	
Narrowleaf cottonwood (<i>Populus angustifolia</i>) N	X	X	X	X	X
Plains cottonwood (<i>Populus deltoides monilifera</i>) N	X	X	X	X	X
American plum (<i>Prunus americana</i>) N	X	X	X	X	X
Antelope bitterbrush (<i>Purshia tridentata</i>) N			X	X	X
Three-leaf sumac (<i>Rhus aromatica trilobata</i>) N	X	X	X	X	X
Golden currant (<i>Ribes aureum</i>) N	X		X	X	X
Wax currant (<i>Ribes cereum</i>) N	X		X	X	X
Arkansas rose (<i>Rosa arkansana</i>) N	X		X	X	X
Woods rose (<i>Rosa woodsii</i>) N	X	X	X	X	X
Rocky Mountain juniper (<i>Sabina scopulorum</i>) N	X	X	X	X	X
Peachleaf willow (<i>Salix amygdaloides</i>) N			X	X	
Coyote willow (<i>Salix exigua</i>) N	X	X	X	X	X
Crack willow (<i>Salix x rubens</i>) I				X	

TREES AND SHRUBS	Site				
	RR	AN	MX	PR	CR
Silver sagebrush (<i>Seriphidium canum</i>) N				X	X
Prince's plume (<i>Stanleya pinnata</i>) N				X	X
Red-osier dogwood (<i>Swida sericea</i>) N				X	
Common snowberry (<i>Symphoricarpos albus</i>) N	X	X	X	X	X
Mountain snowberry (<i>Symphoricarpos rotundifolius</i>) N				X	
Lilac (<i>Syringa vulgaris</i>) I				X	
Saltcedar (<i>Tamarix ramosissima</i>) I				X	
Western poison ivy (<i>Toxicodendron rydbergii</i>) N	X		X	X	X
Siberian elm (<i>Ulmus pumila</i>) I	X	X		X	
Small soapweed (<i>Yucca glauca</i>) N	X	X	X	X	X
Total tree/shrub species/site (N/I)	26/3	17/3	30/2	39/7	29/0

GRASSES AND GRASSLIKE PLANTS	Site				
	RR	AN	MX	PR	CR
Indian ricegrass (<i>Achnatherum hymenoides</i>) N	X	X	X	X	X
Western needlegrass (<i>Achnatherum nelsonii</i>) N	X	X	X	X	X
Sleepy grass (<i>Achnatherum robustum</i>) N				X	
Crested wheatgrass (<i>Agropyron desertorum</i>) I	X	X	X	X	X
Redtop (<i>Agrostis gigantea</i>) I		X			X
Rough bentgrass (<i>Agrostis scabra</i>) N		X		X	
Redtop bentgrass (<i>Agrostis stolonifera</i>) I				X	
Big bluestem (<i>Andropogon gerardii</i>) N	X		X	X	X
Cheatgrass brome (<i>Anisantha tectorum</i>) I	X	X	X	X	X
Purple threeawn (<i>Aristida purpurea</i>) N	X	X	X	X	X
Wild oat (<i>Avena fatua</i>) I				X	X
Sideoats grama (<i>Bouteloua curtipendula</i>) N	X	X	X	X	X
Rattle brome (<i>Bromus briziformis</i>) I				X	
Smooth brome (<i>Bromopsis inermis</i>) I	X	X	X	X	X

