Fossil Creek Natural Areas Management Plan

Site Management Plan for

Cathy Fromme Prairie Natural Area
Hidden Cattails Natural Area
Hazaleus Natural Area
Colina Mariposa Natural Area
Redtail Grove Natural Area
Two Creeks Natural Area
Prairie Dog Meadow Natural Area
Pelican Marsh Natural Area
Fossil Creek Wetlands Natural Area
Fossil Creek Reservoir Natural Area
Eagle View Natural Area

April 2005

City of Fort Collins

Fossil Creek Natural Areas Management Plan

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INTRODUCTION

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.

Fossil Creek Natural Areas

The Fossil Creek Natural Areas Management Plan covers the 11 Fort Collins natural areas within the Fossil Creek drainage:

Cathy Fromme Prairie Natural Area
Hidden Cattails Natural Area
Hazaleus Natural Area
Colina Mariposa Natural Area
Redtail Grove Natural Area
Two Creeks Natural Area
Prairie Dog Meadow Natural Area
Pelican Marsh Natural Area
Fossil Creek Wetlands Natural Area
Fossil Creek Reservoir Natural Area
Eagle View Natural Area

While the 469.5-acre Fossil Creek Reservoir Regional Open Space is in the Fossil Creek drainage, it is not included in this management plan. This site was acquired in 7 separate transactions in 2001 and 2003 for a total cost of $7,972,166 and is jointly owned by the City of Fort Collins and Larimer County and managed by Larimer County. Public improvements and education/interpretive features are funded 50/50 by City of Fort Collins and Larimer County. A separate management plan was prepared and adopted by City of Fort Collins and Larimer County in 2000. The site opened to the public October 23, 2004.

Goals

The following overarching goals are the foundation upon which management objectives for natural areas in the Fossil Creek drainage are established.

ℙrotect, enhance, re-establish, and maintain ecological characteristics of each site (e.g., shortgrass and mixed grass prairie, wetland, etc.).

ℙrovide appropriate recreational opportunities in a manner that minimizes wildlife disturbance and site fragmentation.

ℙrotect, enhance, and maintain habitat for wildlife typical to each site including birds, mammals, reptiles, amphibians, and insects, recognizing that, in the urban environment, human health and safety concerns create certain management constraints.

ℙrovide wildlife viewing opportunities.

ℙreserve scenic values.

ℙrovide the resources to help citizens understand the natural values of the sites.

Protect cultural, archaeological, and unique geological features.

Protect, to the extent possible, Fossil Creek's and Mail Creek's ability to maintain their natural characteristics, recognizing that certain unavoidable constraints exist in the urban area.

Provide education and assistance to help natural area neighbors resolve conflicts associated with the natural area/private property interface (e.g., prairie dogs moving from natural areas onto private property; inappropriate trails/entryways from private property onto natural areas, etc.).

Information Common to All Sites

Unless otherwise noted in specific site sections, the following information is common to all sites covered by this management plan.

Ownership: Owned by City of Fort Collins Natural Areas Program and managed according to the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department.

Enforcement: Patrolled by City of Fort Collins Natural Areas and Trails Rangers.

Regulations: Subject to natural areas regulations in Fort Collins City Code.

Focus area: The sites in this management plan are in the Local Focus Area.

Public Review

Citizens were invited to review the draft management plan and provide feedback to the City's Natural Areas Program through the following opportunities where they were provided site descriptions, maps, photos, site objectives, current site conditions, and proposed management strategies: Open Houses: November 10, 2004, 4 – 7 p.m., Downtown Library Ben Delatour Room; November 15, 2004, 4 – 7 p.m., Redeemer Lutheran Church, 7755 Greenstone Trail; February 24, 2005, 4 – 7 p.m., Redeemer Lutheran Church, 7755 Greenstone Trail (this was a final opportunity for public review of all public comments and any subsequent changes to the management plan); On-line:fcgov.com/naturalareas. Public comments can be found in Appendix D.

Adoption

The Fossil Creek Natural Areas Management Plan was administratively adopted by the Natural Resources Director in April 2005.

Fossil Creek Natural Areas Acquisition Summary

Natural Area	Date Acquired	Cost	Classification	Size
Cathy Fromme Prairie Natural Area	Nine transactions from 1993 through 2002	A total of $5,497,778. (this amount includes grants of $650,000, partner contributions of $422,397, and a donation of $292,500)	Sensitive.	1,088.25 acres
Hidden Cattails Natural Area	1994	Donation	Urban	3 acres
Hazaleus Natural Area	1999	$1,637,459	Restorative; after restoration, will be sensitive	168 acres
Colina Mariposa Natural Area	Three transactions in 1998 and 2000	$493,916 purchase; $1,500,000 donation brings total value to $1,993,916.	Sensitive	192.14 acres
Redtail Grove Natural Area	Two transactions: 1996 and 1999	38 acres purchased for $800,111; 5 acres donated	Sensitive	43 acres
Two Creeks Natural Area	1999	$136,155 purchase; $15,000 donation brings total value to $151,155.	Restorative; after restoration, will be sensitive	29.60 acres
Prairie Dog Meadow Natural Area	Three transactions from 1994 - 2003	$546,495 purchase; $150,000 donation brings total value to $696,495	Sensitive	83.74 acres
Pelican Marsh Natural Area	2002	$1,020,245	Restorative; after restoration, will be sensitive	155.63 acres
Fossil Creek Wetlands Natural Area	1995	$793,195	Sensitive	229 acres
Fossil Creek Reservoir Natural Area	22.91 acres purchased in 1998; A 5-year land and water surface rights lease acquired in 2001 with renewal options up to 19 years	$300,101 purchase; The 810-acre lease is approximately $45,000 annually.	Restorative; after restoration, will be sensitive	22.91 acres
Eagle View Natural Area	2002	$1,025,162	Restorative; after restoration, will be sensitive	90 acres

Classification

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 in order to incorporate public enjoyment, reasonable and prudent human safety, and ecological protection/enhancement. The document identifies three classifications of natural areas: sensitive, urban, and restorative, defining each classification as follows:

Sensitive
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.

Fossil Creek natural areas that are classified sensitive:
Cathy Fromme Prairie Natural Area
Colina Mariposa Natural Area
Redtail Grove Natural Area
Prairie Dog Meadow Natural Area
Fossil Creek Wetlands Natural Area

Urban
Sites that provide good wildlife habitat and areas for people to escape, even in a minor way, the developed environment, but do not have any particular sensitive plant or animal species or geological features that need special consideration when developing a site management plan. These sites are usually close to, and surrounded by, more developed areas of Fort Collins or have been more impacted by recreational, agricultural, or other human land uses than sensitive natural areas. Sites are often composed of greater amounts of exotic plants than sensitive areas are. These sites may be managed as multiple use areas, but a priority is placed on maintaining and enhancing the natural character of the site.

Fossil Creek natural areas that are classified urban:
Hidden Cattails Natural Area

Restorative
Sites currently undergoing restoration or sites that currently do not fit into above two categories, but are slated for restoration or enhancement in the future so that they will fall into the urban or sensitive category. The restorative category serves as an early planning tool and way to inform adjacent landowners of future intended site management (i.e., "natural area" – less maintenance than "greenway" or "parkland"). This is a temporary classification until the site is upgraded to another classification upon successful completion of restoration activities.

Fossil Creek natural areas that are classified restorative:
Hazaleus Natural Area
Two Creeks Natural Area
Pelican Marsh Natural Area
Fossil Creek Reservoir Natural Area
Eagle View Natural Area

Cathy Fromme Prairie Natural Area (CFP)

SITE SUMMARY

Size and Location: This 1,088.25-acre natural area is heavily populated by prairie dogs. Boundaries are irregular, with portions extending north to a line even with Harmony Road (before it swings north), south to Trilby Road, west ½ mile from Taft Hill Road, and east to Shields Street. The site is bounded at various points by residential development and the Larimer County Landfill. The site contributes to over four linear miles of natural area and open space along Taft Hill Road.

Costs: The site was purchased in nine separate transactions from 1993 through 2002 for a total of $5,497,778. Included in that amount were grants (GOCO) of $650,000, partner (Larimer County) contributions of $422,397, and a donation of $292,500.

Key Natural Features: Raptor habitat; rare plant (Bell's twinpod); native shortgrass prairie; prairie dog colony; burrowing owls; coyote dens.

Classification and Status: Sensitive. Open to the public - recreation is on-trail only.

MANAGEMENT OBJECTIVES FOR Cathy Fromme Prairie Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Cathy Fromme Prairie Natural Area.

Protect and preserve the extensive prairie dog colony, thereby providing food for raptors, including bald eagles and ferruginous hawks, and habitat for burrowing owls.

Protect, re-establish, and maintain native shortgrass and mixed grass prairie.

Provide wildlife viewing opportunities.

Preserve scenic values.

Maintain existing recreational trails for appropriate passive recreation.

Help students and visitors understand the prairie ecosystem, incorporating the interpretive objectives, which are that visitors should come away with

- an increased awareness of the rarity, vulnerability, values, and diversity of grasslands
- a sense of responsibility and stewardship toward this natural area resulting in conduct that avoids resource damage
- a sense of how fortunate we are to have a prairie in Fort Collins
- a sense of wonder and fascination from having seen the landscape in a new way
- a desire to seek out other learning opportunities about prairies
- an understanding of previous and ongoing research projects at this natural area

SITE CONDITIONS ON Cathy Fromme Prairie Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions (see complete plant and wildlife listings in Appendices B and C)

> Much of the site has been retained in native prairie condition over the past 100 years.
> Portions of 3 tributaries of Fossil Creek cross the site.
> 27 species of **native** trees and shrubs; 4 species of **non-native** trees and shrubs.
> 54 species of **native** grasses and grasslike plants; 21 **non-native** species.
> 150 species of **native** wildflowers, vines, and other forbs (including Bell's twinpod, a Colorado rare species); 54 species of **non-native** wildflowers, vines, and other forbs (including Canada thistle, dalmation toadflax, and diffuse knapweed, which are controlled using an Integrated Pest Management [IPM] approach including herbicide, hand pulling, mowing, and possibly biological control).
> 100 species of birds including bald eagle (state and federally threatened; winter raptor night roost on southeast part of site with up to 8 bald eagles), ferruginous hawk (Colorado species of concern), and burrowing owl (Colorado threatened species; nested on site).
> 17 species of mammals including black-tailed prairie dog (dominant to the site), coyotes and badgers (have denned on site), and mountain lions.
> 7 species of amphibians and reptiles including prairie rattlesnakes (abundant on the site).
> Native shrubs were planted at northeast boundary to help keep prairie dogs from going onto neighboring properties.
> Has been a receiving site for prairie dogs relocated from other sites.
> During plague outbreaks, prairie dog burrows along north boundary east of Taft Hill Road were dusted for fleas.
> Planted shrubs and cottonwoods for future predator cover and perches.
> Eagle Scouts installed raptor perch poles west of Taft Hill Road.
> Occasionally used by Rocky Mountain Raptor Program for release (by permit) of rehabilitated raptors.

Recreation, Interpretation, and Public Use Features on CFP

> Approximately 2 miles of paved trail (Fossil Creek Trail) plus paved trails from neighborhoods. Recreation is on-trail only.
> Wildlife observation facility with interpretive features.
> Interpretive features and benches along the trail. Interpretive theme: *The prairie is a diverse, harsh, complex, and highly endangered ecosystem, and its plants and animals possess special and fascinating adaptations that allow them to live there.*
> Kiosk, bulletin board, and brochure rack at Shields Street entrance.
> Parking lots on Shields Street and at west end of Fromme Prairie Way.
> Emergency call box at Shields parking lot.
> Vault toilet at Fromme Prairie Way parking lot.
> Pet clean-up bag containers at trailheads.
> Mini-kiosks (providing regulatory and trail directional information) at all trailheads and where trails enter the site.
> Low incidence of problems with dogs off leash.
> Wire fencing along The Ridge subdivision was replaced with boundary markers to manage trespassing.
> Popular site for educational and interpretive visits by classes and other groups.

Hazards and Diseases on CFP

> Rattlesnakes are prevalent on the site. They are especially active and aggressive in the spring. Trail users must be vigilant to watch for the snakes on, and in the grasses adjacent to, the trail.

> A mountain lion spent more time than usual in the area in 2004, with frequent sightings throughout the summer. Colorado Division of Wildlife (DOW) strongly advised that the lion be allowed to leave the area on its own, rather than through human intervention. In cooperation with DOW, signs were posted at trail heads advising visitors and neighbors of safety precautions. The animal did leave on its own by late summer. No human injuries were reported, but some pet fatalities were reported.

> Plague occurred on the site in 1997 and 1998. Larimer County Health Department requirements allow paved trails to remain open when plague is on the site, so trail closures were not required.

Cultural Features of Interest on CFP

> Remnants of Foothills Route of Overland Trail is evident on the northwest corner of the site.

Geologic Features of Interest on CFP

> Ammonite, a fossil from the middle to late Cretaceous period (70-80 millions years ago), was found on site.

Utility and Other Easements on CFP

> Larimer County Landfill: easement for monitoring wells to track effluent from the Landfill.

> Trilby Lateral Ditch Company: They burn the ditch annually (usually late April/early May) to keep water flowing and maintain throughout the year if necessary. Natural Areas Program owns 3 shares. Ditch was built in 1897.

> South Fort Collins Sanitary District: sewer easement for Harmony Ridge plus an older easement.

> Fort Collins-Loveland Water District: waterline easement along east side of Taft Hill Road.

> Legacy Land Trust: holds recorded Covenants, Conditions and Restrictions documents (CC&R) (equivalent to a conservation easement) associated with Great Outdoors Colorado grant on two portions of the site (Jensen and Stark/McGarvey). Any changes to these portions of the site must meet the requirements of the applicable CC&R.

Vandalism on CFP

> In the wildlife observation facility, fireworks have been set off causing damage; graffiti removal has been required five times; prairie dog audio box (interpretive feature) was vandalized requiring replacement.

> Signs and interpretive features have been vandalized requiring repair and graffiti removal.

> Vault toilet, parking lot fence, and gate have been vandalized requiring repair.

> In March 1998, approximately 1,000 square feet burned near the southeast corner of the property along Shields. Cause unknown, but suspected to have been started by kids. Poudre Fire Authority, and possibly Larimer County, were called out on this fire.

> In August 2001, approximately 15 acres burned. Cause unknown, but suspected to have been started by kids. Poudre Fire Authority, and possibly Larimer County, were called out on this fire.

Other CFP Information of Note: Until adoption of the Fossil Creek Natural Areas Management Plan, Cathy Fromme Prairie Natural Area was managed under a site-specific management plan written in 1995.

Research Conducted on Cathy Fromme Prairie Natural Area

Topic	Year(s)	Permit # (no permit = staff initiated research)
Prairie dog relocation study	'98-'99	
Remote sensing/aerial photography of prairie dog colonies	'94-'97	
Archaeological (historic and prehistoric) surface surveys	'95-'96	
Effect of black-footed ferret odors on prairie dogs	'96	
Winter raptor surveys	'90-'99	
Raptor winter roost survey	'95; '96	
Plant survey	'93-'95; '00	
Burrowing owl presence survey	'99	9926
GPS of physical features	'99	9927
Integrated management strategies for black-tailed prairie dogs	'00	9956
Imputs and outputs of carbon, nitrogen, and water	'00	0046
Prairie dog barrier/raptor use of artificial barriers	'01	0144
Bell's twinpod	'01; '02,	0163; 0221; 0221
Document use of prairie dog burrows by other species	'02	0204
Plants and arthropods	'02	0214
Plague	'02	0247
Prairie dog behavior	'02; '04	0254; 0402
Radionuclides	'02	0292
Prairie dog mapping	'03; '04	
Invasive plant seed dispersal	'03	0345
Vegetation	'03	0357
Prairie dog alarm call behavior	'04	0402

MANAGEMENT STRATEGIES FOR Cathy Fromme Prairie Natural Area

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;
. Invasive weeds;
. The long term absence of natural disturbances such as grazing or fire (which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species);
. Wildfire;
. Limited natural predators;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Loose pets;
. Contamination (from landfill, etc.), specifically, excessive litter and trash (e.g., materials falling from trucks going to the landfill and people leaving trash by the road to avoid landfill fees);
. Utility and other access easements;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);
. Overuse of the site or inappropriate use (e.g., off trail use)
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management for CFP

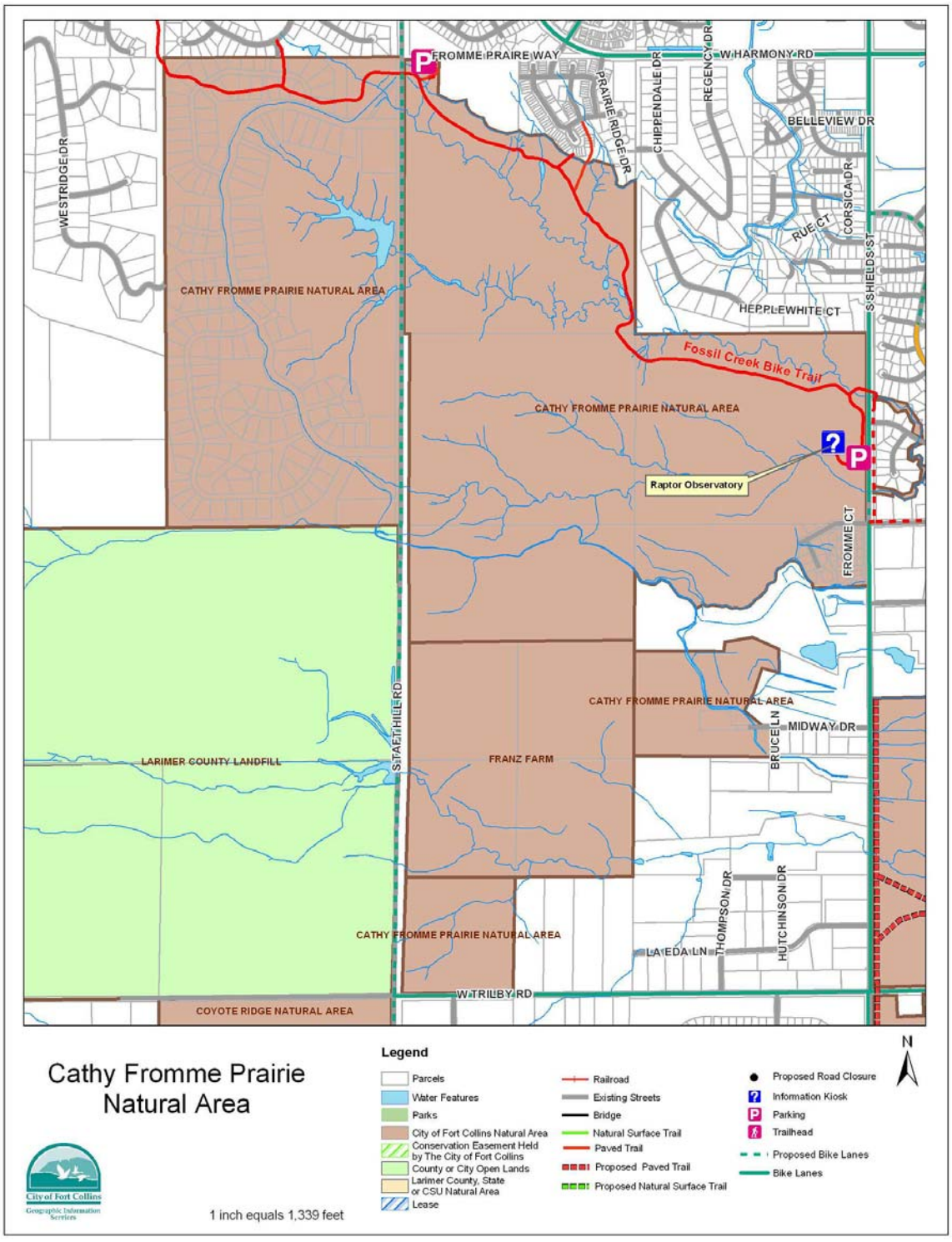
Action	Year
Use prescribed burns, grazing, and other tools as appropriate to mimic the natural disturbance needed to maintain a natural diversity of grasses, and reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any
Continue to comply with recorded Covenants, Conditions and Restrictions documents (CC&R) (equivalent to a conservation easement) associated with Great Outdoors Colorado grants on the Jensen and Stark/McGarvey portions of the site. Changes to these portions of the site must meet the requirements of the applicable CC&R. Changes in management plans for the site must be reviewed and approved by Legacy Land Trust (holder of the CC&Rs) and Great Outdoors Colorado.	All
Continue to allow release (through permit) of rehabilitated raptors from Rocky Mountain Raptor Program.	Any
Prairie dog mapping may be continued as conditions warrant.	Any
Prairie dogs may be relocated to this site, depending on conditions at the time. For example, if plague has decimated the prairie dog population on site, prairie dogs needing relocation (e.g., from prairie dog buffer areas on other sites) may be moved to Cathy Fromme Prairie Natural Area.	Any
Keep culverts under Taft Hill clear of debris to maintain water flow.	All
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All

Public Use Management and Other Site Changes on CFP

Action	Year
Mow vegetation along the trails.	All
Build and install kiosk at Fromme Prairie Way parking lot.	2005 - 2008

Action	Year
Evaluate research permit applications to keep disturbance by researchers to a minimum. Where appropriate, direct researchers to sites where disturbance can be better tolerated. This site is very popular for research. Managing the granting of research permits will help reduce negative impacts caused by high numbers of researchers walking (off-trail) on the site, disturbing wildlife, etc.	All
Approximately 7 acres purchased in 2002 (south side of site at west end of Midway Drive) will be sold in three parcels. One parcel has a house in good condition. This is in keeping with management's intent at the time this portion of the property was purchased.	2005
If/when the Larimer County Landfill reaches maximum capacity, it may be reclaimed and incorporated into the Cathy Fromme Prairie Natural Area. Current projections predict a landfill lifespan of at least another 15-20 years. As the landfill nears the end of its life-span, impacts of incorporating it into the natural area will need careful consideration. For example, the landfill will have to be capped and lined when it is decommissioned. Therefore, prairie dogs will have to be controlled at the landfill edges.	2020 or beyond
Maintain trails. The trail is part of the paved Fossil Creek Trail, and as such, under current management strategies, is maintained by the Parks Department.	All
Modify surface of parking lots if the current paver surface proves to be too difficult to maintain or to provide the desired accessibility.	Unknown
As required in Development Review, developer of Harmony Ridge 2nd filing will build a trail along the edge of Fromme Prairie Way and along the east edge of the parking lot to connect to the main trail. To accomplish this, developer will remove pavers along the edge of the parking lot.	2005 - 2008
To improve accessibility, pave entrance to vault toilet at Fromme Prairie Way (probably at the time the developer puts in the trail from Harmony Ridge 2nd).	2005 - 2008
Keep bulletin board features up-to-date and keep brochure racks stocked.	All
Install restroom at the Shields Street entrance.	2006

Fig. 1 Site Map – Cathy Fromme Prairie Natural Area



Hidden Cattails Natural Area (HCT)

SITE SUMMARY

Size and Location: A 3-acre natural area on the south side of Harmony Road midway between College Avenue and Shields Street.