GRASSES AND GRASSLIKE PLANTS	Site				
	RR	AN	MX	PR	CR
Japanese brome (<i>Bromus japonicus</i>) I	X	X	X	X	X
Buffalograss (<i>Buchloe dactyloides</i>) N	X	X	X	X	X
Prairie sandreed (<i>Calamovilfa longifolia</i>) N				X	
Fescue sedge (<i>Carex brevior</i>) N	X		X	X	X
Nebraska sedge (<i>Carex nebrascensis</i>) N		X	X	X	
Sun sedge (<i>Carex pensylvanica heliophila</i>) N					X
Silver sedge (<i>Carex praeegracilis</i>) N			X	X	
Mat sandbur (<i>Cenchrus longispinus</i>) N	X		X	X	
Blue grama (<i>Chondrosum gracile</i>) N	X	X	X	X	X
Foxtail barley (<i>Critesion jubatum</i>) N	X	X	X	X	X
Jointed goatgrass (<i>Cylindropyrum cylindricum</i>) I				X	X
Orchardgrass (<i>Dactylis glomerata</i>) I		X	X	X	
Poverty oatgrass (<i>Danthonia spicata</i>) N				X	X
Scribner panicum (<i>Dichanthelium oligosanthes</i> var. <i>scribnerianum</i>) N	X		X	X	X
Inland saltgrass (<i>Distichlis stricta</i>) N		X		X	X
Needle spikeseed (<i>Eleocharis acicularis</i>) N	X		X	X	X
Common spikeseed (<i>Eleocharis palustris</i>) N	X		X	X	X
Canada wild rye (<i>Elymus canadensis</i>) N	X		X	X	X
Bottlebrush squirreltail (<i>Elymus elymoides</i>) N	X	X	X	X	X
Slender wheatgrass (<i>Elymus trachycaulus</i>) N			X	X	X
Stinkgrass (<i>Eragrostis cilianensis</i>) I				X	
Sand lovegrass (<i>Eragrostis trichodes</i>) I					X
Tall fescue (<i>Festuca arundinacea</i>) I				X	
Red fescue (<i>Festuca rubra</i>) I					X
Fowl mannagrass (<i>Glyceria striata</i>) N				X	
Needle-and-thread (<i>Hesperostipa comata</i>) N	X	X	X	X	X
New Mexico feathergrass (<i>Hesperostipa neomexicana</i>) N	X		X	X	X

GRASSES AND GRASSLIKE PLANTS	Site				
	RR	AN	MX	PR	CR
Baltic rush (<i>Juncus arcticus ater</i>) N		X	X	X	
Dudley rush (<i>Juncus dudleyi</i>) N		X			
Inland rush (<i>Juncus interior</i>) N			X	X	X
Longstyle rush (<i>Juncus longistylus</i>) N			X		X
Jointed rush (<i>Juncus nodosus</i>) N		X			X
Prairie junegrass (<i>Koeleria macrantha</i>) N	X		X	X	X
Great basin wild rye (<i>Leymus cinereus</i>) N				X	X
False buffalograss (<i>Monroa squarrosa</i>) N				X	
Alkali muhly (<i>Muhlenbergia asperifolia</i>) N	X	X	X	X	X
Spike muhly (<i>Muhlenbergia wrightii</i>) N					X
Green needlegrass (<i>Nassella viridula</i>) N			X	X	X
Common witchgrass (<i>Panicum capillare</i>) I				X	X
Switchgrass (<i>Panicum virgatum</i>) N	X		X	X	X
Western wheatgrass (<i>Pascopyrum smithii</i>) N	X	X	X	X	X
Reed canarygrass (<i>Phalaroides arundinacea</i>) I	X	X	X	X	X
Timothy (<i>Phleum pratense</i>) I		X		X	
Canada bluegrass (<i>Poa compressa</i>) N	X		X	X	X
Mutton bluegrass (<i>Poa fendleriana</i>) N	X		X	X	X
Alkali bluegrass (<i>Poa juncifolia</i>) N	X		X	X	X
Swamp bluegrass (<i>Poa palustris</i>) N	X		X	X	X
Kentucky bluegrass (<i>Poa pratensis</i>) I				X	X
Sandberg bluegrass (<i>Poa secunda</i>) N				X	X
Rabbitfoot polypogon (<i>Polypogon monspeliensis</i>) I				X	X
Beardless bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>) I	X		X	X	X
Tumble grass (<i>Schedonnardus paniculatus</i>) N			X	X	
Little bluestem (<i>Schizachyrium scoparium</i>) N	X		X	X	X
Hardstem bulrush (<i>Schoenoplectus lacustris acutus</i>) N					X
American bulrush (<i>Schoenoplectus pungens</i>) N		X		X	X