Costs: Acquired in 1994 through donation.

Classification and Status: Urban. Site is open to the public.

MANAGEMENT OBJECTIVE

Improve and maintain natural conditions.

SITE CONDITIONS ON Hidden Cattails Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Natural Conditions on HCT (see complete plant and wildlife listings in Appendices B and C)

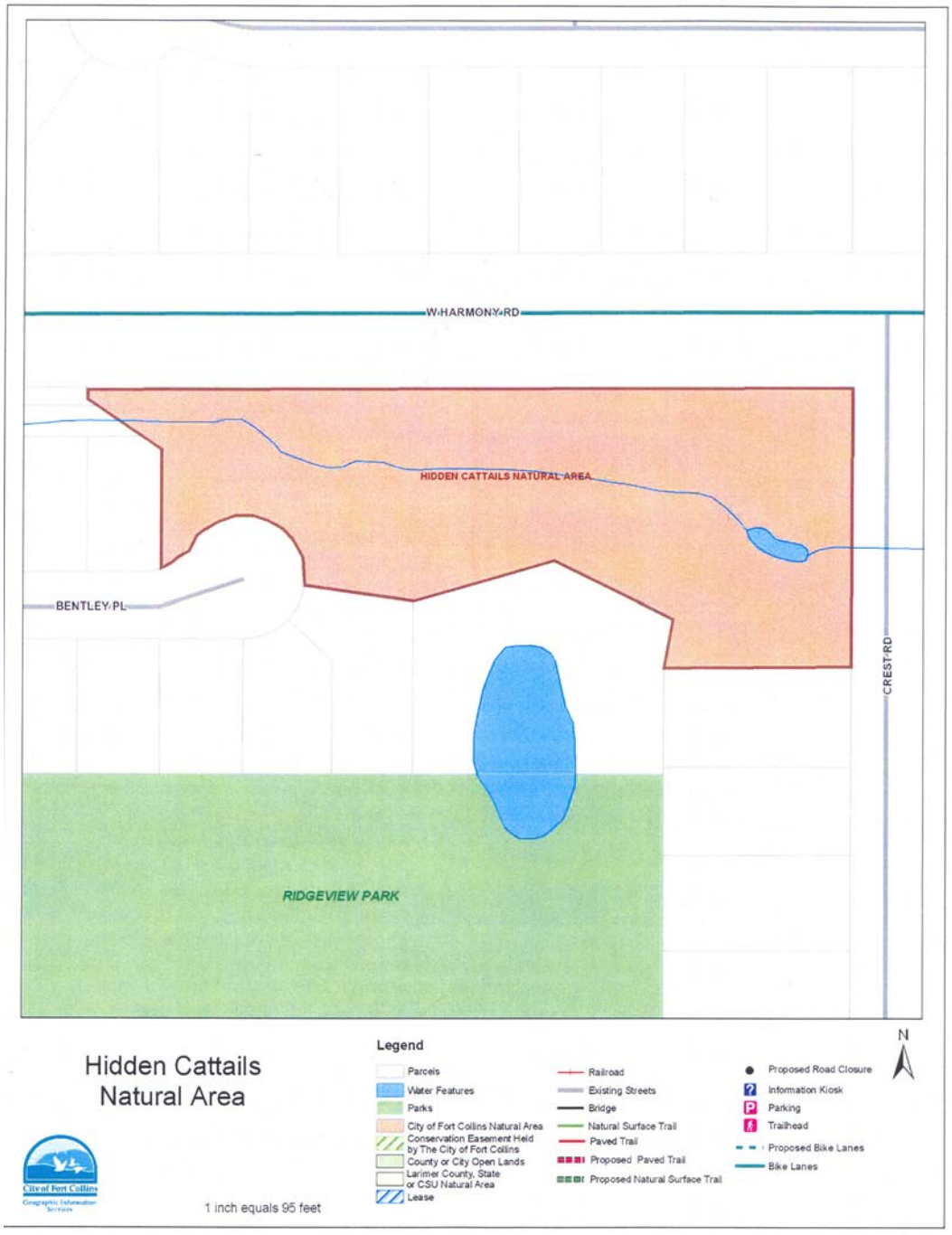
> Site has Mail Creek running through it and a small ponded area.
> 3 species of **native** trees and shrubs; 2 species of **non-native** trees and shrubs (Russian olive and Siberian elm, which have been removed and treated with herbicide to control resprouting).
> 4 species of **non-native** grasses and grasslike plants.
> 2 species of **native,** and 5 species of **non-native,** wildflowers, vines, and other forbs (including Canada thistle [controlled using IPM methods]).
> 24 species of birds; 2 species of mammals; 1 reptile species.
> Neighbors and students at McGraw Elementary have planted native shrubs and wildflowers.
> Removed concrete and planted grasses and trees.
> Removed t-posts from well and filled well.

Vandalism on HCT
> Illegal dumping resulted in need for clean-up and posting of "No dumping" sign.

PROPOSED MANAGEMENT STRATEGY FOR Hidden Cattails Natural Area

Action	Year
The homeowners association has requested to take over the site. Staff will process the recommended transfer of ownership through City Council for approval.	2005

Fig. 3 Site Map - Hidden Cattails Natural Area



Hazaleus Natural Area (HAZ)

SITE SUMMARY

Size and Location: A 168-acre natural area extending approximately ½ mile north from Trilby Road and east from Shields Street to the railroad tracks.

Costs: The site was purchased in 1999 for $1,637,459, which was a bargain sale on property with fair market value of $2,050,000.

Site Name and Family History: At the request of the Hazaleus family, and in recognition of the bargain sale, the site was named for the Hazaleus family. Melvin Hazaleus taught Animal Science at Colorado A&M (later Colorado State University), being designated "top professor" in 1960. Margaret Hazaleus was coordinator of student programs in the College of Home Economics at Colorado State University and later served as assistant dean of the College. She was responsible for founding the Colorado State University Women's Studies Program and served on the Governor's Commission on the Status of Women.

Classification and Status: Restorative; after restoration, will be classified sensitive. Site expected to open to the public by 2010.

MANAGEMENT OBJECTIVES FOR Hazaleus Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Hazaleus Natural Area.

Protect the raptor day roost and feeding areas.
Establish trees for the re-establishment of a Swainson's hawk nesting site.
Restore and protect native grassland to provide habitat for prairie dogs and burrowing owls.
Protect ground nesting songbirds and other prairie animal species.
Protect and enhance existing wetlands.
Protect coyote and fox dens.
Protect and enhance streams.
Establish a potential route for the paved Fort Collins/Loveland trail through the site to provide a pleasant and scenic trail experience.
Provide the public with an understanding of the values and sensitivities of this natural area as well as those of Colina Mariposa Natural Area to the south.

SITE CONDITIONS ON Hazaleus Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on HAZ (see complete plant and wildlife listings in Appendices B and C)

> 10 species of **native** trees and shrubs; 2 species of **non-native** trees and shrubs.
> 21 species of **native** grasses and grasslike plants; 15 **non-native** species.
> 37 species of **native** wildflowers, vines, and other forbs; 32 species of **non-native** wildflowers, vines, and other forbs including leafy spurge, diffuse knapweed, and Canada thistle which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.
> Site includes 14.4 acres of wetlands, some of which may be habitat for the threatened Ute ladies-tresses orchid (*Spiranthes diluvialis),* although none has been found on the site.
> Seeded native grasses and wildflowers on 40 acres of rocky pasture in the southwest corner of the site in 2001.
> 42 species of birds including bald eagle (state and federally threatened) and ferruginous hawk (Colorado species of concern). Swainson's hawk nested in the farmhouse trees in 2000, 2002, and 2003. Red-tailed hawks nested on the site In 2005.
> 6 species of mammals; coyotes and red foxes have denned on the site.
> 5 species of amphibians and reptiles including prairie rattlesnake.

Recreation, Interpretation, and Public Use Features on HAZ
> Buck-and-rail fence has been installed along Trilby and Shields.
> Farm buildings (6) have been removed from the site.

Hazards and Diseases on HAZ
> Plague occurred on the site in 1999.

Utility and Other Easements on HAZ
> 30' road right-of-way along south and west sides of site.
> Coal mining rights held by Denver Pacific Railway and Telegraph Company.
> Mountain States Telephone and Telegraph easement.
> Public Service Company easement.

Other HAZ Noteworthy Information
> The initial intent was to sell 40 acres to the Fort Collins Housing Authority. But because of wetlands and nesting/wintering raptors, City Council determined that the entire site be retained as natural area.

Research Conducted on Hazaleus Natural Area

Topic	Year
Winter raptor survey	'90-'99
Wetlands mapping	'00
Wetland delineation	'00
Plant survey	'00
Grazing report	'00
Prairie Dog mapping	'03

MANAGEMENT STRATEGIES FOR Hazleus Natural Area

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;
. The long term absence of natural disturbances such as grazing or fire, which absence can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Limited natural predators;
. Wildfire;
. Invasive weeds;
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);
. Trespassing when site is closed to the public;
. Overuse of the site or inappropriate use (e.g., off trail use);
. The possibility of trails into the interior of the site that would disrupt and/or fragment wildlife habitat;
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management for HAZ

Action	Year
In one (or more) of the drainages, establish trees for Swainson's hawk nesting. The trees in which the hawks were nesting near the house died after irrigation was discontinued.	2009
Monitor redtailed hawk nesting and protect nesting areas from disturbance.	All
Leave the dead trees the Swainson's hawk nested in. These snags are excellent raptor perch trees and habitat for other wildlife.	All
Restore natural ecological processes to sustain native vegetation. This may include prescribed burns, grazing, and other restoration tools. Also reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any
A cover crop may be planted as a weed control strategy until native vegetation is established.	Any
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All
Abandon and fill irrigation ditches after the ditches are no longer needed for restoration.	2012

Public Use Management and Other Site Changes on HAZ

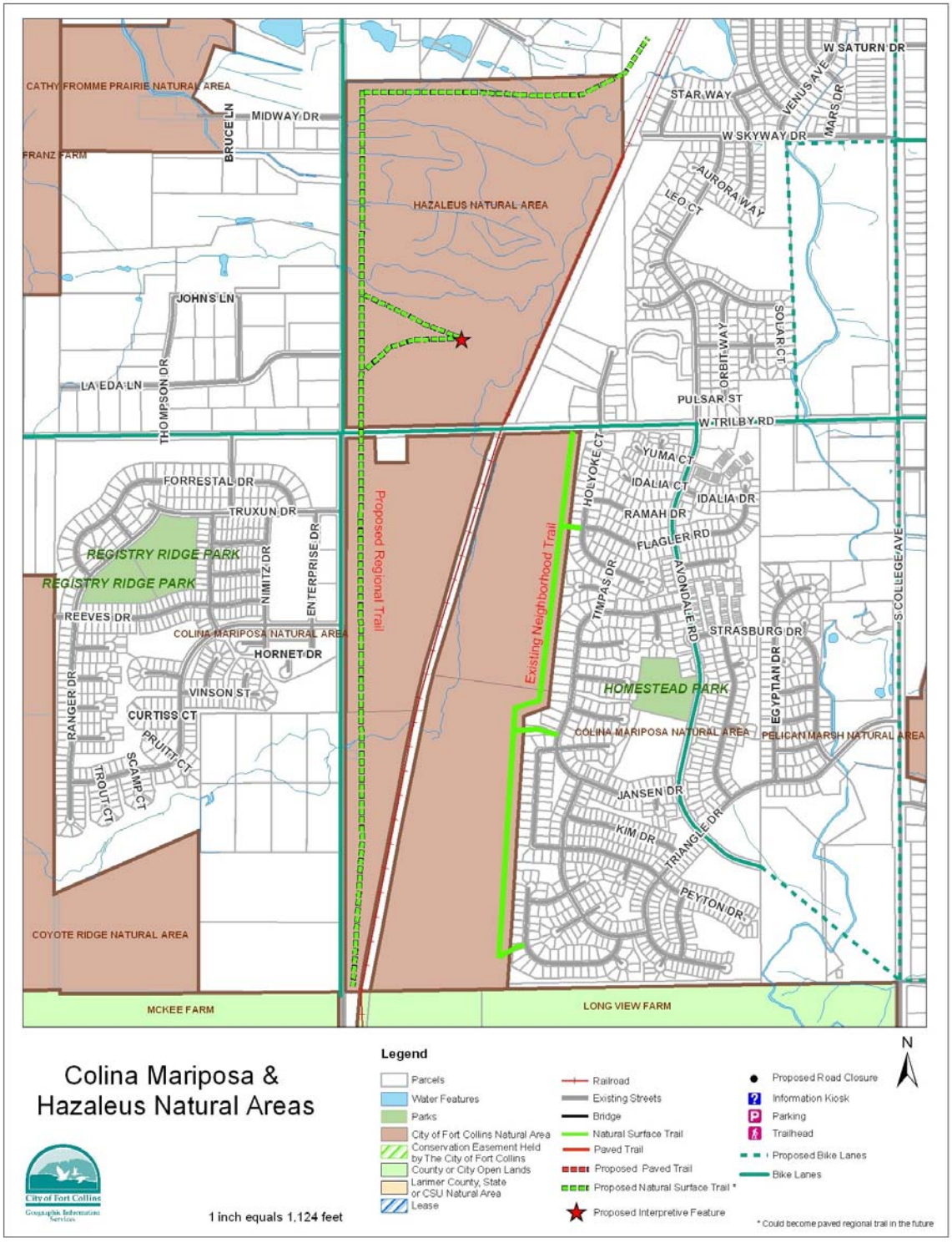
Action	Year
Commuter trail: There is a bike lane on Shields Street for commuters who want the fastest way to go between Fort Collins and Loveland	Existing
Recreational trail: For recreational riders who want to go between Fort Collins and	By 2010

Action	Year
Loveland in a relaxed fashion and be somewhat disconnected from traffic (this would include families riding with children), Parks Department anticipates building the Fort Collins/Loveland bike trail estimated to be parallel to Shields, approximately 50' - 100' inside the natural area. It is expected to initially be a natural surface trail.	
View trail: For those who want to rest, enjoy the views, and learn about this site and about Colina Mariposa Natural Area immediately to the south, a natural surface spur trail will be built from the Fort Collins/Loveland Trail east to an existing knoll midway into the site culminating at an interpretive kiosk with information not only about Hazaleus Natural Area, but also about the butterfly habitat on Colina Mariposa Natural Area.	By 2010
Fossil Creek connecting trail: There is the possibility of an east/west trail on the north end of the property to facilitate recreation and transportation by connecting to the Fossil Creek Trail if trail easements and topographic issues can be worked out.	Unknown
Trilby trail: Space will be provided for Parks or Transportation to build an east/west trail along the Trilby side of the site if they so choose.	Unknown
Install mini-kiosks (providing regulatory and trail directional information) at all points where trails enter the site.	By 2010
Install site sign, kiosk containing interpretive features, and benches after Fort Collins/ Loveland trail is built; keep brochure rack stocked. Possible interpretive topics: Native wildflowers; Swainson's hawk nest; site name. Also, the butterfly habitat at Colina Mariposa is a unique opportunity for interpretation, but with no good locations for inter-pretation on Colina Mariposa, there will be an interpretive feature on Hazaleus (with a view of Colina Mariposa) telling about the butterfly habitat on Colina Mariposa (and thus the name).	~2010
Evaluate research permit applications to keep disturbance by researchers to a minimum. It is important to protect the off-trail portions of this site from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
No parking lot is planned for this site, as it is not anticipated to be a vehicle destination site, but rather will be visited primarily by bicyclists and by pedestrians who will be walking to the site from nearby neighborhoods.	

Note: The recreational and view trails are positioned to

- Minimize trail disturbance to the interior of the site. It is recognized that the recreational trail would be more enjoyable if it was farther removed from traffic, but moving it into the interior of the site would cause significant disturbance to the site;
- Separate recreational cyclists from commuter cyclists;
- Provide an enjoyable stopping place for cyclists and pedestrians to rest, enjoy the natural area environment, and learn about the natural functions of this natural area and the natural area to the south.
- Avoid the need for a large chain-link fence, which would be required if the trail was placed near the railroad track. Such fence would not only be unsightly, but also would severely restrict wildlife movement.

Fig. 5 Site Map - Hazaleus Natural Area and Colina Mariposa Natural Area



Colina Mariposa Natural Area (CMN)

SITE SUMMARY

Size and Location: A 192.14-acre natural area extending south from Trilby Road to County Road 32 and approximately 1/3 mile east from Shields Street. Burlington Northern Railroad runs north/south through the site.

Costs: Acquired in three separate transactions in 1998 and 2000 for a total of $493,916. A donation of $1,500,000 brings the total value of the site to $1,993,916.

Key Natural Features: Native grassland; prairie dog colony; winter raptor use; high butterfly diversity on the ridge; abundance of fossils. Site name is Spanish for "butterfly hill."

Classification and Status: Sensitive. Site expected to open to the public by 2010.

MANAGEMENT OBJECTIVES FOR Colina Mariposa Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Colina Mariposa Natural Area.

Protect, re-establish, and maintain native shortgrass and mixed grass prairie, thereby providing habitat for prairie dogs and burrowing owls.
Maintain prairie dog colony.
Protect, re-establish, and maintain habitat for ground nesting songbirds and other prairie species.
Protect fossils, unique geological features, native plant communities, and butterfly habitat.
Establish a potential route for the paved Fort Collins/Loveland trail through the site to provide a pleasant and scenic trail experience.
Protect scenic values.

SITE CONDITIONS ON Colina Mariposa Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on CMN (see complete plant and wildlife listings in Appendices B and C)

> 12 species of **native** trees and shrubs; 2 species of **non-native** trees and shrubs.
> 19 species of **native** grasses and grasslike plants; 11 **non-native** species.
> 53 species of **native** wildflowers, vines, and other forbs; 22 species of **non-native** wildflowers, vines, and other forbs including Canada thistle, leafy spurge, diffuse knapweed, and kochia which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.

> 31 species of birds including bald eagle (state and federally threatened) and ferruginous hawk (Colorado species of concern).
> 3 species of mammals; coyotes have denned on the site.
> 5 species of amphibians and reptiles.

Recreation, Interpretation, and Public Use Features on CMN
> Perimeter barbed wire fencing has been replaced with buck-and-rail.
> Stormwater installed rain gauge (safety feature).
> A natural surface trail at the top of the hill provides a scenic hiking trail for the Ridgewood Hills neighboring properties to the east.

Hazards and Diseases on CMN
> Plague occurred on the site in 1999.

Utility Easements on CMN
> Poudre REA (along Trilby).

Vandalism on CMN
> Plants and rocks (including fossils) were removed for private landscaping. City installed "Do not remove rocks or plants" and "No Trespassing" signs to discourage further vandalism.

Research Conducted on *Colina Mariposa Natural Area*

Topic	Year	Permit # (no permit = staff initiated research)
Winter raptor survey	'90-'99	
Plant survey	'01-'03	
Prairie dog mapping	'03	
Measure inputs/outputs of carbon, nitrogen, and water	'00	0046
Invasive weed seed dispersal study	'00	0345

MANAGEMENT STRATEGIES FOR *Colina Mariposa Natural Area*

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;
. Limited natural predators;
. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Wildfire;
. Invasive weeds;
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;
. Overuse of the site or inappropriate use (e.g., off trail use);
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);

. The possibility of trails into the interior of the site that disrupt and/or fragment wildlife habitat;

. People trespassing onto the site;
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management on CMN

Action	Year
Fill old cellar and cover buried car with dirt or remove car.	2005
Use prescribed burns, grazing, and other tools as appropriate to mimic the natural disturbance needed to maintain a natural diversity of grasses, and reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	All
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All

Public Use Management and Other Site Changes on CMN

Action	Year
Evaluate research permit applications to keep disturbance by researchers to a minimum. It is important to protect the off-trail portions of this site from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
Neighborhood trail: Maintain soft-surface trail on the east side of the site for use by residents of the neighborhood. Even though some neighbors have objected to this trail because it impacts privacy of people whose backyards border the natural area, there is enough demand from the neighborhood for access to the natural area that the trail will continue in existence.	All
Recreational trail: Parks Department to build Fort Collins/Loveland bike trail. This is expected to initially be a natural surface trail paralleling Shields, about 50’ – 100’ inside the natural area.	By 2010
Trilby trail: Space will be provided for Parks or Transportation to build an east/west trail along the Trilby side of the site if they so choose.	Unknown
Install site sign.	~2010
There is no good location on this site for interpretative features. Therefore, an interpretive feature is planned for Hazaleus Natural Area (with a view of Colina Mariposa Natural Area) that will provide information about the butterfly habitat on Colina Mariposa Natural Area (and thus the site’s name).	~2010
Install mini-kiosks (providing regulatory and trail directional information) at all points where trails enter the site.	~2010

Redtail Grove Natural Area (RTG)

SITE SUMMARY

Size and Location: A 43-acre natural area on the west side of College Avenue about mid-way between Harmony and Trilby roads, the western boundary of which is the Burlington Northern Railroad tracks.