GRASSES AND GRASSLIKE PLANTS	Site				
	RR	AN	MX	PR	CR
Pale bulrush (<i>Scirpus pallidus</i>) N					X
Winter rye (<i>Secale cereale</i>) I					X
Prairie wedgescale (<i>Sphenopholis obtusata</i>) N					X
Tall dropseed (<i>Sporobolus asper</i>) N				X	
Sand dropseed (<i>Sporobolus cryptandrus</i>) N					X
Intermediate wheatgrass (<i>Thinopyrum intermedium</i>) I				X	X
Tall wheatgrass (<i>Thinopyrum ponticum</i>) I	X	X		X	X
Wheat (<i>Triticum aestivum</i>) I				X	X
Sixweeks fescue (<i>Vulpia octoflora</i>) N	X		X	X	X
Total grasses/grasslike plants/site (N/I)	27/7	18/9	35/7	45/20	42/18

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Western yarrow (<i>Achillea lanulosa</i>) N	X		X	X	
Diffuse knapweed (<i>Acosta diffusa</i>) I					X
Blue flax (<i>Adenolinum lewisii</i>) N	X	X	X	X	X
Snow-on-the-mountain euphorbia (<i>Agaloma marginata</i>) N			X	X	X
Textile onion (<i>Allium textile</i>) N	X		X	X	X
Pale alyssum (<i>Alyssum alyssoides</i>) I				X	
Alyssum (<i>Alyssum parviflorum</i>) I	X		X	X	
Western ragweed (<i>Ambrosia psilostachya coronopifolia</i>) N	X		X	X	X
Giant ragweed (<i>Ambrosia trifida</i>) I				X	
Wormleaf stonecrop (<i>Amerosedum lanceolatum</i>) N	X		X	X	X
Pygmy rock jasmine (<i>Androsace septentrionalis</i>) N					X
Rose pussytoes (<i>Antennaria rosea</i>) N	X		X	X	X
Purple broomrape (<i>Aphyllon fasciculatum</i>) N	X		X	X	X
Spreading dogbane (<i>Apocynum androsaemifolium</i>) N			X		
Prairie dogbane (<i>Apocynum sibiricum</i>) N	X		X		

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Hairy rockcress (<i>Arabis hirsuta</i>) N	X		X	X	X
Smaller burdock (<i>Arctium minus</i>) I			X	X	
Hedgehog pricklepoppy (<i>Argemone hispida</i>) N	X	X	X	X	X
Many-flowered pricklepoppy (<i>Argemone polyanthemos</i>) N			X	X	X
Orange arnica (<i>Arnica fulgens</i>) N	X				
Prairie sage (<i>Artemisia ludoviciana</i>) N	X	X	X	X	X
Swamp milkweed (<i>Asclepias incarnata</i>) N				X	X
Plains milkweed (<i>Asclepias pumila</i>) N	X	X	X	X	X
Showy milkweed (<i>Asclepias speciosa</i>) N	X	X	X	X	X
Green-flowered milkweed (<i>Asclepias viridiflora</i>) N			X	X	X
Porters aster (<i>Aster porteri</i>) N	X		X	X	X
Standing milkvetch (<i>Astragalus adsurgens robustior</i>) N				X	
Two-grooved locoweed (<i>Astragalus bisulcatus</i>) N	X		X	X	X
Groundplum milkvetch (<i>Astragalus crassicaarpus</i>) N	X		X	X	X
Drummond milkvetch (<i>Astragalus drummondii</i>) N					X
Missouri milkvetch (<i>Astragalus missouriensis</i>) N	X		X	X	X
Shorts milkvetch (<i>Astragalus shortianus</i>) N				X	X
Looseflower milkvetch (<i>Astragalus tenellus</i>) N					X
Rocky Mountain clematis (<i>Atragene occidentalis</i>) N				X	
Nodding beggarticks (<i>Bidens cernua</i>) N					X
Ironweed (<i>Bassia hyssopifolia</i>) I				X	
Belvedere summercypress or Kochia (<i>Bassia sieversiana</i>) I					X
Canada thistle (<i>Breea arvensis</i>) I	X	X	X	X	X
False prairie boneset (<i>Brickellia eupatorioides</i>) N			X	X	X
Tasselflower brickellbush (<i>Brickellia grandiflora</i>) N	X		X	X	
Gunnison mariposa lily (<i>Calochortus gunnisonii</i>) N	X		X	X	X
Evening primrose (<i>Calylophus serrulatus</i>) N	X				X
Harebell (<i>Campanula rotundifolia</i>) N	X		X	X	