Costs: Acquired in two transactions: 38 acres in 1996 at a cost of $800,111; 5 acres donated in 1999.

Key Natural Features: Streams; native grassland on the hillside; unique fossil deposits; red-tailed hawk nesting sites.

Classification and Status: Sensitive. Site expected to open to the public in fall 2005.

MANAGEMENT OBJECTIVES FOR Redtail Grove Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Redtail Grove Natural Area.

Protect scenic values.
Protect, re-establish, and maintain native shortgrass and mixed grass prairie.
Protect nesting and feeding habitat for red-tailed hawks and other raptors.
Protect fossil bed areas and native plant communities.
Protect normal, changing characteristics of Fossil Creek and its tributary.
Establish a potential route for the paved Fossil Creek trail and the Mason Street connector trail through the site to provide a pleasant and scenic trail experience.
Help trail users learn about red-tailed hawks.

SITE CONDITIONS ON Redtail Grove Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on RTG (see complete plant and wildlife listings in Appendices B and C)

> 16 species of **native** trees and shrubs; 7 species of **non-native** trees and shrubs.
> 25 species of **native** grasses and grasslike plants; 15 **non-native** species.
> 60 species of **native** wildflowers, vines, and other forbs; 27 species of **non-native** wildflowers, vines, and other forbs including Canada thistle and diffuse knapweed, which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.
> 81 species of birds including bald eagle (state and federally threatened), red-tailed hawk (nested on the site 1990 – 2001 and appear to be nesting again in 2005), ferruginous hawk (Colorado species of

concern), northern saw-whet owl (unusual), yellow-bellied sapsucker (unusual), and northern cardinal (unusual).
> 7 species of mammals; red foxes have denned on the site.
> 2 species of amphibians and reptiles.
> 7 species of fish.

Recreation, Interpretation, and Public Use Features on RTG
> Stormwater installed flood gauge (safety element).
> Perimeter barbed wire fence has been replaced with buck-and-rail.

Geologic Features of Interest on RTG
> Fossils abundant on the site include clams (large ones are Inoceramus), ammonites (related to present-day chambered nautilis), sharks (teeth), large swimming reptiles (teeth from Mosasuaurs and Icthysaurs) in the Pierre Shale (Cretaceous Period – 70 – 80 million years ago).

Utility Easements on RTG
> Fort-Collins Loveland Water District water and sewer lines.

Vandalism on RTG
> Paint-ball activity required major clean-up.
> Graffitti on railroad tunnel required removal.
> Gate had to be replaced because of vandalism.
> "No Trespassing" signs were stolen and had to be replaced.

Research Conducted on RTG
> Fish sampling in 2002 (permit #0264).

MANAGEMENT STRATEGIES FOR Redtail Grove Natural Area

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Limited natural predators;
. Wildfire;
. Invasive weeds
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);
. Human activity within 1/3 mile of hawk nesting trees during breeding season (March 1 - July 15);
. Trails into the interior of the site that disrupt and/or fragment wildlife habitat;
. People trespassing when site is closed;
. Overuse of the site or inappropriate use (e.g., off trail use);
. The need to have stormwater management features designed to protect roadways, buildings, and trails, which often reduces the natural characteristics of waterways;
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

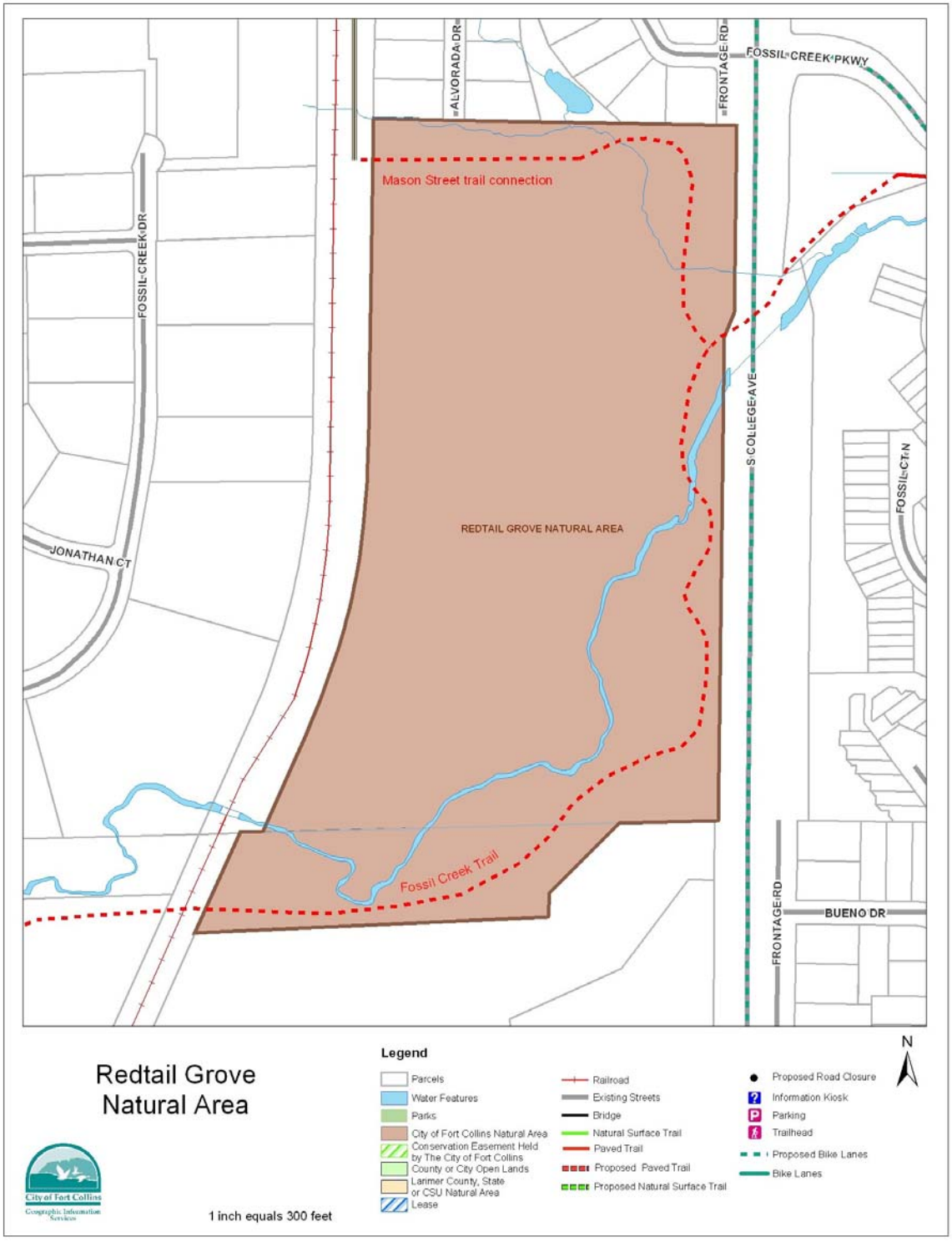
Resource Management on RTG

Action	Year
Restore natural ecological processes to sustain native vegetation. This may include prescribed burns, grazing, and other restoration tools. Also reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All
Remove the building foundation and surrounding concrete on the northeast corner of the site and fill hole with excess soil from trail construction or, depending on costs and efficiencies, bury it with the excess soil.	Fall 2005

Public Use Management and Other Site Changes on RTG

Action	Year
Evaluate research permit applications to keep disturbance by researchers to a minimum. It is important to protect the off-trail areas of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
Parks Department to build the Mason Street trail connection (see map for proposed location).	Fall 2005
Parks Department to build the Fossil Creek trail (see map for proposed location).	2006
Install site sign and mini-kiosks in conjunction with opening of trail.	Fall 2005
Install an interpretive feature along the trail. Topics: red-tailed hawks; fossils. Use appropriate interpretive techniques to provide information about fossils in a manner that reduces the likelihood of creating the temptation for their removal.	2005 or 2006

Fig. 7 Site Map - Redtail Grove Natural Area



Two Creeks Natural Area (TCN)

SITE SUMMARY

Size and Location: A 29.60-acre natural area adjacent to Fossil Creek Community Park in southeast Fort Collins.

Costs: Acquired in 1999 at a cost of $136,155 and a donation of $15,000 for a total value of $151,155.

Key Natural Features: Wildlife habitat; Fossil Creek and Mail Creek flow through the site and converge on the adjacent Fossil Creek Community Park.

Classification and Status: Restorative; after restoration, will be classified sensitive. Site is open to the public; recreation is on-trail only.

MANAGEMENT OBJECTIVES FOR Two Creeks Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Two Creeks Natural Area.

Protect, re-establish, and maintain upland and riparian habitats to increase wildlife species diversity.
Improve habitat value of site for salamanders and muskrats.
Improve habitat for two-spotted skipper (rare butterfly seen on the site).
Protect scenic values.
Help neighbors and visitors understand creek morphology and wildlife of the site.
Prevent re-establishment of prairie dog colony.
Protect fragile stream banks.

SITE CONDITIONS ON Two Creeks Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on TCN (see complete plant and wildlife listings in Appendices B and C)

> 7 species of **native** trees and shrubs; 3 species of **non-native** trees and shrubs: (Russian olive, saltcedar, and Siberian elm, which continue to be removed and treated with herbicide to control resprouting).
> 1 species of **native** grasses and grasslike plants; 5 **non-native** species.
> 4 species of **native** wildflowers, vines, and other forbs; 6 species of **non-native** wildflowers, vines, and other forbs, including European bindweed and Canada thistle (controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control).
> Vegetation is mowed along the street in compliance with Streets Department requirements.

> Portions of the upland were seeded with a cover crop (oats) in 2003 and 2004.
> Coyote willow shrubs and native grasses were planted on portions of the site in '04.
> The Fossil Creek banks were burned for weed control in 2004.
> 32 species of birds, including bald eagle (state and federally threatened) and ferruginous hawk (Colorado species of concern).
> 4 species of mammals.
> 1 reptile species.
> 7 species of fish.
> 1 rare butterfly species: the two-spotted skipper.
> Worked with neighbors to help keep prairie dogs from invading private property.
> Relocated prairie dogs to Meadow Springs Ranch and Maxwell Natural Area in preparation for site restoration.
> Site is monitored for need to control prairie dogs that re-invade the site.

Recreation, Interpretation, and Public Use Features on TCN
> Fossil Creek trail will go along a sidewalk along Fossil Creek Parkway (at the edge of a portion of this natural area), connecting to the current trail through Fossil Creek Community Park.
> Paved trail and footbridge were installed along Mail Creek in joint developer/City project.
> As part of development agreement, developer published a brochure about the natural area for nearby residents and installed two interpretive signs along Mail Creek (topics: differences between parks and natural areas, morphology of streams, and wildlife of the area).
> Western rail fencing has been installed along the southwest boundary for safety because of a steep drop-off that would be dangerous if people sledded from private property onto the natural area.
> In 2004, barrier fencing and signs were installed along the sidewalk south of Mail Creek to close a dangerous trail along the south bank.

Hazards and Diseases on TCN
> Steep creek banks.

Vandalism on TCN
> Tree forts were built on the site, requiring removal.

Research on TCN
> Winter raptor survey in 1990-1999.

MANAGEMENT STRATEGIES FOR Two Creeks Natural Area

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Limited natural predators;
. Wildfire;
. Invasive weeds;
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for,

or compliance with, appropriate management strategies);
. Off-trail recreational use;
. Recreational or educational activities in previously undisturbed wildlife areas;
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

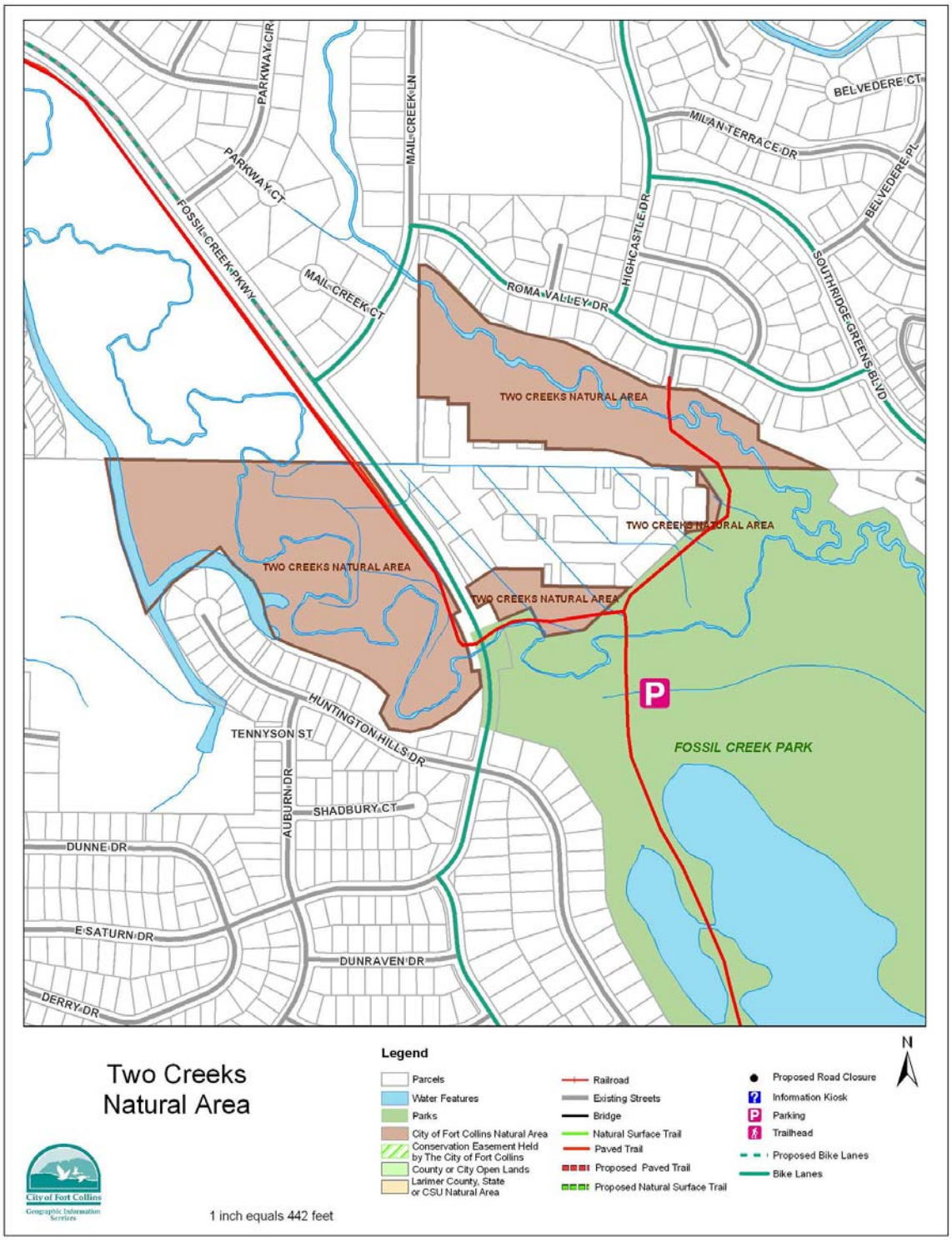
Resource Management on TCN

Action	Year
Stabilize creek banks with native plantings/seeding.	2005
Do small wildlife enhancement plantings.	2007
Continue to remove and control exotic shrubs including Russian olive, saltcedar, and Siberian elm.	Any
Relocate or fumigate prairie dogs that move onto the site.	Any
Continue to remove debris from the creek.	All
Conduct vegetation burning as needed for weed control and native grass establishment and reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any

Public Use Management and Other Site Changes on TCN

Action	Year
Enforce on-trail-only use of this site to protect site visitors and to keep recreational activities (including walking) from causing erosion of fragile stream banks. Other measures, such as additional fencing, may be needed if violation of the on-trail-only regulation cannot be controlled.	All
Develop interpretive features along Fossil Creek to help site visitors understand ecological aspects of this natural area. Interpretive topics will be selected from the following: creek morphology; swallows; salamanders; two-spotted skipper; fossils.	2006
Install site sign.	2005
Install mini-kiosks (providing regulatory and trail directional information) at all points where trails enter the site.	2005

Fig. 9 Site Map - Two Creeks Natural Area



Prairie Dog Meadow Natural Area (PDM)

SITE SUMMARY

Size and Location: An 83.74-acre natural area midway between College and Lemay approximately 1/8 mile north of Trilby Road. Residential development, the City of Fort Collins Transfort facility/ Poudre School District Bus Barn, and the Larimer County Humane Society abut the site.

Costs: Acquired in three transactions from 1994 - 2003: purchases totaling $546,495 plus a donation valued at $150,000 for a total value of $696,495.

Key Natural Features: Prairie dog colony; key area for raptors; grasslands and wetlands.

Classification and Status: Sensitive. Site is not expected to open to the public except for a small parking area and interpretive features at the end of Kyle Avenue, which may be installed in 2005/ 2006.

MANAGEMENT OBJECTIVES FOR Prairie Dog Meadow Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Prairie Dog Meadow Natural Area.

Protect the prairie dog colony.
Continue to work with adjacent neighbors to control the movement of prairie dogs onto neighboring properties.
Help visitors understand the wildlife of the site and the management strategies necessary to protect them.
Continue experimental vegetation restoration and management with prairie dogs on site.

SITE CONDITIONS ON Prairie Dog Meadow Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on PDM (see complete plant and wildlife listings in Appendices B and C)

> Headwaters of Stone Creek (a tributary of Fossil Creek).
> 19 species of **native** trees and shrubs; 5 species of **non-native** trees and shrubs.
> 23 species of **native** grasses and grasslike plants; 14 **non-native** species.
> 35 species of **native** wildflowers, vines, and other forbs; 35 species of **non-native** wildflowers, vines, and other forbs including Canada thistle, diffuse knapweed, and European bindweed which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.

> Seeded 1.25 acres adjacent to Brittany Knolls with native grasses.
> 70 species of birds including bald eagle (state and federally threatened), ferruginous hawk (Colorado species of concern), black-necked stilt (unusual), burrowing owl (unusual, Colorado threatened, and has nested on the site), and short-eared owl (unusual).
> 10 species of mammals.
> 2 species of amphibians and reptiles.
> Worked with private property owners and Poudre School District Bus Barn staff regarding prairie dog management.
> Installed vinyl prairie dog fence.
> Planted 7,575 native shrubs for barrier.
> Planted predator cover plantings.
> Installed artificial raptor perches.
> Relocated prairie dogs from barrier area to Pineridge.
> Planted tall grasses (cover crop) to deter prairie dog movement onto private property.

Recreation, Interpretation, and Public Use Features on PDM
> Installed buck-and-rail fencing across the end of Kyle Avenue to identify site boundary and avoid encroachment.

Vandalism on PDM
> Illegal vehicle access created the need to fence the west side of the site. Fences have been vandalized, requiring repairs.

Research Conducted on Prairie Dog Meadow Natural Area

Topic	Year	Permit # (no permit = staff initiated research)
Winter raptor survey	'90-'99	
Vegetation sampling and prairie dog research	'01	0131
Documenting use of prairie dog burrows by other species	'02	0204
Prairie dog mapping	'03	

MANAGEMENT STRATEGIES FOR Prairie Dog Meadow Natural Area

There are many potential threats to achieving management objectives. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;
. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Limited natural predators;
. Wildfire;
. Invasive weeds;
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);

. Overuse of the site or inappropriate use (e.g., off trail use, four-wheeling);

. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

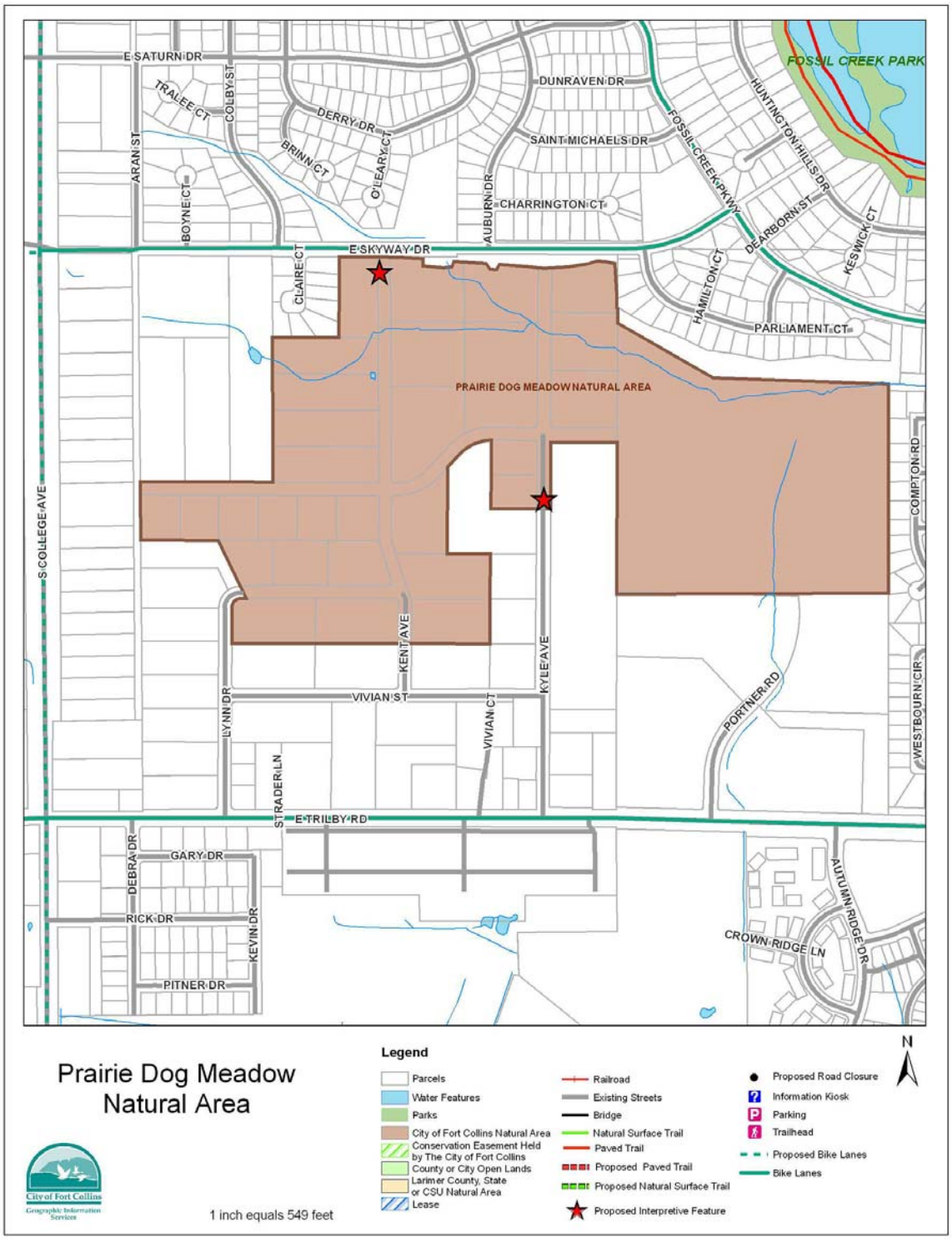
Resource Management on PDM

Action	Year
Use prescribed burns, grazing, and other tools as appropriate to mimic the natural disturbance needed to maintain a natural diversity of grasses.	Any
Reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any
Replace cover crop with native mixed (short-mid) grasses. As it is determined which natives will remain in the presence of prairie dogs, more and more natives are being planted.	Any
Continue to enhance natural predator habitat.	Any
Mow vegetation along the street to comply with Streets Department requirements.	All
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	Any
Remove logs, telephone poles, and other debris.	2005

Public Use Management and Other Site Changes on PDM

Action	Year
Evaluate research permit applications to keep disturbance by researchers to a minimum. It is important to protect the interior of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
Replace (old style) site sign west of the Humane Society parking lot.	2005
Install kiosk (with site identifier and interpretive sign) and bench at the end of Kyle Avenue - interpretive topic: prairie dogs (“Living Next to Prairie Dog Colonies”). Also explore options (on the interpretive sign or in a publication) for providing education about appropriate interaction with wildlife (particularly “rescuing” wildlife babies that probably have not been abandoned by their parents).	2005 or 2006
At an appropriate place along the sidewalk on Skyway, install an interpretive sign to provide information about the ecology of this site.	2005 or 2006
Install a site sign on the Skyway side of the site.	2005
Be aware that the Larimer Humane Society (an adjacent neighbor of the site) is considering expanding, possibly before 2010. Expansion will not occur on the natural area. However, their expansion decisions could present opportunities for the natural area (e.g., additional land acquisition).	All

Fig. 11 Site Map - Prairie Dog Meadow Natural Area



Pelican Marsh Natural Area (PMN)

SITE SUMMARY

Size and Location: A 155.63-acre natural area east of College Avenue between Trilby and Carpenter roads. The site surrounds Robert Benson Reservoir and extends east to Lemay Avenue in an irregular configuration.