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Hoary cress or Pepperweed whitetop (<i>Cardaria draba</i>) I	X			X	
Musk thistle (<i>Carduus nutans</i>) I			X	X	
Largeflowered Indian paintbrush (<i>Castilleja sessiliflora</i>) N	X		X	X	X
Starry cerastium (<i>Cerastium strictum</i>) N	X		X	X	X
Lambsquarters goosefoot (<i>Chenopodium album</i>) I				X	X
Blue mustard (<i>Chorispora tenella</i>) I	X		X	X	X
Common chicory (<i>Cichoryum intybus</i>) I	X				
Wavyleaf thistle (<i>Cirsium undulatum</i>) N	X	X	X	X	X
Bull thistle (<i>Cirsium vulgare</i>) I			X		
Lanceleaf springbeauty (<i>Claytonia lanceolata</i>) I			X	X	
Western virginsbower (<i>Clematis ligusticifolia</i>) N	X		X	X	X
Rocky Mountain beeplant (<i>Cleome serrulata</i>) N				X	X
Blue-eyed Mary (<i>Collinsia parviflora</i>) N				X	X
Slenderleaf collomia (<i>Collomia linearis</i>) N	X		X	X	X
Treacle hares ear (<i>Conringia orientalis</i>) I				X	
European bindweed (<i>Convolvulus arvensis</i>) I	X	X	X	X	X
Canadian horseweed (<i>Conyza canadensis</i>) I			X	X	
Douglas clematis (<i>Coriflora hirsutissima</i>) N					X
Golden corydalis (<i>Corydalis aurea</i>) N	X		X	X	X
Coryphantha (<i>Coryphantha missouriensis</i>) N			X		X
Ball cactus (<i>Coryphantha vivipara</i>) N				X	
Cryptantha (<i>Cryptantha minima</i>) N				X	
Common houndstongue (<i>Cynoglossum officinale</i>) I	X	X	X	X	X
Buttercup (<i>Cyrtohyncha ranunculina</i>) N				X	
Slender white prairie clover (<i>Dalea candida</i>) N	X		X	X	X
Purple prairie clover (<i>Dalea purpurea</i>) N	X		X	X	X
Plains larkspur (<i>Delphinium carolinianum virescens</i>) N	X		X	X	X
Geyer larkspur (<i>Delphinium geyeri</i>) N	X		X	X	X

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Nuttall larkspur (<i>Delphinium nuttallianum</i>) N	X		X	X	X
Flixweed tansymustard (<i>Descurainia sophia</i>) I				X	
Woods draba (<i>Draba nemorosa</i>) I				X	
Bigflower cinquefoil (<i>Drymocallis fissa</i>) N	X		X	X	X
Prairie dogweed (<i>Dyssodia papposa</i>) N			X	X	
Green pitaya echinocereus (<i>Echinocereus viridiflorus</i>) N	X		X	X	X
Sticky willowweed (<i>Epilobium ciliatum</i>) N			X	X	X
Spreading fleabane (<i>Erigeron divergens</i>) N	X		X	X	X
Trailing fleabane (<i>Erigeron flagellaris</i>) N			X	X	
Low fleabane (<i>Erigeron pumilus</i>) N				X	
Rush wild buckwheat (<i>Eriogonum effusum</i>) N	X			X	X
James eriogonum (<i>Eriogonum jamesii</i>) N				X	
Sulphur eriogonum (<i>Eriogonum umbellatum</i>) N	X	X	X	X	X
Crane's bill (<i>Erodium cicutarium</i>) I	X		X	X	X
Plains wallflower (<i>Erysimum asperum</i>) N	X		X	X	
Arizona evolvulus (<i>Evolvulus nuttallianus</i>) N			X	X	X
Bracted strawberry (<i>Fragaria vesca bracteata</i>) N				X	
Common perennial gaillardia (<i>Gaillardia aristata</i>) N	X		X	X	X
Catchweed bedstraw (<i>Galium aparine</i>) I	X		X	X	X
Scarlet gaura (<i>Gaura coccinea</i>) N	X		X	X	X
Smallflower gaura (<i>Gaura parviflora</i>) N	X				
Wild geranium (<i>Geranium caespitosum</i>) N	X		X	X	X
Showy vervain (<i>Glandularia bipinnatifida</i>) N			X		
American licorice (<i>Glycyrrhiza lepidota</i>) N		X	X	X	X
Curlycup gumweed (<i>Grindelia squarrosa</i>) N	X	X	X	X	X
Shore buttercup (<i>Halerpestus cymbalaria</i>) N					X
Halogeton (<i>Halogeton glomeratus</i>) I				X	X
Harbouria (<i>Harbouria trachypleura</i>) N	X			X	X

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Rough pennyroyal (<i>Hedeoma hispidum</i>) N				X	
Northern sweetvetch (<i>Hedysarum boreale</i>) N				X	
Common sunflower (<i>Helianthus annuus</i>) N				X	X
Prairie sunflower (<i>Helianthus petiolaris</i>) N				X	X
Sunflower (<i>Helianthus pumilus</i>) N		X	X	X	X
Hairy goldaster (<i>Heterotheca villosa</i>) N	X	X	X	X	X
Littleleaf alumroot (<i>Heuchera parvifolia</i>) N	X		X	X	X
Smooth horsetail (<i>Hippochaete laevigata</i>) N	X	X			
New mexican hop (<i>Humulus lupulus americanus</i>) N				X	
Green violet (<i>Hybanthus verticillatus</i>) N			X	X	X
Fineleaf hymenopappus (<i>Hymenopappus filifolius</i>) N			X	X	X
Spike gilia (<i>Ipomopsis spicata</i>) N			X	X	X
Bearded iris (<i>Iris germanica</i>) I	X			X	
Blue flag or Wild iris (<i>Iris missouriensis</i>) N				X	
Poverty sumpweed (<i>Iva axillaris</i>) N			X	X	
Prickly lettuce (<i>Lactuca serriola</i>) I	X		X	X	X
Chicory lettuce (<i>Lactuca tatarica pulchella</i>) N				X	X
Blueburr stickseed (<i>Lappula redowskii</i>) N				X	X
Clasping pepperweed (<i>Lepidium perfoliatum</i>) I				X	
Mountain bladderpod (<i>Lesquerella montana</i>) N				X	
Sand lily (<i>Leucocrinum montanum</i>) N	X		X	X	X
Dotted gayfeather (<i>Liatris punctata</i>) N	X	X	X	X	X
Oldfield toadflax (<i>Linaria canadensis texana</i>) N, U	X			X	X
Dalmation toadflax (<i>Linaria genistifolia dalmatica</i>) I	X		X	X	X
Eurasian blue flax (<i>Linum perenne</i>) I					X
Narrowleaf puccoon (<i>Lithospermum incisum</i>) N	X		X	X	X
Bigblue lobelia (<i>Lobelia siphilitica</i> var. <i>ludoviciana</i>) N		X			
Oriental lomatium (<i>Lomatium orientale</i>) N	X		X	X	X

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Silvery lupine (<i>Lupinus argenteus</i>) N			X		
American bugleweed (<i>Lycopus americanus</i>) N				X	
Rush skeletonplant (<i>Lygodesmia juncea</i>) N	X		X	X	X
Hoary aster (<i>Machaeranthera canescens</i>) N				X	
Ironplant goldenweed (<i>Machaeranthera pinnatifida</i>) N		X			
Common hoarhound (<i>Marrubium vulgare</i>) I			X	X	
Black medic (<i>Medicago lupulina</i>) I	X		X	X	
Alfalfa (<i>Medicago sativa</i>) I	X	X		X	X
White sweetclover (<i>Melilotus alba</i>) I	X	X	X	X	
Yellow sweetclover (<i>Melilotus officinalis</i>) I	X	X	X	X	X
Lanceleaf bluebells (<i>Mertensia lanceolata</i>) N	X		X	X	X
Nodding microseris (<i>Microseris nutans</i>) N	X		X	X	X
Pony beebalm (<i>Monarda pectinata</i>) N	X		X	X	X
Nuttall monolepis (<i>Monolepis nuttalliana</i>) N				X	
Leafy musineon (<i>Musineon divaricatum</i>) N	X		X	X	X
Field pepperweed (<i>Neolepia campestre</i>) I				X	
Catnip (<i>Nepeta cataria</i>) I				X	
Alps pennycress (<i>Noccaea montana</i>) N	X		X	X	
Cloakfern (<i>Nothocalais cuspidata</i>) N	X		X	X	X
Ten-petal mentzelia (<i>Nuttallia decapetala</i>) N				X	X
Bractless mentzelia (<i>Nuttallia nuda</i>) N				X	X
Mentzelia (<i>Nuttallia speciosa</i>) N, CR				X	
Yellow evening primrose (<i>Oenothera flava</i>) N	X			X	X
Evening primrose (<i>Oenothera howardii</i>) N				X	X
Yellow evening primrose (<i>Oenothera villosa</i>) N				X	
Stiff goldenrod (<i>Oligoneuron rigidum</i>) N			X		
Sand sagebrush (<i>Oligosporus filifolius</i>) N			X		
Sagewort wormwood (<i>Oligosporus pacificus</i>) N	X		X	X	X