Costs: Acquired in 2002 for $1,020,245.

Key Natural Features: Robert Benson Reservoir; high use by American white pelicans.

Classification and Status: Restorative; after restoration, will be sensitive. Site is expected to open in 2006 or 2007 in conjunction with opening of the adjacent neighborhood park.

MANAGEMENT OBJECTIVES FOR Pelican Marsh Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Pelican Marsh Natural Area.

Protect scenic values.
Protect, enhance, and maintain habitat for high diversity of wetland birds.
Protect and maintain habitat for prairie dogs and burrowing owls on a portion of the site.
Protect coyote and fox dens.
Establish potential trail routes through the site to provide a pleasant and scenic trail experience.
Help students, neighbors, and other visitors understand the natural values of the site.

SITE CONDITIONS ON Pelican Marsh Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on PMN (see complete plant and wildlife listings in Appendices B and C)

> 15 species of **native** trees and shrubs; 3 species of **non-native** trees and shrubs: Russian olive, saltcedar, and Siberian elm, all of which continue to be removed and treated with herbicide to control resprouting.
> 9 species of **native** grasses and grasslike plants; 5 **non-native** species.
> 7 species of **native** wildflowers, vines, and other forbs; 7 species of **non-native** wildflowers, vines, and other forbs including Canada thistle and European bindweed which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.
> High reservoir water levels in 2004 helped to reduce Russian olive on the site.
> Planted cover crop in 2004.

> Removed Russian olive, Siberian elm, and cottonwoods growing on and near the dam.
> Planted 2,150 shrubs for prairie dog barrier.
> 59 species of birds including bald eagle (state and federally threatened), Swainson's hawk (nested on the site; nest has been inactive since 2000), ferruginous hawk (Colorado species of concern), burrowing owl (unusual, Colorado threatened, and has nested on the site), and short-eared owl (unusual).
> 7 species of mammals; coyotes have denned on the site.
> 3 species of amphibians and reptiles.
> Relocated prairie dogs to Meadow Springs Ranch before starting revegetation.
> Controlled prairie dogs that reinvaded the site (fumigation).
> Worked with neighbors in Victoria Estates to control movement of prairie dogs onto their properties. Installed vinyl barrier (removed in 2002) and shrub barrier.

Recreation, Interpretation, and Public Use Features on PMN
> Repaired Benson Lake Dam in 2003.
> On-going monitoring of a small crack on the northeast side of the dam.

Hazards and Diseases on PMN
> Plague affected prairie dogs on the site in 1999.

Utility and Other Easements on PMN
> Stormwater drainage channel and drop structures in drainage easement and detention pond easements that serve Provincetown HOA.
> Irrigation ditch easement.

Vandalism on PMN
> Illegal vehicle access led to installation of fencing near southeast corner of the site.
> Large tree house was built on the site, requiring removal.

Research Conducted on Pelican Marsh Natural Area

Topic	Year
Winter raptor survey	'90-'99
Prairie dog mapping	'03

MANAGEMENT STRATEGIES FOR Pelican Marsh Natural Area

There are many potential threats to achieving management objectives. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;
. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Limited natural predators;
. Wildfire;
. Invasive weeds;
. Water storage issues;
. Flooding risks on neighboring properties;
. State and federal dam restrictions/ requirements;
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;

. Need for alternative transportation between Provincetown and neighborhoods south of Carpenter Road;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);
. People trespassing while site is closed to the public;
. Overuse of the site or inappropriate use (e.g., off trail use);
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management on PMN

Action	Year
Monitor the native grassland restoration project, reseed if needed.	On-going
Allow prairie dogs to move back into a portion of the site, thus improving habitat for burrowing owls and raptors. This will be a small, managed colony. Boundary containment (including fumigation) may be required. If a small population cannot be successfully maintained, prairie dogs may permanently be removed from the site.	All
Continue to mow vegetation along streets to comply with Streets Department regulations.	All
Reduce weed infestations using IPM methods (mowing, herbicide, hand pulling, burning, and possibly biological control).	Any
Use prescribed burns, grazing, and other tools as appropriate to mimic the natural disturbance needed to maintain a natural diversity of grasses.	Any
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	Any
Consult with appropriate departments (e.g., Utilities) in determining reservoir option/ design.	2005
Meet State requirements for safety of Benson dam. Complete design, with additional public input as indicated below	2005
Construct new dam or wetland habitat	2006

Note: Impacts and variations of the dam or wetland decision are complicated, but a brief summary of each is as follows:

Option 1. Remove Dam – Summary of Impacts (Remaining ditch rights either are, or soon will be, abandoned, making this option possible.)
Creates a more natural wetland with reduced open water habitat
Reservoir is removed from jurisdictional status
Meets site objectives by preserving valuable wetland habitat
Least expensive of options
Maintains a lake area (albeit much smaller than the current lake)
Lake would be very shallow, would probably not support boating
Depending on design, fishing could be supported
Downstream flooding risks could occur (and must be investigated in the decision-making process)
An Army Corps of Engineers 404 permit will be needed
It is difficult to re-create the intricacies of a natural ecosystem

Option 2. Reconstruct Dam – Summary of Impacts
Possible loss of valuable wetlands
Most expensive of options
Would maintain current, or similar, water storage
Requires certain fill operations
Could require significant improvements to the dam, outlet works, and emergency spillway
An Army Corps of Engineers 404 permit may be needed
Could maintain a useable reservoir area and depth
Could support non-motorized boating, fishing
Portions of the downstream reservoir impoundment could be converted to a wetland ecosystem
Depending on design, could either remove dam from jurisdictional status, or cause it to remain in jurisdictional status (with potentially expensive on-going requirements). Homes being built near the dam increases risk factors in the event of dam failure and thus could cause dam classification, and therefore requirements, to be raised
Depending on design, could be aesthetically unappealing because of large earthen dike
A dike would likely create a temptation for sledding, an inappropriate activity on this site

Public comment on this aspect of management for Pelican Marsh Natural Area was extensive. There is extreme concern among neighbors regarding this management aspect. The State engineer requires that the dam either be rebuilt to safe standards or put out of service. Good management practice dictates that all options be fully explored before taking action on a project of this magnitude. A Feasibility Study for Robert Benson Reservoir was done in June 1996 by Parsons & Associates, Inc., and a follow-up evaluation of that study was done in February 1997 by Lidstone & Anderson, Inc. This study and follow-up provided a lot of valuable information, but many questions remain unanswered.

As was stated in Planning and Zoning hearings in 1996, the reason the Natural Areas Program was interested in acquiring this site was to enhance the wetlands and habitat value. That remains the Natural Areas Program's goal for this site. The existing habitat is working well. The 1996 study suggests that habitat value will be even better if a more wetland type configuration is created (which was stated at 1996 Planning and Zoning Board hearings as the likely recommendation).

There is no intent to eliminate open water, but rather, the amount of open water could be reduced in a configuration that would increase wetland and edge type habitat, which the enhancement plan advises will provide more habitat not only for wildlife (such as white pelicans) to use as a stopover site, but also as a nesting site.

A consultant is being hired to provide additional information about both strategies. This information will be gathered, and a decision reached, in 2005, with construction (of whichever decision is reached) in 2006.

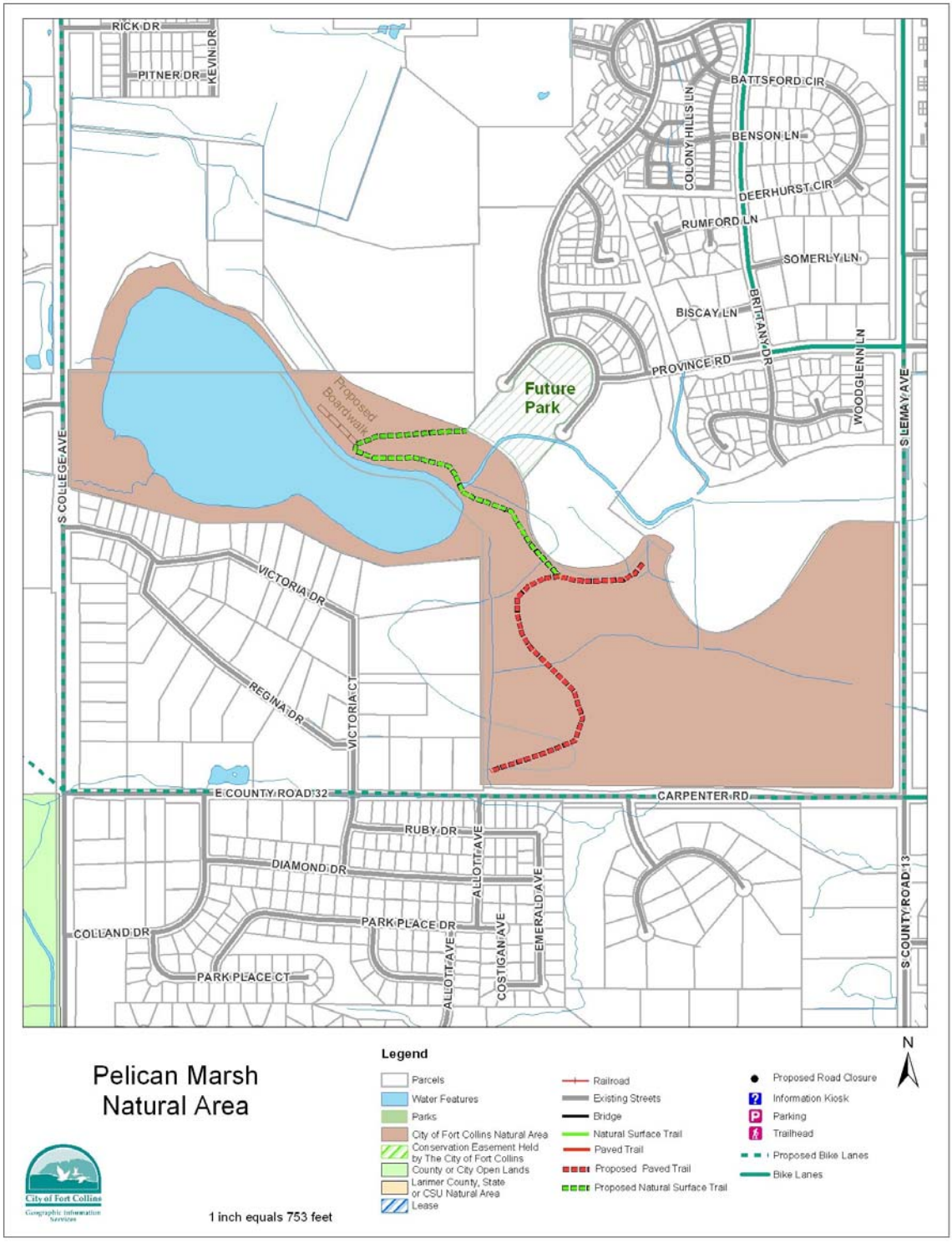
Public comments reflected the fact that many residents fear that anything other than a dam and the existing lake will eliminate habitat for the wildlife they are currently enjoying. This is definitely not the intent, but rather, the intent is to maintain and enhance habitat for current wildlife, making it even more useful for those wildlife, and possibly create habitat that will attract additional wildlife.

The additional information that is gathered will be made available to residents, and there will be additional opportunities for public comment before a decision is made.

Public Use Management and Other Site Changes on PMN

Action	Year
Install site sign(s).	2006
Evaluate research permit applications to keep disturbance by researchers to a minimum. Off-trail areas of this natural area must be protected from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
Soft trails: Construct soft trail connections from the neighborhood park and from the neighborhood open space to the natural area (configurations and locations will depend on whether the dam is removed or reconstructed; see map for possible locations).	2006
Boardwalk: Construct a boardwalk at the east end of the reservoir (near the trees) if Stormwater regulations allow, otherwise, construct it along the north side of the reservoir west of where the trail comes up from the park (this second scenario is more likely to be implemented). The boardwalk will allow educational groups access to the wetland area.	2006
Transportation trail: Investigate the construction (by the developer) of a paved trail from Carpenter Road providing a transportation connection across the natural area between Provincetowne and neighborhoods and schools south of Carpenter Road. This trail is only feasible if a pedestrian light can be installed at Carpenter Road and/or if the trail connects to a sidewalk along Carpenter Road. Otherwise, it would be extremely unsafe to take trail users to Carpenter Road. The need for the trail, and the possibility of installing the pedestrian light, will continue to be evaluated. If the need is exhibited, and the light can be installed, the trail will be built in the approximate configuration shown on the map. The point at which the trail meets and crosses Carpenter Road may change if needed for safety. The expected crossing would be at Victoria Ct., but this will require a sidewalk along Carpenter from the trailhead to the Carpenter Road crossing location.	Unknown
Victoria Estates connector trail: Construct connecting trail to Victoria Estates if residents want it and if they provide the connecting location on the neighborhood side in a location appropriate for entrance onto the natural area.	Unknown
Install pet clean-up bag holder(s).	2006
Install fencing around perimeter to prevent illegal vehicle access.	2005/ 2006
Install benches in locations conducive to wildlife watching and enjoyment of scenic views.	2006
Install interpretive features along trail(s). Possible topics from which to choose: pelicans; reservoirs; coyotes; burrowing owls; views/orientation	2006
Plan for anticipated high education (Master Naturalist) use by nearby schools in Loveland as well as in south Fort Collins.	All
Install mini-kiosks (providing regulatory and trail directional information) where trails enter the site.	2006

Fig. 13 Site Map - Pelican Marsh Natural Area



Fossil Creek Wetlands Natural Area (FCW)

SITE SUMMARY

Size and Location: A 229-acre natural area extending from Trilby Road to Carpenter Road. Most of the site is between the Union Pacific Railroad tracks and Timberline Road; a small portion is west of the railroad tracks.

Costs: Acquired in three transactions in 1995 for a total of $793,195.

Key Natural Features: Waterfowl and waterbird migratory stopover habitat; raptor area; prairie dog colony; grassland birds; habitat for coyotes, foxes.

Classification and Status: Sensitive. Site is expected to open to the public in late 2008 or later - when this portion of the Fossil Creek Trail is constructed.

MANAGEMENT OBJECTIVES FOR Fossil Creek Wetlands Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for this natural area.

Protect scenic values.
Protect, enhance, and maintain habitat for shorebirds, waterfowl, raptors, and grassland birds.
Establish a potential route for the paved Fossil Creek trail through the site to provide a pleasant and scenic trail experience.
Help visitors learn about some of the birds that use this site and understand the importance of this site in the context of watershed conservation.
Protect the prairie dog colony and fox and coyote dens.

SITE CONDITIONS ON Fossil Creek Wetlands Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on FCW (see complete plant and wildlife listings in Appendices B and C)

> 17 species of **native** trees and shrubs; 3 species of **non-native** trees and shrubs (Russian olive, saltcedar, and Siberian elm - will continue to remove and control resprouting with herbicide).
> 23 species of **native** grasses and grasslike plants; 14 **non-native** species.
> 60 species of **native** wildflowers, vines, and other forbs, many of which are found at no other (or only one other) natural area along Fossil Creek; 37 species of **non-native** wildflowers, vines, and other forbs including Canada thistle, musk thistle, leafy spurge, kochia, and hoary cress, all of which

will continue to be controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.
> Mowed behind Stanton Creek homes in 2003 to decrease fire danger (at request of a homeowner).
> A willow and cattail transplanting project occurred in 1998.
> In 2001, National Audubon Society designated the site part of the Fossil Creek "Important Bird Area."
> 147 species of birds including bald eagle (state and federally threatened) and ferruginous hawk (Colorado species of concern). 23 species seen on the site are unusual to Fort Collins.
> 11 species of mammals; coyote, red fox, and badger have denned on the site.
> 7 species of amphibians and reptiles.
> 3 species of fish.
> Prairie dogs were relocated for sewer line installation in 1998-1999.
> Planted vegetative prairie dog barrier.
> Installed predator poles; planted predator shrub clumps and planted cottonwoods around predator poles to serve as future raptor perches.
> Installed bat boxes on cottonwoods.
> Worked with neighbors from Greenstone and Paragon Estates regarding prairie dogs moving onto private property.
> A portion of Fossil Creek was restored to a more natural configuration as a part of wetland mitigation for Timberline Road improvements.
> Concrete and riprap were removed/covered in 2005.

Recreation, Interpretation, and Public Use Features on FCW
> Stormwater installed flood gauge (safety feature) west of the railroad track.
> Perimeter is fenced with buck-and-rail.
> Site sign was installed in 2004

Utility and Other Easements on FCW
> South Fort Collins Sanitary District: 0.55 acres + 1.1 acres for temporary construction easement near north boundary east of RR track (1999).
> Fort Collins Loveland Water District: Taft Hill Road waterline.

Vandalism on FCW
> Illegal dumping of trash created the need for the City to do major clean-up.