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Tarragon (<i>Oligosporus dracunculus</i>) N					X
Western marbleseed (<i>Onosmodium molle occidentale</i>) N	X		X	X	X
Bigroot pricklypear (<i>Opuntia macrorhiza</i>) N				X	
Plains pricklypear (<i>Opuntia polyacantha</i>) N	X	X	X	X	X
Miner's candle (<i>Oreocarya virgata</i>) N	X			X	X
Foothill milkvetch (<i>Orophaca tridactylca</i>) N	X			X	X
Wood sorrel (<i>Oxalis dillenii</i>) N			X	X	X
Narrow-leaved umbrellawort (<i>Oxybaphus linearis</i>) N	X		X	X	X
Lambert crazyweed (<i>Oxytropus lambertii</i>) N	X		X	X	
Silky crazyweed (<i>Oxytropis sericea</i>) N	X		X	X	X
Fendler groundsel (<i>Packera fendleri</i>) N	X				
Prairie groundsel (<i>Packera plattensis</i>) N				X	
James nailwort (<i>Paronychia jamesii</i>) N	X			X	X
Sidebells penstemon (<i>Penstemon secundiflorus</i>) N				X	X
Blue mist penstemon (<i>Penstemon virens</i>) N	X		X	X	X
Swamp smartweed (<i>Persicaria coccinea</i>) N			X	X	
Varileaf phacelia (<i>Phacelia heterophylla</i>) N	X		X	X	X
Wedgeleaf fogfruit (<i>Phyla cuneifolia</i>) N	X		X	X	X
Groundcherry (<i>Physalis hederifolia comata</i>) N				X	
Virginia groundcherry (<i>Physalis virginiana</i>) N			X	X	X
Bell's twinpod (<i>Physaria bellii</i>) N, CR	X			X	X
Plains bahia (<i>Picradeniopsis oppositifolia</i>) N					X
Slender plantain (<i>Plantago elongata</i>) N				X	
Rippleseed plantain (<i>Plantago major</i>) I			X	X	X
English plantain (<i>Plantago lanceolata</i>) I		X			
Woolly plantain (<i>Plantago patagonica</i>) N			X	X	X
Prostrate knotweed (<i>Polygonum arenastrum</i>) I	X		X	X	X
Douglas knotweed (<i>Polygonum douglasii</i>) N			X	X	