Research Conducted on Fossil Creek Wetlands Natural Area

Topic	Year	Permit # (No permit = staff initiated research)
Winter raptor survey	'90-'99	
Prairie dog population genetics study	'00	0044
Inputs/outputs of carbon, nitrogen, and water	'00	0046
Prairie dog barriers and raptor use of artificial barriers	'01	0144
Prairie dog mapping	'03	
Soil sampling	'03	0306
Topographic survey for engineering purposes	'03	0321
Invasive weed seed dispersal	'03	0345

MANAGEMENT STRATEGIES FOR Fossil Creek Wetlands Natural Area

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;

. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;

. Limited natural predators;

. Wildfire;

. Invasive weeds;

. Loose pets;

. Diseases carried by wildlife or insects to humans;

. Larvicide and insecticide applications, primarily mosquito control;

. Utility and other access easements;

. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);

. People trespassing when site is closed to the public;

. Overuse of the site or inappropriate use (e.g., off trail use);

. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management on FCW

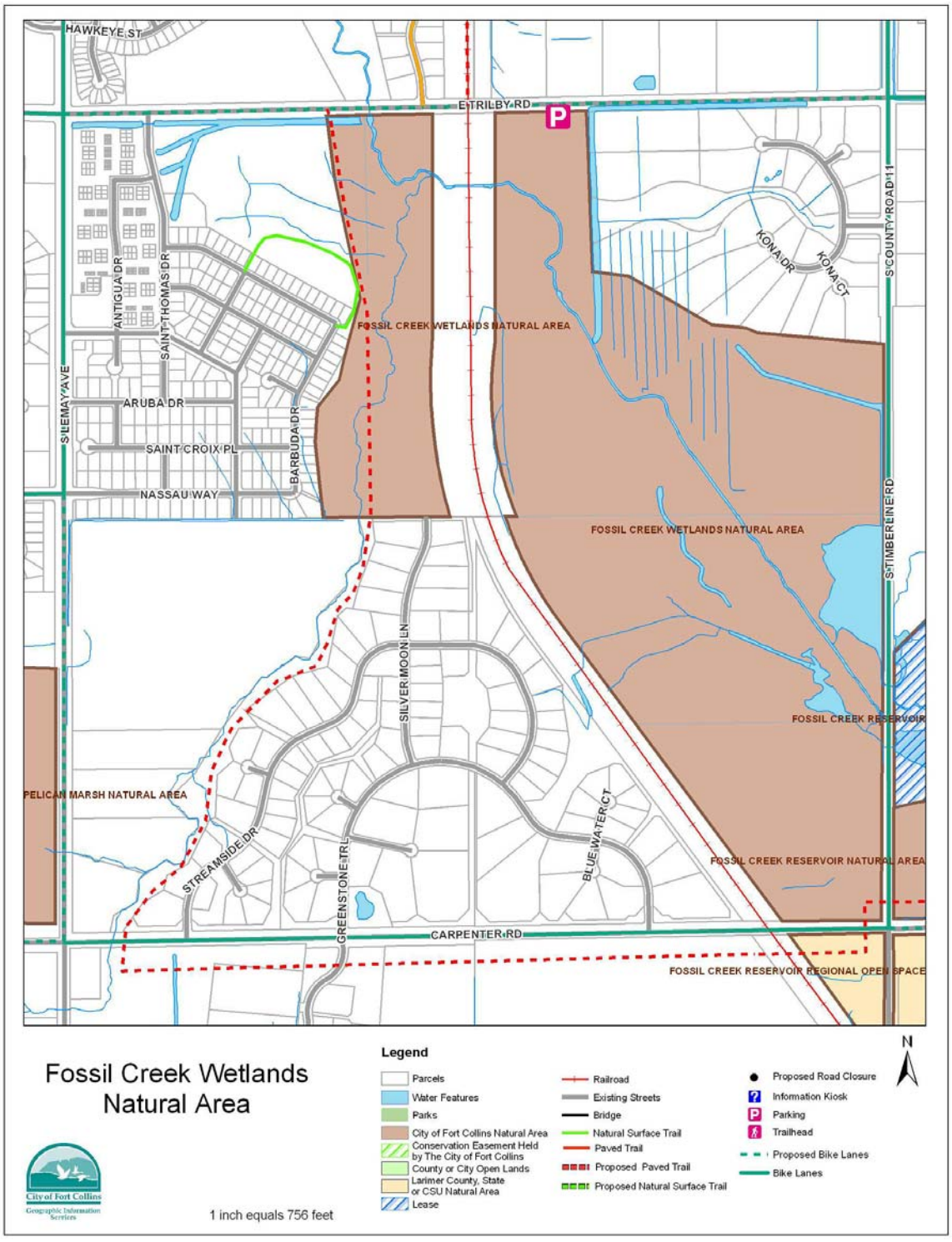
Action	Year
Reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	All
Remove old erosion control fencing and other debris.	2005
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All

Public Use Management and Other Site Changes on FCW

Action	Year
Maintain and enhance parking/pull-off area on Trilby east of the railroad track and add an ADA accessible shelter.	2006 or beyond
Install bike pull-out and bench at Carpenter/Timberline when Fossil Creek trail is built.	2008 or later
Main Trail: Parks Department to build Fossil Creek Trail (see map for conceptual location). Some neighbors are concerned that trail location will impact their privacy and conflict with coyote dens that were in place in 2004-2005. The initial proposed alignment, while representative of the ultimate alignment, and considered best for wildlife, given the topography of the site, is conceptual. It is anticipated that the trail will remain as close to the west side of the natural area as practical to protect habitat interior to the site. The	2008 or later

Action	Year
alignment will be finalized prior to construction to consider such factors as existing wild-life habitat at the time of final alignment.	
Neighborhood trail: Mow short connector trail to Stanton Creek. This is provided at the request of the neighborhood and will be paved as part of the Fossil Creek Trail project.	Through 2008
Evaluate research permit applications to keep disturbance by researchers to a minimum. It is important to protect the off-trail portions of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
Install interpretive features; possible topics: #1 conserving a watershed (at proposed bike pull-out near Carpenter/Timberline intersection); #2 avocets (at Trilby parking pull-out).	2008 (#1) 2007 (#2)
Install mini-kiosks (providing regulatory and trail directional information) where trails enter the site.	Various

Fig. 15 - Site Map - Fossil Creek Wetlands Natural Area



Fossil Creek Reservoir Natural Area (FCR)

SITE SUMMARY

Size and Location: A 22.91-acre natural area at the northeast corner of Carpenter and Timberline roads and an 810-acre Fossil Creek Reservoir land and water surface rights lease. The 5-year lease, acquired in 2001, has renewal options up to 19 years. The lease is for recreational rights on reservoir, shoreline, and associated wetlands owned by North Poudre Irrigation Company.

Costs: The 22.91 acres were purchased in 1998 for $300,101. The lease is approximately $45,000 annually.

Key Natural Features: Habitat for herons, raptors, waterbirds; shoreline; open water; connectivity to surrounding natural areas and open space

Classification and Status: Restorative; after restoration, will be classified sensitive. Site is expected to open to the public in 2008 or later – when this portion of the Fossil Creek Trail is constructed.

MANAGEMENT OBJECTIVES FOR Fossil Creek Reservoir Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Fossil Creek Reservoir Natural Area.

Protect scenic values.
Protect, enhance, and maintain habitat for shorebirds, waterfowl, raptors, and grassland birds.
Help visitors understand Fossil Creek's natural functions and the importance of wetlands.

SITE CONDITIONS ON Fossil Creek Reservoir Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Natural Conditions on FCR (see complete plant and wildlife listings in Appendices B and C)

> 9 species of **native** trees and shrubs; 3 species of **non-native** trees and shrubs including Russian olive and saltcedar which have been removed and treated to control resprouting.
> 5 species of **native** grasses and grasslike plants; 4 **non-native** species.
> 12 species of **native** wildflowers, vines, and other forbs; 13 species of **non-native** wildflowers, vines, and other forbs including Canada thistle and leafy spurge which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.
> Completed native planting project on southeast edge of reservoir with Audubon Partners Program student volunteers in 2003.
> Many of the heronry trees are deteriorating due to age.

> In 2001, National Audubon Society designated the site as part of the Fossil Creek "Important Bird Area."
> 163 species of birds including great blue heron (nesting colony in existence since at least 1935 with over 100 nests in the early 1980s; up to 35 nests in the past 10 years), bald eagle (state and federally threatened), red-tailed hawk (nested), ferruginous hawk (Colorado species of concern), peregrine falcon (Colorado species of concern), sandhill crane (Colorado species of concern), American avocet (nested), and great horned owl (nested).
> 11 species of mammals.
> 7 species of amphibians and reptiles.
> 10 species of fish
> A fish kill occurred at the reservoir in late August 2002 and winter 2003.
> City provided assistance to Larimer County for prairie dog management on southeast corner of reservoir in 2003.
> North Poudre Irrigation Company did dredging on north side of reservoir in winter 2003.

Recreation, Interpretation, and Public Use Features on FCR
> Installed site sign in 2003.
> Installed ownership/management sign on northeast reservoir gate in 2003.
> Previous lessee permitted boating, waterskiing, and camping on shoreline.
> Current lease does not permit boating, waterskiing, camping, swimming, or fishing.
> Lease allows day use only.
> Lease bans motorized vehicles except for management and emergency purposes.
> Through sublease, Larimer County took over management of leased portion adjacent to Fossil Creek Reservoir Regional Open Space in 2004.

Hazards and Diseases on FCR
> Plague

Research Conducted on Fossil Creek Reservoir Natural Area

Topic	Year
Prairie dog mapping	'03 – '04
Bird surveys (Fort Collins Audubon Society)	'02-'04
Raptor winter roost site survey	'95-'96

Other FCR noteworthy Information
> North Poudre Irrigation Company rehabilitated the dam in 1983.
> The reservoir (owned by North Poudre Irrigation Company) stores irrigation water (for Weld County landowners). It holds approximately 11,000 acre feet at capacity. In the summer, irrigation demands frequently cause the reservoir to be drawn down to 2,000 acre feet or less. Drawdown is generally 30 feet during the year with low point around Labor Day. The City's Drake Water Reclamation Facility discharges treated water to Fossil Creek Inlet Ditch, which discharges to the reservoir. Average daily flow was 12.3 million gallons/day in 1994. Other inputs to the reservoir include the South Fort Collins Sanitation District (1.25 million gallons/day), Cache la Poudre River withdrawals, irrigation tail waters, and urban runoff from several drainage basins in Fort Collins.

MANAGEMENT STRATEGIES FOR Fossil Creek Reservoir Natural Area

There are many potential threats to achieving management objectives. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;

. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;

. Limited natural predators;

. Wildfire;

. Invasive weeds;

. Loose pets;

. Diseases carried by wildlife or insects to humans;

. Larvicide and insecticide applications, primarily mosquito control;

. Utility and other access easements;

. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);

. People trespassing when site is closed to the public;

. Overuse of the site or inappropriate use (e.g., off trail use);

. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management on FCR

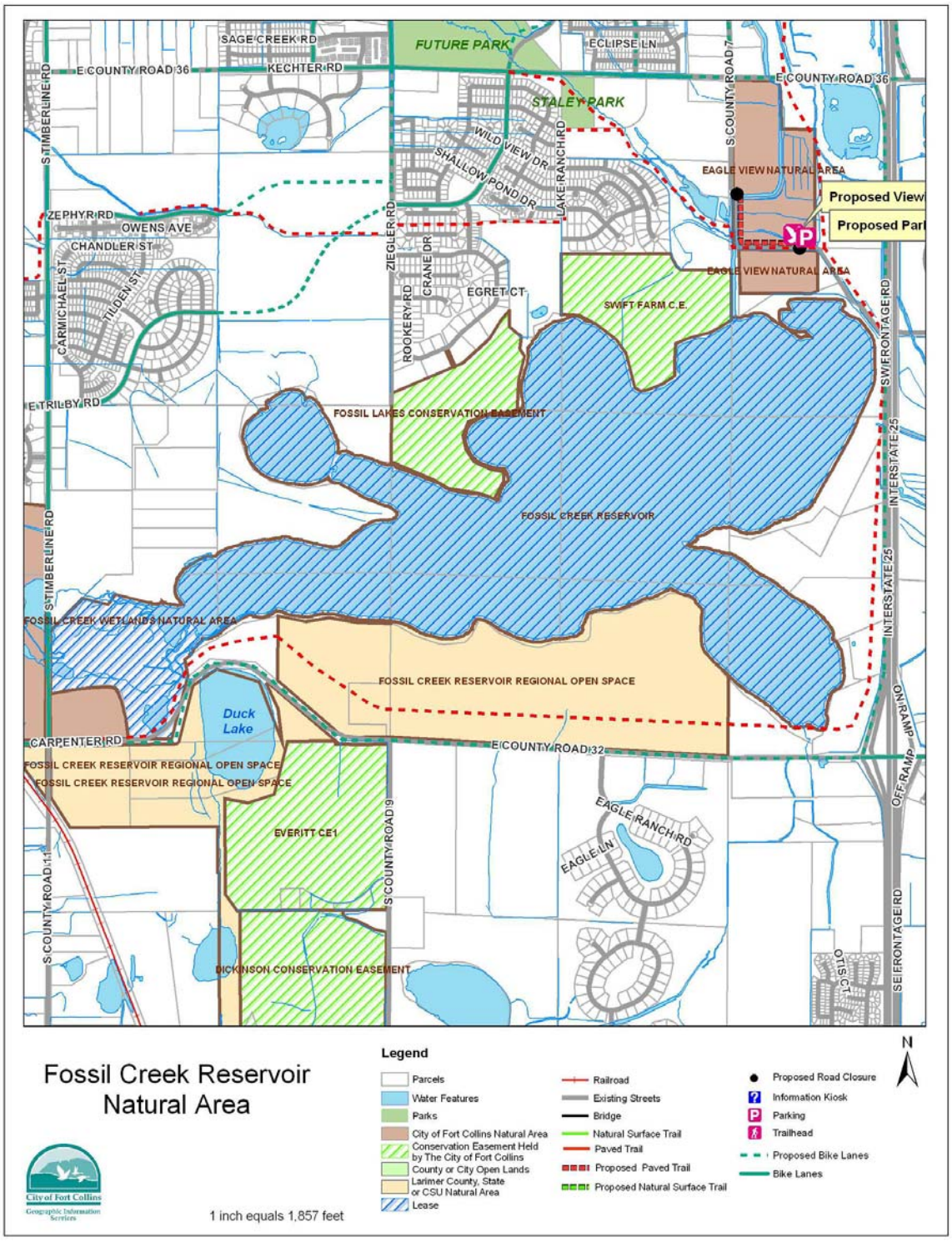
Action	Year
Plant cottonwoods on the City-owned portion for raptor roosts and perches.	2011
Plant native shrubs on the City-owned portion to increase habitat diversity and provide wildlife food and cover.	2011
Plant next generation of cottonwoods on leased portion to maintain eagle roosting.	2011
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All
Prairie dogs that move into the leased portion until restoration is complete will be relocated or fumigated. North Poudre Irrigation will remove prairie dogs as necessary to maintain dam integrity.	All
Reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any
Restore the banks of the reservoir.	2011
Remove debris around reservoir on north and east sides and rip/reseed.	2011

Public Use Management and Other Site Changes on FCR

Action	Year
Evaluate research permit applications to keep disturbance by researchers to a minimum. It is important to protect the off-trail portions of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.	All
Install mini-kiosks (providing regulatory and trail directional information) where the trail	2008 or

Action	Year
enters the site.	later
Parks Department to construct Fossil Creek Trail.	2008 or later
Install fencing – possibly wood.	2005
Construct bike pull-out along the paved trail and install interpretive feature. Interpretive topics will be chosen from the following: Wetlands; the difference between wetlands and open water; stream life; Fossil Creek	2008 or later
On the leased portion, public access will be allowed on a paved bike trail from the Fossil Creek Reservoir Regional Open Space parking lot west to Timberline and east along Carpenter Road, a short trail loop from the parking lot to the wetland, and a short boardwalk off the trail loop with a wildlife viewing platform to be built on the leased property out into the wetland.	As noted in Fossil Creek Reservoir Regional Open Space plan.

Fig. 17 Site Map - Fossil Creek Reservoir Natural Area



Eagle View Natural Area (EVN)

SITE SUMMARY

Size and Location: A 90-acre natural area on the east side of South County Road 7, extending south from East County Road 36. This rectangular site is approximately 1/4-mile wide.

Costs: Acquired in 2002 for $1,025,162.

Key Natural Features: Raptor habitat; slough; adjacent to Fossil Creek Reservoir Natural Area.

Classification and Status: Restorative; after restoration, will be classified sensitive. Site expected to open in 2008.

MANAGEMENT OBJECTIVES FOR Eagle View Natural Area

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following management objectives have been identified for Eagle View Natural Area.

Protect the quarter mile buffer along the north side of Fossil Creek Reservoir.
Protect the winter eagle roosting site on the north shore of Fossil Creek Reservoir.
Create more natural site contours along the Fossil Creek Reservoir Inlet Ditch and establish a more stream-like habitat for water fowl and other wildlife along the ditch.
Restore site to native grassland to provide habitat for prairie dogs and other raptor prey species.
Promote the site as an outdoor classroom for the three nearby schools where students can learn about the wildlife of this natural area.
Establish a potential route for the paved accessible Fossil Creek Trail through the site to provide a pleasant and scenic trail experience.
Create a soft trail system in the natural area to provide wildlife viewing opportunities.
Provide an accessible eagle observation area and picnic area.

SITE CONDITIONS ON Eagle View Natural Area

The following site conditions existed, or had existed, as of April 2005.

Plants, Wildlife, and Other Natural Conditions on EVN (see complete plant and wildlife listings in Appendices B and C)

> 7 species of **native** trees and shrubs; 3 species of **non-native** trees and shrubs.
> 1 species of **native** grasses and grasslike plants; 5 **non-native** species.

> 3 species of **native** wildflowers, vines, and other forbs; 8 species of **non-native** wildflowers, vines, and other forbs including Canada thistle, hoary cress, and leafy spurge which are controlled using IPM methods including herbicide, hand pulling, mowing, and possibly biological control.
> Did grassland revegetation planting (weed control/cover crop/native grasses) in 2003-2004-2005.
> 51 species of birds including bald eagle (state and federally threatened) and ferruginous hawk (Colorado species of concern).
> 5 species of mammals.
> 1 reptile species.
> Bat houses were installed on the ditch bridge in 2004.

Recreation, Interpretation, and Public Use Features on EVN
> Houses and outbuildings were removed in early 2004.
> Ditch is being kept free of debris to prevent road flooding.
> The wing walls of the bridge over the ditch failed in spring 2005 (as a result of the ditch running high), causing Larimer County to close County Road 7 at the ditch.

Vandalism on EVN
> Illegal dumping.
> Before buildings were removed, windows had to be boarded up several times because of break-ins.

Other Noteworthy Information on EVN
> Allowed police (SWAT) to use buildings for training until buildings were demolished in 2004.
> Natural Areas Program did not purchase irrigation water to irrigate the northern portion of the site, but did acquire two shares of Spring Canyon Wasteway water rights that can be used to irrigate the twenty acres south of County Road 34E and a small portion of the land north of the county road.

MANAGEMENT STRATEGIES FOR Eagle View Natural Area

There are many potential threats to achieving the management objectives for this site. Management strategies are designed to minimize these threats to the extent possible. Threats include the following:

. Plague, which periodically decimates prairie dog populations and poses a threat to human health;
. The long term absence of natural disturbances such as grazing or fire, which can result in a grassland condition that is low in growth vigor, resistance to pathogens, and susceptible to invasive weedy species;
. Limited natural predators;
. Wildfire;
. Invasive weeds;
. Loose pets;
. Diseases carried by wildlife or insects to humans;
. Larvicide and insecticide applications, primarily mosquito control;
. Utility and other access easements;
. A limited public understanding of the current and potential natural functions of the site and how human activities may impact those functions (which may result in lack of support for, or compliance with, appropriate management strategies);
. People trespassing when site is closed to the public;
. Overuse of the site or inappropriate use (e.g., off trail use);
. Vandalism

In addition to complying with the General Management Guidelines for Natural Areas and Agricultural Lands Managed by the City of Fort Collins Natural Resources Department, the following site-specific management strategies are planned for the site:

Resource Management on EVN

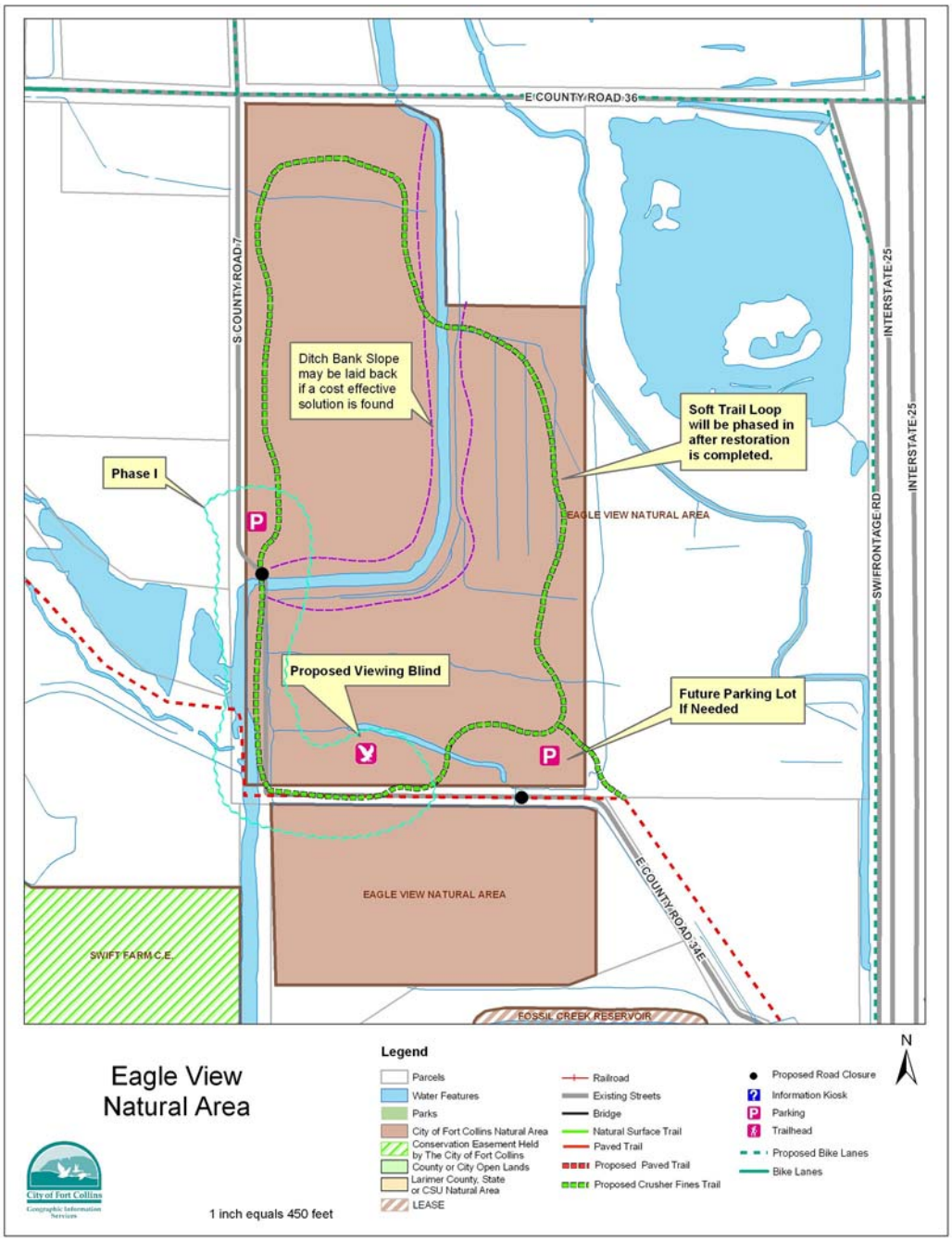
Action	Year
Explore the possibility of reshaping the agricultural fields and ditch to restore more natural contours. This would include laying back the sides of the ditch, which currently are quite steep and deep, to create a more stream-like habitat. Exploration of this possibility should look at costs and site impacts.	Unknown
Use prescribed burns and other tools as appropriate to mimic the natural disturbance needed to maintain a natural diversity of grasses, and reduce weed infestations through IPM methods including herbicide, hand pulling, mowing, and possibly biological control.	Any
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible. Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g., digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, the less damaging practices will be used.	All
Grant an inundation easement to the neighbor on the east to inundate up to 7,200 square feet of the slough/wetland with water to increase the size of the pond on his property, which could be benefit to the natural area.	Grant in 2005
Remove debris and trash.	Unknown

Public Use Management and Other Site Changes on EVN

Action	Year
Evaluate research permit applications to keep disturbance by researchers to a minimum while still allowing research that provides valuable site data.	All
Install site sign.	2006
Where possible, remove barbed wire fence (keep barbed wire in areas where controlling cattle is an issue) and replace with other fencing material (type of material to be investigated); install new gates.	2006
Fossil Creek Trail connection to Poudre Bike Trail (to be built by Parks Department) will cross the site and is expected to be incorporated into a loop trail around much of the site (see map for possible trail locations). Trails will not extend south of the existing County Road 34E in order to protect the buffer for the eagle roost site on Fossil Creek Reservoir.	2008 or beyond
Construct a pedestrian bridge over the ditch from the parking lot at the south end of County Road 7 into the natural area, and evaluate the feasibility of installing bat houses on or near the new bridge (bat houses will be removed from the road bridge when it is removed in 2005).	2008 or beyond
Construct a small parking lot with bus parking on the west side of the site in conjunction with the cul-de-sac closure of County Road 7 to provide parking for school groups.	2008 or beyond
Construct a small parking lot on the south-east side of the site if it is determined to be needed. See map for parking lot locations.	Unknown
Construct/install kiosks at the parking lots.	2008 or beyond
Install mini-kiosks (providing regulatory and trail directional information) where trail(s) enter the site.	2008 or beyond
Install vault toilet at the west parking lot.	2008 or beyond
Construct an accessible eagle viewing blind and picnic area as indicated on the map, being careful to keep the facilities far enough from the trees to avoid disturbing great horned owls and other wildlife that use this habitat.	2008 or beyond

Action	Year
Install benches, trash can, pet clean-up bag holder.	2008 or beyond
Install interpretive features. Possible topics: eagles, waterfowl, muskrats, sloughs.	2008 or beyond

Fig. 19 Site Map - Eagle View Natural Area



Appendix A

Definitions

Administrative Adoption: Document adopted by the Natural Resources Director. Such document can be changed at the department level.

Appropriate Recreation (referred to in some documents as passive recreation): Includes recreation that generally can be done by one person and does not include team-oriented activities or require specialized equipment. Activities typically termed "appropriate" in natural areas include hiking/ walking, jogging, mountain biking, wildlife viewing, photography, horseback riding, and on-leash dog walking.

Focus Area: An organizational grouping of resource areas for the purposes of planning. Each grouping (i.e., Local, Regional, and Community Separator) is lumped together based on similar properties or characteristics. Focus Areas provide a regional framework through which the Natural Areas Program will pursue future land conservation efforts. Sites in this management plan are in the Local Focus Area.

Integrated Pest Management: Control of weeds in the City of Fort Collins' natural areas using any, or a combination of the following methods: (A) Biological – use of one life form to limit the growth or spread of another; typically involves the release of insects native to the same region as the problem plant; may also involve grazing animals such as goats or cattle. (B) Chemical – use of man-made chemical products (herbicides). (C) Cultural – cultivation of desirable plants (native species) to compete with undesirable plants. (D) Mechanical – mowing, pulling, burning, tilling, chaining, root plowing, flooding.

Natural Area: Area of land or water that contains or supports the continued existence of geological, paleontological, ecological, or other natural features that are: classified as endangered or threatened, sensitive to the impact from human activity, or otherwise in need of protection; important to the conservation of natural resources that provide environmental protection, recreational, educational, scientific, aesthetic, or economic benefits; unique or rare examples of our natural heritage.

APPENDIX B

Plant Species Observed on Fossil Creek Natural Areas
U*pdated January19, 2005*

Sites: Cathy Fromme Prairie Natural Area (CF), Hidden Cattails Natural Area (HC), Hazaleus Natural Area (HA), Colina Mariposa Natural Area (CM), Redtail Grove Natural Area (RG), Two Creeks Natural Area (TC), Prairie Dog Meadow (PD), Pelican Marsh Natural Area (PM), Fossil Creek Wetlands Natural Area (FC), Fossil Creek Reservoir Natural Area (FR), Eagle View Natural Area (EV).

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 Species.

Occurrence: X = recorded on site; P = planted on site and did not occur on site prior to planting.

Source: Compiled from surveys by Ted Boss (1988-94), Geneva Chong (1995), Helen Fields (1995), Sharon Irwin (1993-94), Shaunda Kennedy (1993-94), Micki McNaughton (1993-94), Lisa Schell (1995), Rick Shory (2001), Tom Stohlgren (1995), Cindy Villa (1995), Ellen Wheeling (1993-95), COE Wetland Delineation Class (1994), and Natural Areas Program staff (1990-2004). 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**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Saskatoon serviceberry (*Amelanchier alnifolia*) N							XP				
Indigobush amorpha (*Amorpha fruticosa*) N	X										
Fringed sage (*Artemisia frigida*) N	X		X	X	X	X	X	X	X	X	X
Four-winged saltbush (*Atriplex canescens*) N	X								XP		
Western river birch (*Betula fontinalis*) N	X										
Netleaf hackberry (*Celtis reticulata*) N				X							
Sand cherry (*Cerasus pumila besseyi*) N	XP						XP	XP			
True mountain mahogany (*Cercocarpus montanus*) N	X			X							
Rubber rabbitbrush (*Chrysothamnus nauseosus*) N	X	X	X	X	X	X	X	X	X	X	X
Low rabbitbrush (*Chrysothamnus viscidiflorus*) N	X		X	X	X		X	X	X	X	

Trees and Shrubs	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Russian olive (*Elaeagnus angustifolia*) I	X	X	X	X	X	X	X	X	X	X	X
Green ash (*Fraxinus pensylvanica*) I					X		X				
Broom snakeweed (*Gutierrezia sarothrae*) N	X		X	X	X		X	X	X		
Eastern red cedar (*Juniperus virginiana*) I	X										X
Common winterfat (*Krascheninnikovia lanata*) N	X		X	X					X		
Common honeysuckle (*Lonicera tatarica*) I					X						
Common apple (*Malus pumila*) I					X						
Inland boxelder (*Negundo aceroides*) N	X				X	X		X	X	X	X
Sand sagebrush (*Oligosporus filifolius*) N				X							
Common chokecherry (*Padus virginiana melanocarpa*) N	X				X		XP	XP	XP		
Lanceleaf cottonwood (*Populus x acuminata*) N	X				X		X		X		
Narrowleaf cottonwood (*Populus angustifolia*) N	X										
Plains cottonwood (*Populus deltoides monilifera*) N	X		X		X	X	X	X	X	X	X
American plum (*Prunus americana*) N	X						XP				
Three-leaf sumac (*Rhus aromatica trilobata*) N	X			X	X		XP	XP	X		
Golden currant (*Ribes aureum*) N	X		X		X		XP	XP	X	X	
Wax currant (*Ribes cereum*) N	X										
Arkansas rose (*Rosa arkansana*) N	X				X				X		
Woods rose (*Rosa woodsii*) N	X		X	X	X	X	X	X	X	X	X
Red raspberry (*Rubus idaeus melanolasius*) I							X				
Rocky Mountain juniper (*Sabina scopulorum*) N		XP									

Trees and Shrubs	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Coyote willow (*Salix exigua*) N	X	X	X	X	X	X	X	X	X	X	X
Crack willow (*Salix* x *rubens*) I	X				X						
Black greasewood (*Sarcobatus vermiculatus*) N	X										
Silver sagebrush (*Seriphidium canum*) N	X								XP		
Silver buffaloberry (*Shepherdia argentea*) N							XP				
Prince's plume (*Stanleya pinnata*) N	X										
Red-osier dogwood (*Swida sericea*) N							XP	XP			
Common snowberry (*Symphoricarpos albus*) N	X				X		XP	XP			
Western snowberry (*Symphoricarpos occidentalis*) N							XP				
Saltcedar (*Tamarix ramosissima*) I					X	X	X	X	X	X	
Western poison ivy (*Toxicodendron rydbergii*) N					X						
Siberian elm (*Ulmus pumila*) I	X	X	X	X	X	X	X	X	X	X	X
Small soapweed (*Yucca glauca*) N	X		X	X	X	X	X	X	X	X	X
Total trees/shrubs (N/I)	27/4	3/2	10/2	12/2	16/7	7/3	19/5	15/3	17/3	9/3	7/3

GRASSES AND GRASSLIKE PLANTS	Site										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Indian ricegrass (*Achnatherum hymenoides*) N	X			X	X		XP	XP	X		
Western needlegrass (*Achnatherum nelsonii*) N	X								X		
Sleepy grass (*Achnatherum robustum*) N	X										
Macoun wild rye (*Agrohordeum macounii*) I									X		
Crested wheatgrass (*Agropyron cristatum*) I	X	X	X	X	X	X	X	X	X	X	X
Redtop (*Agrostis gigantea*) I	X		X		X						
Rough bentgrass (*Agrostis scabra*) N	X										
Redtop bentgrass (*Agrostis stolonifera*) I	X				X						
Foxtail (*Alopecorus pratensis*) I							X				
Big bluestem (*Andropogon gerardii*) N	X				XP						
Cheatgrass brome (*Anisantha tectorum*) I	X	X	X	X	X	X	X	X	X	X	X
Prairie threeawn (*Aristida oligantha*) I	X										
Purple threeawn (*Aristida purpurea*) N	X		X	X	X		X		X	X	
Wild oat (*Avena fatua*) I				X		X	X	X	X		
Alkali bulrush (*Bolbochoenus maritimus paludosus*) N	X						X		X		
Sideoats grama (*Bouteloua curtipendula*) N	X		X	X	X		XP	XP	X		
Smooth brome (*Bromopsis inermis*) I	X	X	X	X	X	X	X	X	X	X	X
Japanese brome (*Bromus japonicus*) I	X		X	X	X		X		X		
Bald brome (*Bromus racemosus*) I	X										
Buffalograss (*Buchloe dactyloides*) N	X		X	X	X		XP	XP	X	X	

GRASSES AND GRASSLIKE PLANTS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Prairie sandreed (*Calamovilfa longifolia*) N	X										
Threadhead sedge (*Carex filifolia*) N	X										
Hay-like sedge (*Carex foenea*) N	X										
Elk sedge (*Carex geyeri*) N	X										
Bottlebrush sedge (*Carex hystricina*) N					X						
Woolly sedge (*Carex lanuginosa*) N			X	X							
Nebraska sedge (*Carex nebrascensis*) N	X		X		X						
Western sedge (*Carex occidentalis*) N	X										
Sun sedge (*Carex pensylvanica heliophila*) N									X		
Silver sedge (*Carex praegracilis*) N	X		X				X		X		
Blue grama (*Chondrosum gracile*) N	X		X	X	X		XP	XP	X		
Hairy grama (*Chondrosum hirsutum*) N	X										
Foxtail barley (*Critesion jubatum*) N	X		X	X	X	X	X	X	X	X	X
Little barley (*Critesion pusillum*) N	X										
Bearded flatsedge (*Cyperus aristatus*) N	X										
Orchardgrass (*Dactylis glomerata*) I	X		X		X				X		
Inland saltgrass (*Distichlis stricta*) N	X		X	X			X	X	X	X	
Barnyardgrass (*Echinochloa crus-galli*) I			X		X		X				
Red-stemmed spikesedge (*Eleocharis erythropoda*) N	X										
Common spikesedge (*Eleocharis palustris*) N	X		X		X		X		X		
Canada wild rye (*Elymus canadensis*) N	X			X							

GRASSES AND GRASSLIKE PLANTS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Bottlebrush squirreltail (*Elymus elymoides*) N	X		X	X	X				X		
Montana wheatgrass (*Elymus lanceolatus*) N	X				X						
Slender wheatgrass (*Elymus trachycaulus*) N	X				X		XP				
Quackgrass (*Elytrigia repens*) I			X						X		
Tall fescue (*Festuca arundinacea*) I	X						X				
Meadow fescue (*Festuca pratensis*) I	X										
Red fescue (*Festuca rubra*) I			X								
Fowl mannagrass (*Glyceria striata stricta*) N	X								X		
Needle-and-thread (*Hesperostipa comata*) N	X			X	X				X		
Sweetgrass (*Hierochloe hirta artica*) I	X										
Baltic rush (*Juncus arcticus ater*) N	X		X	X	X		X				
Inland rush (*Juncus interior*) N	X						X		X		
Jointed rush (*Juncus nodosus*) N	X										
Torrey rush (*Juncus torreyi*) N	X				X						
Prairie junegrass (*Koeleria macrantha*) N	X				X						
Rice cutgrass (*Leersia oryzoides*) I	X				X						
Great basin wild rye (*Leymus cinereus*) N	X		X	X							
Alkali muhly (*Muhlenbergia asperifolia*) N	X				X		X				
Ring muhly (*Muhlenbergia torreyi*) N	X										
Green needlegrass (*Nassella viridula*) N	X		X	X	X			XP			
Common witchgrass (*Panicum capillare*) I	X		X	X	X		X		X		

GRASSES AND GRASSLIKE PLANTS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Switchgrass (*Panicum virgatum*) N	X		X		X						
Western wheatgrass (*Pascopyrum smithii*) N	X		X	X	X		X	X	X	X	
Reed canarygrass (*Phalaroides arundinacea*) I	X	X	X	X	X	X	X	X	X	X	X
Timothy (*Phleum pratense*) I					X				X		
Annual bluegrass (*Poa annua*) I	X										
Plains bluegrass (*Poa arida*) N							X				
Mutton bluegrass (*Poa fendleriana*) N	X										
Alkali bluegrass (*Poa juncifolia*) N	X										
Swamp bluegrass (*Poa palustris*) N	X										
Kentucky bluegrass (*Poa pratensis*) I	X		X	X					X		
Sandberg bluegrass (*Poa secunda*) N									X		
Rabbitfoot polypogon (*Polypogon monspeliensis*) I			X		X		X				
Russian wild rye (*Psathyrostachys juncea*) I	X										
Beardless bluebunch wheatgrass (*Pseudoroegneria spicata)* I	X						XP				
Nuttall alkaligrass (*Puccinellia airoides*) N	X						X		X		
Tumble grass (*Schedonnardus paniculatus*) N	X		X	X			X		X		
Little bluestem (*Schizachyrium scoparium*) N	X			X	X		XP	XP			
Hardstem bulrush (*Schoenoplectus lacustris acutus*) N	X		X						X		
Softstem bulrush (*Schoenoplectus lacustris creber*) N			X						X		
American bulrush (*Schoenoplectus pungens*) N	X		X	X	X		X		X		
Panicled bulrush (*Scirpus microcarpus*) N	X										

GRASSES AND GRASSLIKE PLANTS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Pale bulrush (*Scirpus pallidus*) N	X										
Winter rye (*Secale cereale*) I				X							
Yellow bristlegrass (*Setaria glauca*) I				X							
Foxtail millet (*Setaria italica*) I				X							
Green bristlegrass (*Setaria viridis*) I					X		X		X		
Yellow indiangrass (*Sorghastrum avenaceum*) N					XP		XP				
Prairie cordgrass (*Spartina pectinata*) N	X										
Alkali sacaton (*Sporobolus airoides*) N	X										
Tall dropseed (*Sporobolus asper*) N							X				
Sand dropseed (*Sporobolus cryptandrus*) N	X			X							
Intermediate wheatgrass (*Thinopyrum intermedium)* I	X		X								
Tall wheatgrass (*Thinopyrum ponticum*) I					X		X				
Wheat (*Triticum aestivum*) I	X		X				X		X		X
Sixweeks fescue (*Vulpia octoflora*) N			X		X						
Total grasses/grasslike plants (N/I)	54/ 21	/4	21/ 15	19/ 11	25/ 15	1/5	23/ 14	9/5	23/ 14	5/4	1/5

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Snowball sandverbena (*Abronia fragrans*) N									X		
Western yarrow (*Achillea lanulosa*) N	X										
Common yarrow (*Achillea millefolium*) I	X										
Diffuse knapweed (*Acosta diffusa*) I	X		X	X	X		X			X	
Russian knapweed (*Acroptilon repens*) I			X				X		X		
Blue flax (*Adenolinum lewisii*) N	X		X	X	X		XP		X	X	
Snow-on-the-mountain euphorbia (*Agaloma marginata*) N	X		X	X	X		X				
Nodding onion (*Allium cernuum*) N				X							
Textile onion (*Allium textile*) N	X				X						
Alyssum (*Alyssum parviflorum*) I	X								X		
Redroot amaranth (*Amaranthus retroflexus*) I					X						
Roman wormwood (*Ambrosia artemisiifolia*) I	X										
Western ragweed (*Ambrosia psilostachya coronopifolia*) N	X		X		X		X		X		
Giant ragweed (*Ambrosia trifida*) I			X		X		X				
Western rock jasmine (*Androsace occidentalis*) N	X										
Meadow anemone (*Anemonidium canadense*) N	X										
Rose pussytoes (*Antennaria rosea*) N	X				X						
Purple broomrape (*Aphyllon fasciculatum*) N	X										
Spreading dogbane (*Apocynum androsaemifolium*) N					X				X		
Hairy rockcress (*Arabis hirsuta*) N	X										

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Smaller burdock (*Arctium minus*) I	X				X						
Hedgehog pricklepoppy (*Argemone hispida*) N	X				X				X		
Many-flowered pricklepoppy (*Argemone polyanthemos*) N	X		X	X				X	X	X	
Prairie sage (*Artemisia ludoviciana*) N	X		X	X	X		X	X	X	X	
Engelmann milkweed (*Asclepias engelmanniana*) N				X							
Swamp milkweed (*Asclepias incarnata*) N	X		X		X		X				
Plains milkweed (*Asclepias pumila*) N	X				X		X				
Showy milkweed (*Asclepias speciosa*) N	X		X	X	X		X	X	X	X	
Garden asparagus (*Asparagus officinalis*) I	X		X	X	X		X				
Common catchweed (*Asperugo procumbens*) I							X				
Siskiyou aster (*Aster lanceolatus*) N									X		
Porters aster (*Aster porteri*) N					X						
Field milkvetch (*Astragalus agrestis*) N	X										
Two-grooved locoweed (*Astragalus bisulcatus*) N	X		X	X	X		X				
Canada milkvetch (*Astragalus canadensis*) N	X										
Missouri milkvetch (*Astragalus missouriensis*) N	X										
Wooly locoweed (*Astragalus mollissimus*) N	X										
Winged milkvetch (*Astragalus wingatus*) N	X										
Tumbling orach (*Atriplex rosea*) I	X						X		X		
Ironweed (*Bassia hyssopifolia*) I	X										
Nodding beggarticks (*Bidens cernua*) I	X				X						

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Ironweed (*Bassia hyssopifolia*) I	X										
Belvedere summercypress or Kochia (*Bassia sieversiana*) I	X		X	X			X		X	X	
Aster (*Brachyactis ciliata*) N	X										
Canada thistle (*Breea arvensis*) I	X	X	X	X	X	X	X	X	X	X	X
False prairie boneset (*Brickellia eupatorioides*) N			X		X				X		
Low poppymallow (*Callirrhoe involucrata*) N	X										
Gunnison mariposa lily (*Calochortus gunnisonii*) N	X										
Littlepod falseflax (*Camelina microcarpa*) I	X										
Hoary cress or Pepperweed whitetop (*Cardaria draba*) I									X	X	X
Musk thistle (*Carduus nutans*) I	X		X	X	X		X		X		
Largeflowered Indian paintbrush (*Castilleja sessiliflora*) N	X										
Hornwort (*Ceratophyllum demersum*) N	X								X		
Wartweed (*Chamaesyce maculata*) I				X							
Missouri euphorbia (*Chamaesyce missurica*) N	X										
Lambsquarters goosefoot (*Chenopodium album*) I	X		X	X							
Pitseed goosefoot (*Chenopodium berlandieri*) N			X							X	
Nettle-leaved goosefoot (*Chenopodium murale*) I									X		
Blue mustard (*Chorispora tenella*) I	X		X						X		
Common waterhemlock (*Cicuta douglasii*) N	X				X						
Flodman thistle (*Cirsium flodmanii*) N	X										
Yellow thistle (*Cirsium ochrocentrum*) N			X								

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Wavyleaf thistle (*Cirsium undulatum*) N	X		X	X	X						
Bull thistle (*Cirsium vulgare*) I	X		X								
Western virginsbower (*Clematis ligusticifolia*) N	X			X	X	X		X	X	X	X
Rocky Mountain beeplant (*Cleome serrulata*) N	X		X								
Common comandra (*Comandra umbellata*) N	X			X							
Treacle hares ear (*Conringia orientalis*) I	X						X				
European bindweed (*Convolvulus arvensis*) I	X	X	X	X	X	X	X	X	X	X	X
Canadian horseweed (*Conyza canadensis*) I	X				X		X				
Coryphantha (*Coryphantha missouriensis*) N	X										
Ball cactus (*Coryphantha vivipara*) N	X										
Turkey mullein (*Croton setigerus*) I	X										
Cryptantha (*Cryptantha minima*) N	X										
Marsh elder (*Cyclachaena xanthifolia*) N	X										
Common houndstongue (*Cynoglossum officinale*) I	X								X		
Slender white prairie clover (*Dalea candida*) N	X			X					X		
Purple prairie clover (*Dalea purpurea*) N	X				X						
Plains larkspur (*Delphinium carolinianum*) N	X										
Geyer larkspur (*Delphinium geyeri*) N	X								X		
Nuttall larkspur (*Delphinium nuttallianum*) N	X										
Pinnate tansymustard (*Descurainia pinnata*) N					X						
Flixweed tansymustard (*Descurainia sophia*) I	X		X	X	X		X		X		