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Fennel leaf pondweed (<i>Potamogeton pectinatus</i>) N				X	
Brook cinquefoil (<i>Potentilla rivalis</i>) N				X	
Cudweed (<i>Pseudognaphalium canescens</i>) I					X
Slimflower scurfpea (<i>Psoralidium tenuiflorum</i>) N	X		X	X	X
Wing eriogonum (<i>Pterogonum alatum</i>) N			X	X	X
American pasqueflower (<i>Pulsatilla patens multifida</i>) N	X		X		
Purpleflower groundcherry (<i>Quincula lobata</i>) N	X	X	X	X	X
Upright prairie coneflower (<i>Ratibida columnifera</i>) N	X	X	X	X	X
Spreading yellow watercress (<i>Rorippa sinuata</i>) N				X	
Curly dock (<i>Rumex crispus</i>) I	X	X	X	X	X
Tumbling Russian thistle (<i>Salsola australis</i>) I			X	X	X
Lanceleaf sage (<i>Salvia reflexa</i>) I				X	
Brittons skullcap (<i>Scutellaria brittonii</i>) N	X		X	X	X
Skullcap (<i>Scutellaria galericulata epilobiifolia</i>) N				X	
Lambstongue groundsel (<i>Senecio integerrimus</i>) N	X		X	X	X
Broom groundsel (<i>Senecio spartioides</i>) N					X
Sleepy catchfly (<i>Silene antirrhina</i>) N	X			X	
Tumble mustard (<i>Sisymbrium altissimum</i>) I	X		X	X	X
Common blue-eyed grass (<i>Sisyrinchium montanum</i>) N			X		
Buffalobur nightshade (<i>Solanum rostratum</i>) I	X		X	X	
Cutleaf nightshade (<i>Solanum triflorum</i>) I				X	
Canada goldenrod (<i>Solidago canadensis</i>) N			X	X	X
Missouri goldenrod (<i>Solidago missouriensis</i>) N	X	X	X	X	X
Goldenrod (<i>Solidago velutina</i>) N	X		X		X
Field sowthistle (<i>Sonchus arvensis</i>) I				X	
Scarlet globemallow (<i>Sphaeralcea coccinea</i>) N	X	X	X	X	X
Ute ladies'-tresses orchid (<i>Spiranthes diluvialis</i>) N, FT CR		X			
Common dandelion (<i>Taraxacum officinale</i>) I	X	X	X	X	X

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Stemless tetraeneuris (<i>Tetraeneuris acualis</i>) N					X
Purple meadowrue (<i>Thalictrum dasycarpum</i>) N				X	
Thelesperma (<i>Thelesperma megapotamicum</i>) N				X	X
Spreading golden banner (<i>Thermopsis divaricarpa</i>) N					X
Prairie golden banner (<i>Thermopsis rhombifolia</i>) N	X		X	X	X
Field pennycress (<i>Thlaspi arvense</i>) I				X	
Robust spurge (<i>Tithymalus brachyceras</i>) N			X	X	X
Spatulate spurge (<i>Tithymalus spathulatus</i>) N				X	
Leafy spurge (<i>Tithymalus uralensis</i>) I	X	X	X	X	X
Stemless townsendia (<i>Townsendia exscapa</i>) N	X		X	X	X
Townsendia (<i>Townsendia grandiflora</i>) N	X		X	X	X
Townsendia (<i>Townsendia hookeri</i>) N					X
Grassy deathcamas (<i>Toxicoscordion venenosum</i>) N	X		X	X	X
Prairie spiderwort (<i>Tradescantia occidentalis</i>) N	X	X	X	X	X
Tragia (<i>Tragia ramosa</i>) N	X		X	X	X
Western salsify (<i>Tragopogon dubius major</i>) I	X	X	X	X	X
Red clover (<i>Trifolium pratense</i>) I				X	
Venus looking glass (<i>Triodanis leptocarpa</i>) N, U CR	X		X		
Clasping venus looking glass (<i>Triodanis perfoliata</i>) N	X		X	X	X
Narrowleaf cattail (<i>Typha angustifolia</i>) N		X	X	X	X
Common cattail (<i>Typha latifolia</i>) N		X	X	X	X
Tall nettle (<i>Urtica gracilis</i>) N				X	
Cow soapwort (<i>Vaccaria pyramidata</i>) I				X	
Flannel mullein (<i>Verbascum thapsus</i>) I	X	X	X	X	X
Bigbract verbena (<i>Verbena bracteata</i>) I			X	X	X
Blue verbena (<i>Verbena hastata</i>) N				X	
Purslane speedwell (<i>Veronica peregrina xalapensis</i>) N				X	
American vetch (<i>Vicia americana</i>) N	X	X	X	X	X

WILDFLOWERS, VINES, AND OTHER FORBS	Site				
	RR	AN	MX	PR	CR
Periwinkle (<i>Vinca minor</i>) I	X				
Johnny jump-up (<i>Viola kitaibeliana rafinesquei</i>) I				X	
Nuttall violet (<i>Viola nuttalli</i>) N	X		X	X	X
Many-flowered aster (<i>Virgulus ericoides</i>) N			X		
White prairie aster (<i>Virgulus falcatus</i>) N			X	X	
Riverbank grape (<i>Vitis riparia</i>) N			X	X	
Oregon woodsia (<i>Woodsia oregana cathcartiana</i>) N				X	
Cocklebur (<i>Xanthium strumarium</i>) I			X	X	X
Golden crownbeard (<i>Ximensia encelioides</i>) I				X	
Total forb species/site (N/I)	70/ 25	25/ 12	115/ 30	157/ 51	126/ 27

Appendix C: Public Comments

Comments received at open houses and via the website:

General

Weed control is vitally important on an on-going basis.

Trail connections between Open Spaces controlled by different jurisdictions should be pursued and enhanced whenever possible.

A free place to go for a walk is an endangered species, and is a real public benefit. Thank you for keeping it a reality.

Improvements to existing locations/trailheads at Maxwell are very good and users should be encouraged overall to bike, ride, or walk to these areas primarily through trail connectivity.

Reservoir Ridge

Primrose Studio will be accessible – not sure more is needed at this site.

#04GH1 (Andrijeski)

Maxwell

Pineridge

Coyote Ridge

I don't think you need another vault toilet.

Accessible trail to ridge line is too expensive! Money is better used elsewhere.

Land Conservation and Stewardship Board Comments

(LCSB comments reflect board member's questions and comments, but not staff replies. For staff replies, refer to LCSB July 12, 2006 minutes.)

Legally are we supposed to provide wheel chair access just like businesses have to?

Anything about dogs at Pineridge?

What about the new social trails that are being created?

I like knowing exactly when I'm on a City natural area, because of the fence, and that's an aesthetic attribute that speaks to the natural area.

Having worked with people with different physical disabilities, I encourage you to concentrate on the sites that make the most sense. Put your efforts in just a couple of sites that are top notch.

The other thing would be specialty sites for special disabilities, in that one site may accommodate visual or hearing disabilities as opposed to mobility disabilities. Look for opportunities for the broad range.

Improving the quality of habitat for vegetation management, where will water quality, air quality, and wildlife soils get managed?

What sort of feedback have you received regarding sheep grazing? Is there any negative impact with the sheep?

Do you have a problem with foreign plant invasion from the sheep droppings.

On the ranger issues, are there any plans or thoughts or comments on having Ranger call stations anywhere along the trails for emergencies, injuries, violation, or if you're threatened. If you don't have a cell phone, and you don't happen to pick up the brochure at the front there is no where to call a Ranger. Where you have interpretive areas can you highlight the area where to call in case of an emergency?

On Foothill Trail management, are we compatible with other agencies managing the foothills? Are there issues regarding that? The feedback that I've been hearing is that there is inconsistency in the quality. I think it's a real asset for the community to have trails available for multi use. Regarding some of those social trail issues especially around Rotary Park and places like that, I don't want to stereotype the climbers, but it seems like different users may be creating different problems. We may need to manage through the education side with the community or student population.

There is real value in the view and the preservation of the ridge, and the ability to access them because they are so convenient.

Did you work up a long-range budget to accomplish all the goals that are in here?

If you find potential habitat, but you don't actually find the animal there, would you ever consider using any of the open space areas as a re-introduction site now that they are getting larger and connected, especially if the U.S. Fish and Wildlife Service requested that?

One of the species of wildlife that I enjoy seeing, and see less of in town as our infill plan is taking place, is foxes. I haven't heard foxes mentioned in any of the Natural Areas programs. It seems like the focus goes to the prairie dogs. Wildlife habitat and wildlife is far greater than a few prairie dogs that will populate if given a chance. Is that already incorporated in the plan, but not specifically named?

The primary goal of open space is to preserve open space, but we seem to have a very heavy emphasis on making open spaces for people to hike, for people to ride horses and for people to mountain bike on, to the exclusion of almost all other activities. I think too often we find ourselves focusing on eradicating weeds, making biking, hiking and horse riding trails and doing something with prairie dogs, and leaving everything else off to the side. I would like to see the river corridor opened up to other forms of enjoyment. I think it's a way for people who don't hike, bike or ride horses to get involved in the natural areas. I think we need to look at static enjoyment like picnic tables, and I know we are limited especially in the summer time because of natural shade. I'm not talking about putting in grills, just something that people can bring a picnic basket to and sit down and enjoy nature. I think this would work well with people who have difficulty accessing the regular trail system we have now. This is not something that we have to do at every open space, but I think it is something that should be considered.

On Reservoir Ridge, will the informational markers delve into the geology of the area?