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Carolina draba (*Draba reptans*) N	X			X							
Prairie dogweed (*Dyssodia papposa*) N	X			X			X				
Sticky willowweed (*Epilobium ciliatum*) N	X				X		X				
Field horsetail (*Equisetum arvense*) N	X										
Spreading fleabane (*Erigeron divergens*) N	X										
Trailing fleabane (*Erigeron flagellaris*) N	X										
Low fleabane (*Erigeron pumilus*) N									X		
Rush wild buckwheat (*Eriogonum effusum*) N	X			X	X				X		
Sulphur eriogonum (*Eriogonum umbellatum*) N				X	X						
Crane's bill (*Erodium cicutarium*) I	X								X		
Plains wallflower (*Erysimum asperum*) N	X										
Arizona evolvulus (*Evolvulus nuttallianus*) N	X			X					X		
Common perennial gaillardi (*Gaillardia aristata*) N	X										
Catchweed bedstraw (*Galium aparine*) I	X										
Scarlet gaura (*Gaura coccinea*) N	X			X	X		X				
Smallflower gaura (*Gaura mollis*) N	X		X	X	X		X		X		
Wild geranium (*Geranium caespitosum*) N	X										
American licorice (*Glycyrrhiza lepidota*) N	X		X		X				X		
Curlycup gumweed (*Grindelia squarrosa*) N	X	X	X	X	X	X	X	X	X	X	X
Shore buttercup (*Halerpestus cymbalaria*) N	X						X		X		
Halogeton (*Halogeton glomeratus*) I	X		X	X			X				

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Harbouria (*Harbouria trachypleura*) N	X										
Drummond false pennyroyal (*Hedeoma drummondii*) N					X						
Rough pennyroyal (*Hedeoma hispidum*) N	X										
Common sunflower (*Helianthus annuus*) N	X		X	X			X		X		
Annual sunflower (*Helianthus nuttallii*) N				X							
Prairie sunflower (*Helianthus petiolaris*) N	X		X	X	X		X		X		
Sunflower (*Helianthus pumilus*) N	X		X	X							
Hairy goldaster (*Heterotheca villosa*) N	X			X	X		X		X		
Scouringrush (*Hippochaete hyemalis*) N	X										
Smooth horsetail (*Hippochaete laevigata*) N	X				X						
Fineleaf hymenopappus *(Hymenopappus filifolius*) N	X										
Hymenopappus *(Hymenopappus tenuifolius*) N	X										
Common St. Johnswort (*Hypericum perforatum*) I	X										
Poverty sumpweed (*Iva axillaris*) N	X						X		X		
Prickly lettuce (*Lactuca serriola*) I	X		X	X	X		X		X	X	
Chicory lettuce (*Lactuca tatarica*) N	X								X		
Blueburr stickseed (*Lappula redowskii*) N	X								X		
Clasping pepperweed (*Lepidium perfoliatum*) I									X		
Pineapple weed (*Lepidotheca suaveolens*) N				X							
Louisiana bladderpod (*Lesquerella ludoviciana*) N	X										
Mountain bladderpod (*Lesquerella montana*) N	X										

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Sand lily (*Leucocrinum montanum*) N	X			X			X		X		
Dotted gayfeather (*Liatris punctata*) N	X		X	X	X						
Dalmation toadflax (*Linaria genistifolia dalmatica*) I	X						X				
Eurasian blue flax (*Linum perenne*) I				X			X				
Narrowleaf gromwell (*Lithospermum incisum*) N	X								X		
Oriental lomatium (*Lomatium orientale*) N									X		
American bugleweed (*Lycopus americanus*) N	X				X		X				
Rush skeletonplant (*Lygodesmia juncea*) N	X		X	X					X		
Fringed loosestrife (*Lysimachia ciliata*) N					X						
Ironplant goldenweed (*Machaeranthera pinnatifida*) N	X								X		
Starry false solomonseal (*Maianthemum stellatum*) N	X				X						
Running mallow (*Malva neglecta*) I					X				X		
Black medic (*Medicago lupulina*) I	X		X		X		X		X		
Alfalfa (*Medicago sativa*) I	X		X	X	X	X	X	X	X	X	X
White sweetclover (*Melilotus alba*) I	X			X			X		X		
Yellow sweetclover (*Melilotus officinalis*) I	X	X	X	X	X	X	X	X	X	X	X
Field mint (*Mentha arvensis*) N	X				X		X				
Pony beebalm (*Monarda pectinata*) N	X			X					X		
Nuttall monolepis (*Monolepis nuttalliana*) N	X		X						X		
Leafy musineon (*Musineon divaricatum*) N	X										
Watercress (*Nasturtium officinale*) I					X		X				

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Field pepperweed (*Neolepia campestre*) I									X		
Catnip (*Nepeta cataria*) I	X										
Cloakfern (*Nothocalais cuspidata*) N	X								X		
Ten-petal mentzelia (*Nuttallia decapetala*) N	X			X					X		
Bractless mentzelia (*Nuttallia nuda*) N	X			X	X				X		
Prairie evening primrose (*Oenothera albicaulis*) N	X								X		
Tufted evening primrose (*Oenothera caespitosa*) N	X										
Cut-leaf evening primrose (*Oenothera coronopifolia*) N	X										
Tall evening primrose (*Oenothera elata*) N	X										
Yellow evening primrose (*Oenothera flava*) N	X		X								
Evening primrose (*Oenothera howardii*) N	X				X		X				
Yellow evening primrose (*Oenothera villosa*) N	X		X		X						
Stiff goldenrod (*Oligoneuron rigidum)* N	X										
Sagewort wormwood (*Oligosporus pacificus*) N	X		X		X		X		X		
Tarragon (*Oligosporus dracunculus*) N	X		X	X							
Scotch thistle (*Onopordum acanthium*) I			X								
Western marbleseed (*Onosmodium molle*) N	X										
Plains pricklypear (*Opuntia polyacantha*) N	X		X	X	X	X	X	X	X	X	X
Louisiana broomrape (*Orobanche ludoviciana*) N	X										
Foothill milkvetch (*Orophaca tridactylica*) N				X							
Wood sorrel (*Oxalis dillenii*) N	X										

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Umbrellawort (*Oxybaphus decumbens*) N	X										
Narrow-leaved umbrellawort (*Oxybaphus linearis*) N							X				
Umbrellawort (*Oxybaphus nyctagineus*) N							X		X		
Lambert crazyweed (*Oxytropus lambertii*) N	X										
Silky crazyweed (*Oxytropis sericea*) N	X										
Prairie groundsel (*Packera plattensis*) N	X										
James nailwort (*Paronychia jamesii*) N	X				X						
Virginia creeper (*Parthenocissus quinquefolia*) I					X						
Narrowleaf penstemon (*Penstemon angustifolius*) N	X				X				X		
Sidebells penstemon (*Penstemon secundiflorus*) N	X										
Blue mist penstemon (*Penstemon virens*) N	X										
Swamp smartweed (*Persicaria coccinea*) N							X				
Curltop lady’s thumb (*Persicaria lapathifolia*) I			X		X				X		
Spotted lady's thumb (*Persicaria maculata*) I			X				X				
Pennsylvania smartweed (*Persicaria pensylvanica*) N					X						
Virginia groundcherry (*Physalis virginiana*) N	X		X	X	X				X		
Bell's twinpod (*Physaria bellii*) N, CR	X										
Plains bahia (*Picradeniopsis oppositifolia*) N	X								X		
Rippleseed plantain (*Plantago major*) I			X						X		
Woolly plantain (*Plantago patagonica*) N	X		X	X					X		
Toothed euphorbia (*Poinsettia dentata*) I			X								

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Clammyweed (*Polanisia dodecandra*) N				X	X						
Prostrate knotweed (*Polygonum arenastrum*) I	X						X		X		
Bushy knotweed (*Polygonum ramosissimum*) I	X								X		
Northwest cinquefoil (*Potentilla gracilis*) I							X				
Common selfheal (*Prunella vulgaris*) N	X										
Slimflower scurfpea (*Psoralidium tenuiflorum*) N	X		X	X	X				X		
Wing eriogonum (*Pterogonum alatum*) N	X										
Purpleflower groundcherry (*Quincula lobata*) N	X		X				X		X		
Buttercup (*Ranunculus macounii*) N	X				X						
Upright prairie coneflower (*Ratibida columnifera*) N	X		X	X	X						
Curly dock (*Rumex crispus*) I	X	X	X	X	X	X	X	X	X	X	X
Golden dock (*Rumex maritimus*) N									X		
Narrowleaf dock (*Rumex stenophyllus*) I									X		
Tumbling Russian thistle (*Salsola australis*) I	X		X	X			X		X	X	
Lanceleaf sage (*Salvia reflexa*) I							X		X		
Brittons skullcap (*Scutellaria brittonii*) N	X								X		
Broom groundsel (*Senecio spartioides*) N	X			X			X				
Tumble mustard (*Sisymbrium altissimum*) I	X								X		
Common blue-eyed grass (*Sisyrinchium montanum*) N	X										
Buffalobur nightshade (*Solanum rostratum*) I	X		X				X		X		
Cutleaf nightshade (*Solanum triflorum*) I	X								X		

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Canada goldenrod (*Solidago canadensis*) N	X				X		X		X		
Missouri goldenrod (*Solidago missouriensis*) N	X			X					X	X	
Velvety goldenrod (*Solidago mollis*) N	X										
Field sowthistle (*Sonchus arvensis*) I	X										
Prickly sowthistle (*Sonchus asper*) I	X										
Burreed (*Sparganium eurycarpum*) N					X						
Sandspurry (*Spergularia media*) N	X		X	X			X		X		
Red sandspurry (*Spergularia rubra*) I	X										
Scarlet globemallow (*Sphaeralcea coccinea*) N	X		X	X	X		X		X	X	
Stenogonum (*Stenogonum salsuginosum*) N	X										
Seepweed (*Suaeda calceoliformis*) N	X										
Common dandelion (*Taraxacum officinale*) I	X	X	X	X	X	X	X	X	X	X	X
American germander (*Teucrium canadense*) N	X										
Purple meadowrue (*Thalictrum dasycarpum*) N	X			X	X				X		
Thelesperma (*Thelesperma megapotamicum*) N	X		X	X	X				X		
Field pennycress (*Thlaspi arvense*) I	X				X				X		
Robust spurge (*Tithymalus brachyceras*) N	X			X							
Cypress spurge (*Tithymalus cyparissias*) I	X										
Leafy spurge (*Tithymalus esula*) I			X	X							
Leafy spurge (*Tithymalus uralensis*) I	X		X	X	X		X		X	X	X
Stemless townsendia (*Townsendia exscapa*) N	X										

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Townsendia (*Townsendia grandiflora*) N					X						
Townsendia (*Townsendia hookeri*) N	X										
Grassy deathcamas (*Toxicoscordion venenosum*) N	X			X					X		
Prairie spiderwort (*Tradescantia occidentalis*) N	X				X				X		
Tragia (*Tragia ramosa*) N	X				X						
Western salsify (*Tragopogon dubius major*) I	X		X	X	X		X		X		
Red clover (*Trifolium pratense*) I			X		X		X				
White clover (*Trifolium repens*) I			X								
Seaside arrowgrass (*Triglochin maritima*) N	X			X			X		X		
Narrowleaf cattail (*Typha angustifolia*) N	X										
Common cattail (*Typha latifolia*) N	X	X	X	X	X	X	X	X	X	X	
Tall nettle (*Urtica gracilis*) N	X										
Flannel mullein (*Verbascum thapsus*) I	X			X	X		X	X	X	X	
Bigbract verbena (*Verbena bracteata*) I	X		X		X		X				
Blue verbena (*Verbena hastata*) N	X				X						
Purslane speedwell (*Veronica peregrina xalapensis*) N	X										
White loco (*Vexibia nuttalliana*) N	X										
American vetch (*Vicia americana*) N	X			X							
Nuttall violet (*Viola nuttalli*) N	X			X	X		X		X		
Pacific aster (*Virgulaster ascendens*) I	X										
Many-flowered aster (*Virgulus ericoides*) N	X			X							

WILDFLOWERS, VINES, AND OTHER FORBS	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
White prairie aster (*Virgulus falcatus*) N	X		X							X	
Riverbank grape (*Vitis riparia*) N					X						
Cocklebur (*Xanthium strumarium*) I	X										
Golden crownbeard (*Ximensia encelioides*) I	X										
Total forbs (N/I)	150/ 54	2/5	37/ 32	53/ 22	60/ 27	4/6	35/35	7/7	60/ 37	12/ 13	3/8

APPENDIX C

Animal Species Observed on Fossil Creek Natural Areas
Updated January 19, 2005

Sites: Cathy Fromme Prairie Natural Area (CF), Hidden Cattails Natural Area (HC), Hazaleus Natural Area (HA), Colina Mariposa Natural Area (CM), Redtail Grove Natural Area (RG), Two Creeks Natural Area (TC), Prairie Dog Meadow (PD), Pelican Marsh Natural Area (PM), Fossil Creek Wetlands Natural Area (FC), Fossil Creek Reservoir Natural Area (FR), Eagle View Natural Area (EV).

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

Occurrence: X = recorded on site; XN = nested on site (does not include all bird species); XD = denned on site.

Source: Compiled from observations by Ted Boss (1988-94), Kevin Cook (1990-91), Joe LaFleur (2001-03), Rick Schroeder (1990-91), Robert E. Zuellig (1999), CSU and Natural Areas Program volunteers (1991-99), Colorado Division of Wildlife (1992-93), Colorado Field Ornithologists' reports (1991-2004), Fort Collins Audubon Society (2002-04), and Natural Areas Program staff (1991-2004). 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**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Greater white-fronted goose										X	
Bar-headed goose (I,U)										X	
Snow goose									X	X	
Canada goose	X	X	X	X	X	X	X	X	X	X	X
Tundra swan (U)										X	
Trumpeter swan (U)										X	
Wood duck									X	X	
Gadwall	X								X	X	
Eurasian wigeon (U)										X	
American wigeon	X						X	X	X	X	
American black duck (U)										X	
Mallard	X	X	X	X	X	X	X	X	X	X	X
Blue-winged teal	X							X	X	X	
Cinnamon teal	X								X	X	
Northern shoveler	X							X	X	X	
Northern pintail	X								X	X	
Green-winged teal	X							X	X	X	
Canvasback									X	X	

Birds	Site										
	CF	HC	HA	CM	RG	TC	PD	PM	FC	FR	EV
Redhead	X							X	X	X	
Ring-necked duck	X							X	X	X	
Lesser scaup	X							X	X	X	
Surf scoter (U)										X	
Bufflehead	X								X	X	
Common goldeneye	X								X	X	
Barrow's goldeneye (U)										X	
Hooded merganser									X	X	
Common merganser									X	X	
Red-breasted merganser (U)										X	
Ruddy duck	X								X	X	
Chukar (I,U)				X							
Ring-necked pheasant (I)			X				X	X	X	X	X
Northern Bobwhite (U)										X	
Pied-billed grebe	X								X	X	
Horned grebe									X	X	
Eared grebe	X								X	X	
Western grebe	X								X	X	
Clark's grebe									X	X	
American white pelican	X							X	X	X	
Double-crested cormorant					X				X	X	
American bittern (U)									X		
Great blue heron	X	X	X		X	X	X	X	X	XN	X
Great egret (U)									X		
Snowy egret	X								X	X	
Cattle egret (U)	X								X		
Green heron (U)									X		
Black-crowned night-heron					X		X	X	X	X	X
Glossy ibis (U)									X		
White-faced ibis									X	X	

Birds	Site										
	CF	HC	HA	CM	RG	TC	PD	PM	FC	FR	EV
Turkey vulture	X		X	X	X		X		X	X	X
Osprey										X	
Bald eagle (FT, ST)	X		X	X	X	X	X	X	X	X	X
Northern harrier	X		X	X	X	X	X	X	X	X	X
Sharp-shinned hawk	X	X			X	X	X	X	X	X	X
Cooper's hawk							X				
Northern goshawk	X										
Swainson's hawk	XN		XN		X		X	XN	X	X	X
Red-tailed hawk	XN		X	X	XN	X	X	X	X	XN	X
Ferruginous hawk (SC)	X		X	X	X	X	X	X	X	X	X
Rough-legged hawk	X		X		X		X		X	X	X
Golden eagle	X				X		X	X	X	X	X
American kestrel	X	X	X	X	X	X	X	X	X	X	X
Merlin	X								X		
Peregrine falcon (SC)										X	
Prairie falcon	X			X	X		X	X	X	X	X
Virginia rail									X	X	
Sora									X	X	
American coot	X								X	X	
Sandhill crane (SC)										X	
Black-bellied plover (U)									X		
Semipalmated plover (U)									X	X	
Killdeer	X	X	X	X	X	X	X	X	X	X	X
Black-necked stilt (U)							X		X		
American avocet	XN						X	X	XN	XN	
Greater yellowlegs	X						X		X	X	
Lesser yellowlegs	X						X		X	X	
Solitary sandpiper									X	X	
Willet									X		
Spotted sandpiper	X						X		X	XN	

Birds	Site										
	CF	HC	HA	CM	RG	TC	PD	PM	FC	FR	EV
Whimbrel (U)									X		
Long-billed curlew (U)									X		
Hudsonian godwit (U)									X		
Marbled godwit (U)									X		
Red knot (U)									X		
Sanderling (U)										X	
Semipalmated sandpiper									X	X	
Western sandpiper	X								X	X	
Least sandpiper									X	X	
Baird's sandpiper									X	X	
Pectoral sandpiper									X		
Dunlin (U)									X	X	
Stilt sandpiper									X	X	
Short-billed dowitcher (U)									X		
Long-billed dowitcher									X	X	
Wilson’s snipe	X								X	X	
Wilson's phalarope									X	X	
Red-necked phalarope (U)										X	
Red phalarope (U)										X	
Pomarine jaeger (U)										X	
Franklin's gull	X								X	X	
Bonaparte's gull									X	X	
Ring-billed gull	X		X	X	X	X	X	X	X	X	X
California gull									X	X	
Herring gull	X								X	X	
Thayer’s gull (U)										X	
Glaucous gull (U)										X	
Kelp gull (U)										X	
Sabine's gull (U)										X	
Caspian tern (U)										X	

Birds	Site										
	CF	HC	HA	CM	RG	TC	PD	PM	FC	FR	EV
Common tern (U)										X	
Forster's tern	X								X	X	
Black tern									X		
Rock pigeon (I)	X	X	X	X	X	X	X	X	X	X	X
Eurasian collared-dove (I,U)										X	
Mourning dove	X	X	X	X	X	X	X	X	X	X	X
Yellow-billed cuckoo										X	
Barn owl							X		X		
Eastern screech-owl									X		
Great horned owl	X						X		X	XN	X
Burrowing owl (U,ST)	XN			X			XN	XN	XN		
Long-eared owl (U)									X		
Short-eared owl (U)							X	X	X		
Northern saw-whet owl (U)					X						
Common nighthawk	X	X	X	X	X	X	X	X	X	X	X
White-throated swift										X	
Broad-tailed hummingbird	X				X		X		X	X	
Rufous hummingbird									X		
Belted kingfisher					X			X	X	X	X
Yellow-bellied sapsucker (U)					X						
Downy woodpecker	X	X	X		X	X	X	X	X	X	X
Hairy woodpecker										X	
Northern flicker	X	X	X		X	X	X	X	X	X	X
Olive-sided flycatcher					X						
Western wood-pewee										X	
Willow flycatcher	X				X				X		
Say's phoebe	X								X	X	
Western kingbird	X		X	X	X		X	X	X	X	X
Eastern kingbird	X				X		X		X	X	
Loggerhead shrike									X	X	

Birds	Site										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Northern shrike	X								X	X	
Warbling vireo										X	
Steller's jay					X						
Blue jay	X	X	X		X	X	X	X	X	X	X
Western scrub jay (U)					X						
Black-billed magpie	X	X	X	X	X	X	X	X	X	X	X
American crow	X	X	X	X	X	X	X	X	X	X	X
Common raven	X				X		X	X	X	X	
Horned lark	X		X	X	X		X	X	X	X	X
Tree swallow									X	X	
Violet-green swallow									X	X	
Northern rough-winged swallow									X	X	
Bank swallow									X	X	
Cliff swallow	X				X		X		X	X	
Barn swallow	X	X	X	X	X	X	X	X	X	X	X
Black-capped chickadee	X	X	X		X	X	X	X	X	X	X
Mountain chickadee	X				X						
Brown creeper	X				X						
Rock wren (U)										X	
House wren	X		X		X		X	X	X	X	X
Marsh wren (U)									X		
Ruby-crowned kinglet					X					X	
Eastern bluebird (U)									X		
Western bluebird	X									X	
Mountain bluebird	X				X		X		X	X	
Townsend's solitaire					X						
Veery (U)										X	
Swainson’s thrush										X	
Hermit thrush										X	

Birds	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
American robin	X	X	X	X	X	X	X	X	X	X	X
Gray catbird	X								X		
Brown thrasher (U)					X						
European starling (I)	X	X	X	X	X	X	X	X	X	X	X
American pipit							X			X	
Bohemian waxwing										X	
Cedar waxwing					X						
Yellow warbler	X				X	X	X	X	X	X	X
Yellow-rumped warbler	X		X		X	X	X	X	X	X	X
Common yellowthroat			X		X		X	X	X	X	
Wilson's warbler	X				X	X	X		X	X	X
Western tanager	X				X		X		X		
Green-tailed towhee					X						
American tree sparrow	X				X		X		X	X	X
Chipping sparrow	X				X		X		X	X	
Clay-colored sparrow	X									X	
Brewer's sparrow	X									X	
Vesper sparrow	X									X	
Lark sparrow	X		X	X			X	X	X	X	X
Lark bunting (U)	X								X	X	
Savannah sparrow					X					X	
Grasshopper sparrow (U)	X								X		
Song sparrow	X	X	X		X	X	X	X	X	X	X
Lincoln's sparrow					X					X	
Swamp sparrow (U)										X	
White-crowned sparrow	X		X	X	X		X	X	X	X	X
Dark-eyed junco	X	X	X	X	X	X	X	X	X	X	X
Northern cardinal (U)					X						
Rose-breasted grosbeak (U)					X						
Black-headed grosbeak (U)					X					X	

Birds	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Blue grosbeak (U)	X									X	
Lazuli bunting					X						
Red-winged blackbird	X	X	X	X	X	X	X	X	X	X	X
Western meadowlark	X		X	X	X		X	X	X	X	X
Yellow-headed blackbird							X	X	X	X	
Brewer's blackbird	X				X		X		X		
Common grackle	X	X	X	X	X	X	X	X	X	X	X
Great-tailed grackle (U)									X		
Brown-headed cowbird					X		X		X	X	X
Bullock’s oriole	X		X		X			X		X	X
House finch	X	X	X	X	X	X	X	X	X	X	X
Common redpoll (U)					X						
Pine siskin					X					X	
Lesser goldfinch					X						
American goldfinch	X		X		X		X	X	X	X	X
Evening grosbeak					X				X		
House sparrow (I)	X	X	X	X	X	X	X	X	X	X	X
TOTAL BIRDS	100	24	42	31	81	32	70	59	148	163	51

MAMMALS	**SITE**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Eastern cottontail	X	X	X	X	X	X	X	X	X	X	X
Black-tailed jackrabbit	X						X		X	X	
Thirteen-lined ground squirrel	X						X	X	X	X	
Black-tailed prairie dog	X		X	X		X	X	X	X	X	
Fox squirrel	X	X	X		X	X	X	X	X	X	X
Prairie vole	X									X	
Meadow vole	X									X	
Muskrat	X				X		X		X	X	
House mouse (I)	X										
Coyote	XD		XD	XD	X		X	X	XD	X	X
Red fox	X		XD		XD		X	X	XD	X	X
Raccoon	X										
Badger	XD								XD		
Striped skunk	X				X		X		X		
River otter (U)	X										
Mountain lion (U)	X										
Mule deer	X		X		X	X	X	X	X	X	X
TOTAL MAMMALS	17	2	6	3	7	4	10	7	11	11	5

AMPHIBIANS AND REPTILES	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Tiger salamander									X	X	
Woodhouse's toad									X	X	
Chorus frog	X		X		X		X	X	X	X	
Snapping turtle									X	X	
Painted turtle									X	X	
Short-horned lizard	X		X	X							
Prairie lizard	X			X							
Racer	X										
Northern water snake											
Bullsnake	X		X	X				X	X	X	
Plains garter snake	X	X	X	X	X	X	X	X	X	X	X
Prairie rattlesnake	X		X	X					X		
TOTAL HERPTILES	7	1	5	5	2	1	2	3	8	7	**1**

FISHES	**Site**										
	CF	**HC**	**HA**	**CM**	**RG**	**TC**	**PD**	**PM**	**FC**	**FR**	**EV**
Stoneroller					X	X					
Common Carp (I)										X	
Sand shiner					X	X			X	X	
Fathead minnow					X	X			X	X	
Longnose dace						X					
Creek chub					X	X			X	X	
Longnose sucker					X	X					
White sucker					X	X					
Channel catfish										X	
Pumpkinseed										X	
Bluegill										X	
Hybrid sunfishes										X	
Smallmouth bass (I)										X	
Largemouth bass (I)					X					X	
TOTAL FISHES					7	7			3	10	

Cathy Fromme Prairie Natural Area

Site Objectives Comments

Management Objective CFP	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect and preserve the extensive prairie dog colony, thereby providing food for raptors, including bald eagles and ferruginous hawks, and habitat for burrowing owls.	7	7		**#5:** Excellent.	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect, re-establish, and maintain native shortgrass and mixed grass prairie.	7	7			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Provide wildlife viewing opportunities.	7	7			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program to provide appropriate recreational opportunities
Preserve scenic values.	7	7			Adopt this management objective	Fits goals for acquisition of local natural areas.
Maintain existing recreational trails for appropriate passive recreation.	7	6	1	**#7:** Prefer gravel trails.	Adopt this management objective	This is part of the City-wide trail system, which is paved to accommodate a variety of visitor uses, including accessibility.
Help students and visitors understand the prairie ecosystem, incorporating the interpretive objectives.	7	7			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program

Cathy Fromme Prairie Natural Area

Management Strategies Comments

Management Strategy CFP	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Continue to maintain prairie dog barriers.	7	6	1	**#7:** No fumigation.	Barriers are no longer being maintained on this site.	This management strategy has been discontinued. Property owners are managing prairie dogs that come onto their properties.
Prescribed burns, grazing, and other tools may be used to mimic the natural disturbance needed to maintain a natural diversity of grasses.	7	6	1	**#2:** Some research shows that burning damages short grass habitat. Don't do a lot of burning until it is proven that it doesn't cause long term damage.	Adopt this management strategy	This is standard vegetation practice on the City's natural areas. The Natural Areas Program has adopted the philosophy that fire does not damage short grass habitat.
Continue to comply with conservation easement on portions of the site.	7	6		**#4:** Not sure what this means.	Adopt this management strategy	Portions of this site are subject to Covenants, Conditions and & Restrictions (the equivalent of conservation easements) required by Great Outdoors Colorado (GOCO) in exchange for GOCO providing partial acquisition funding.
Continue to allow release (through permit) of rehabilitated raptors from Rocky Mountain Raptor Program.	7	7			Adopt this management strategy	Habitat is suitable for this.
Prairie dog mapping may be continued as conditions warrant.	7	7			Adopt this management strategy	Provides valuable research data
Prairie dogs may be relocated to this site, depending on conditions at the time. For example, if plague has decimated the prairie dog population on site, prairie dogs needing relocation (e.g., from prairie dog buffer areas on other sites) may be moved to Cathy Fromme Prairie Natural Area.	7	7		**#5:** Excellent.	Adopt this management strategy	Appropriate management strategy when prairie dog colony on the site has been decimated by plague.

Management Strategy CFP	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	**Staff Recommendation**	Basis of staff recommendation
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible (e.g., avoid digging fire lines if fire can be contained in a less destructive manner).	7	7		**#4:** "?" in *Agree* column	Adopt this management strategy	Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g. digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum; where appropriate, direct researchers to sites where disturbance can be better tolerated.	7	7			Adopt this management strategy	This site is very popular for research. Managing the granting of research permits will help reduce negative impacts caused by high numbers of researchers walking on the site, disturbing wildlife, etc.
Approximately 7 acres purchased in 2002 (south side of site at west end of Midway Drive) will be sold in three parcels. One parcel has a house in good condition.	7	4	3	**#2:** Our society destroys habitat all of the time to build houses; This one time why isn't it OK to destroy a house to create more habitat. **#3:** Sell only the one with the house. **#7:** Only if sale can benefit purchase of additional open space.	Adopt this management strategy	When the property was purchased, management's intent was to sell these developable portions of the property. Therefore this intent will be followed. By law, funds from the sale must go to the Natural Areas Program.
If/when the Larimer County Landfill reaches maximum capacity, it may be reclaimed and incorporated into the Cathy Fromme Prairie Natural Area. Current projections predict a landfill lifespan of at least another 15-20 years.	7	7			Adopt this management strategy	While it is intended to adopt this management strategy, impacts associated with incorporating this property into this natural area will be monitored, e.g., the landfill will have to be capped and lined when it is decommissioned; therefore prairie dogs will have to be controlled at the edges of the landfill.
Maintain trails (Parks Department).	6*	5		**#1:** This is not a strategy- it is an ongoing maintenance requirement. **#7:** Try to use gravel for trails.	Adopt this management strategy	Trails will be maintained for safety and aesthetic purposes.

Management Strategy CFP	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	**Staff Recommendation**	Basis of staff recommendation
Mow vegetation along the trails.	6*	5		**#1:** This is not a strategy- it is an on-going maintenance requirement. **#4:** "?" in *Agree* column and "Why?" comment	Adopt this management strategy	This strategy is helpful for weed control (weeds are introduced at a higher concentration near trails) and for safety (rattlesnakes at the edges of trails are more visible to trail users when vegetation is kept low).
Build and install kiosk at Fromme Prairie Way parking lot in 2006.	5	5			Adopt this management strategy	This kiosk will provide information for visitors entering the site from this location.
Replace wire fencing along The Ridge subdivision with boundary markers or buck-and-rail fencing if necessary to manage trespassing.	6	5	1	**#4:** Not sure it is your responsibility	Adopt this management strategy	It is necessary to carefully manage trespassing on this sensitive natural area.
May modify surface of parking lots.	6*	4	1	**#1:** Operational? **#2:** Don't increase amount of pavement in natural areas.	Adopt this management strategy	If the paver surface proves to be too difficult to maintain or to provide the desired accessibility, another type of surface may be used.
Keep bulletin board features up-to-date and keep brochure rack stocked.	6*	5		**#1:** Operational?	Adopt this management strategy	This is an important visitor service.
Keep culverts under Taft Hill clear of debris to maintain water flow.	6*	5		**#1:** Operational?	Adopt this management strategy	This is important for management of water flow.
Install restroom at the Shields Street entrance.	6	5	1		Adopt this management strategy	This has been requested by many school groups coming to this natural area for education events.
Consider providing a shelter at the Harmony parking lot, to be ADA accessible, available for picnics, and provide shelter from rain, sun, etc.	6	4	2	**#2:** Shelter would interrupt the sweeping views. Picnicking is for parks, not natural areas. It attracts the types of crowds that will increase liter and trash. **#4:** "?" in *Agree* column and "Depending on cost" comment.	This management strategy will no longer be pursued.	This would require amending a Declaration of Covenants, Conditions, and Restrictions document associated with funding received from Great Outdoors Colorado. Staff has, therefore, decided not to pursue this strategy.
Additional comment				**#4:** Protect Streams- Why Not?	Adopt this management strategy	This is inherent in the management strategies of the site.

Management Strategy CFP	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Additional comment				**#6:** Bike Trail along Fossil Creek Drive between Shields and College (287) should be on street and not along Fossil Creek itself. Creek Banks are very steep and unstable.	Refer this comment to the Park Planning Department, which determines location of trails that are not on natural areas.	This proposed portion of the trail is not on the natural area.
Additional comment				Call from citizen 11/15/04 "I live in Taft Canyon. We appreciate all you are doing at Cathy Fromme Prairie. Keep up the good work."	Continue current direction of management at Cathy Fromme Prairie Natural Area	This helps to confirm citizen support for current management direction on this natural area.

Hazaleus Natural Area
Site Objectives Comments

Management Objective HAZ	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect the raptor day roost and feeding areas.	10	10			Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program
Establish trees for the re-establishment of a Swainson's hawk nesting site (trees in which it nested have died, probably because irrigation is no longer occurring).	10	10		**#8:** What happened to water rights? Should get water rights back! **#10:** Priority. **#11:** Excellent.	Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program. Location will be selected to take advantage of natural availability of water.
Restore and protect native grassland to provide habitat for prairie dogs and burrowing owls.	10	8	2	**#7:** Prairie dogs provide too much threat of plague in city environment. **#11:** Yes!	Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program. The spread of plague is controlled by: (1) restricting human access on a site with infected prairie dogs to paved trails only; (2) dusting infected sites for plague-carrying fleas; (3) not allowing pets to roam free on natural areas
Protect ground nesting songbirds and other prairie animal species.	10	10			Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program
Protect and enhance existing wetlands.	9	9			Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program
Protect coyote and fox dens.	10	10		**#10:** Priority.	Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program
Protect and enhance streams.	8	8		**#8:** Ditto (see above)	Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program
Establish a potential route for the paved Fort Collins/ Loveland regional trail through the site to provide a pleasant and scenic trail	9	7	2	**#2:** Keep trail on edge of property along Shields. **#4:** Trail on edge not through. **#6:** This would provide a safe/scenic route to Harmony corridor- which is	Adopt this management objective	Provides transportation and recreation through the natural area

experience.				now impossible unless you traverse a very busy HWY 287. Excellent idea… the sooner the better. **#10:** Connect regional trail to Skyway so that neighborhood has easy access. This would require corridors to the RR trails, but would be easier access than the Trilby Hill. **#12:** Soft surface trail.		
ℙrovide the public with an understanding of the values and sensitivities of this natural area and of Colina Mariposa Natural Area to the south.	9	9			Adopt this management objective	Fits mission of the City of Fort Collins Natural Areas Program

Hazaleus Natural Area

Management Strategies Comments

Management Strategy HAZ	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
In one (or more) of the drainages, establish trees for Swainson's hawk nesting. The trees in which the hawks were nesting near the house died after irrigation was discontinued.	8	8			Adopt this management strategy	Placement within a drainage will eliminate the need for water rights to maintain the trees
Leave the dead trees the Swainson's hawk nested in. While no longer used for nesting, they are excellent raptor perch trees and habitat for other wildlife.	8	8		**#7:** Hay ground provides too big of a fire danger. Need to be mowed or pastured.	Adopt this management strategy	These snags are excellent wildlife habitat. The trees will not provide a fire danger to surrounding neighbors.
Restore natural ecological processes to sustain native vegetation. This may include prescribed burns, grazing, and other restoration tools.	7*	6	1	**#3:** Use fire sparingly.	Adopt this management strategy	This is standard vegetation management in the City's natural areas
A cover crop may be planted as a weed control strategy until native vegetation is established.	8*	7		**#3:** Plant mature seeds instead.	Adopt this management strategy	This is standard vegetation management in the City's natural areas
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible (e.g., avoid digging fire lines if fire can be contained in a less destructive manner).	7	7			Adopt this management strategy	Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g. digging firelines. When wildfire can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum.	8	8			Adopt this management strategy	It is important to protect the off-trail portion of this natural area from human disturbance to the extent possible, while still allowing

Management Strategy HAZ	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
						research that provides valuable site data.
Abandon and fill irrigation ditches after the ditches are no longer needed for restoration.	6	6		**#8:** Depends on water rights.	Adopt this management strategy	This will be done after they are no longer needed for delivery of water
No parking lot is planned for this site, as it is not anticipated to be a vehicle destination site, but rather will be visited primarily by bicyclists and pedestrians.	9	7	2	**#1:** I think that there should be some parking available to improve access. **#7:** Placed a check mark in both the *Agree/Disagree* columns and left this commentary: Where will pedestrians park? They will have cars.	Adopt this management strategy	The pedestrians on this site are anticipated to be residents from the area who will be walking from their homes nearby. This site is not anticipated to be a vehicle destination site (as compared to the Cathy Fromme Prairie Natural Areas just north of here, which is a more attractive destination site)
Install site sign, kiosk containing interpretive features, and benches; keep brochure rack stocked. Possible interpretive topics: Native wildflowers; Swainson's hawk nest; site name; also, the butterfly habitat (and thus the name) at Colina Mariposa to the south.	8	8			Adopt this management strategy	Will provide information about ecological aspects of this site and of the natural area to the south.
Install mini-kiosks (providing regulatory and trail directional information) at all points where trails enter the site.	8	8			Adopt this management strategy	Has become standard in the City's natural areas
Three-part proposed trail scenario (see map): 1. Bike lane on Shields Street for commuters;	7	5	2	#1: I think that the trails should: a) Have minimal impact on site; b) Serve the purpose they were built for (i.e. Burka hard surface trail right away or as soon as practicable). **#5:** The City can't afford.	Adopt this management strategy	This will provide alternative transportation between Loveland and Fort Collins

Management Strategy HAZ	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	**Staff Recommendation**	Basis of staff recommendation
2. For recreational riders, the Fort Collins/Loveland regional bike trail (to be built by 2010) parallel to Shields, approximately 50' - 100' inside the natural area, and initially be a natural surface trail;	6	5	1	**#4:** But, don't have the trail go East from Shields to Fossil Creek on North end. Keep along Shields. **#12:** Stay a natural surface trail.	Adopt this management strategy	This will provide alternative transporttation and recreation through the natural area. Space will also be provided if Parks or Transportation wants to build an east/west trail along the Trilby side of the site.
3. A natural surface spur trail from the regional trail east to a knoll midway into the site culminating at an interpretive kiosk with information about Hazaleus Natural Area and the butterfly habitat on Colina Mariposa Natural Area to the south.	6	6			Adopt this management strategy	This will provide an opportunity to enjoy scenic views and learn about ecological aspects of this natural area and of the natural area to the south. A shelter also may be installed at the kiosk.
Additional Comment				**#3:** Don't build East/West trail across end of site.	The east/west trail will be explored as a connection to the Fossil Creek Trail.	The purpose of this trail is to facilitate recreation and transportation by connecting to the Fossil Creek Trail.
Additional Comment				**#5:** Would like City to stay where it is and leave out laying areas to County and volunteer groups. This applies to all areas.		Thank you for your comment
Additional Comment				**#6:** Thank you for asking for citizen opinions.		Thank you for your comment
Additional Comment				**#8:** Protect scenic values to be parallel with Colina Mariposa.	Protect scenic views	No obstructions to scenic views are planned for this natural area
Additional Comment				**#9:** Disagree with the proposed buffer areas around the wetlands and raptor sites. Believe the proposal buffer is too large and infringes on private property owners.		Thank you for your comment

Colina Mariposa Natural Area

Site Objectives Comments

Management Objective CMP	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect, re-establish, and maintain native shortgrass and mixed grass prairie, thereby providing habitat for prairie dogs and burrowing owls.	6	6			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Maintain prairie dog colony.	6	6			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect, re-establish, and maintain habitat for ground nesting songbirds and other prairie species.	6	6			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect fossils, unique geo-logical features, native plant communities, and butterfly habitat.	6	6			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Establish a potential route for the paved Fort Collins/ Loveland regional trail through the site to provide a pleasant and scenic trail experience.	6*	4	1	**#1:** See comments on Hazaleus Bike Trail **#2:** Keep along edge of natural area by road. **#6:** Prefer non-paved trails.	Adopt this management objective	Provides transportation and recreation through the natural area
Protect scenic values.	6	6			Adopt this management objective	Fits goals for acquisition of local natural areas.

Colina Mariposa Natural Area
Management Strategies Comments

Management Strategy CMP	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Fill old cellar and cover buried car with dirt or remove car.	5	5		**#1:** Better to remove car in the long run. **#6:** Remove car not bury it.	Adopt this management strategy	This improves the aesthetics of the site. Efficiency and cost effectiveness will be evaluated in determining whether to remove or bury the car.
Prescribed burns, grazing, and other tools may be used to mimic the natural disturbance needed to maintain a natural diversity of grasses.	5*	4		**#3:** Use fires sparingly.	Adopt this management strategy	This is standard practice on the City's natural areas
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible (e.g., avoid digging fire lines if fire can be contained in a less destructive manner).	5	5		**#4:** "?" in the *Agree* column.	Adopt this management strategy	Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g. digging firelines. When wildfire can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum.	5	5			Adopt this management strategy	It is important to protect the off-trail portion of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.
Maintain soft-surface trail on the east side of the site for use by residents of the neighborhood.	5	3	2	**#1:** I disagree with a "private" trail in a public area. **#3:** There should be no private trails on public natural areas. Keep this trail only if neighborhood provides public access.	Adopt this management strategy	This trail is provided to protect the rest of the natural area from human intrusion.
Parks Department to build Fort Collins/Loveland bike trail (by 2010); expected to initially be natural surface and parallel to Shields, ~ 50 - 100 feet inside the site.	4	4		**#1:** See comments on Hazaleus	Adopt this management strategy	This will provide alternative transportation and recreation through the natural area. Space will also be provided if Parks or Transportation wants to build an east/west trail along the Trilby side of the site.

Management Strategy CMP	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	Staff Recommendation	Basis of staff recommendation
Install site sign.	4	4			Adopt this management strategy	Standard practice on the City's natural areas
Install mini-kiosks (providing regulatory and trail directional information) at all points where trails enter the site.	5	5			Adopt this management strategy	This has become standard on the City's natural areas
Because there is no general public access to this site, install an interpretive feature on Hazaleus Natural Area (with a view of Colina Mariposa Natural Area) with information about the butterfly habitat on Colina Mariposa Natural Area (and thus the site's name).	5	4	1	**#1:** I think that there should be "general" public access. Bikers and "neighbors" can use it. The public should have access.	Adopt this management strategy	This will help the public learn about the butterfly habitat on this natural area
Additional Comment:				**#4:** Protect and enhance stream to be parallel with Hazaleus.	Adopt this management strategy	Protecting streams fits mission of the City of Fort Collins Natural Areas Program

Hidden Cattails Natural Area
Site Objective Comments

Management Objective HCT	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Improve and maintain natural conditions.	4	4			This will continue to be the management objective	Fits mission of City of Fort Collins natural areas

Hidden Cattails Natural Area
Management Strategy Comments

Management Strategy HCT	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of Staff Recommendation
The homeowners association has requested to take over the site. Staff will take the recommended transfer of ownership to the home-owners association to City Council for approval in 2005.	4	4	1	**#1:** Need to keep public access and prohibit development- through conditions of sale. **#2:** If HOA can maintain natural area and not allow overuse. **#3:** Require a conservation ease-ment that allows NO development. **#4:** Probably not worth the trouble.	Continue transfer negotiations. Place conservation easement on the property at time of transfer.	- This property was dedicated through the development process; - This type of property is typically incorporated into homeowner association ownership during the development process; - The homeowners' association desires to take over ownership; - Transferring ownership to the homeowners' association will remove this property from the Natural Areas Program's mainten-ance budget

Redtail Grove Natural Area

Site Objectives Comments

Management Objective RTG	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect scenic values.	5	5			Adopt this management objective	Fits goals for acquisition of local natural areas.
Protect, re-establish, and maintain native shortgrass and mixed grass prairie.	5	5			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect nesting and feeding habitat for red-tailed hawks and other raptors.	5	5			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect fossil bed areas and native plant communities.	4	4			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect normal, changing characteristics of Fossil Creek and its tributary.	6	5	1	**#1:** Left marks in both *Agree/ Disagree* columns and left this commentary: What does this mean? Allow to the creek to change its natural channel?	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program. Stream channels change naturally over time. It is desirable to allow these changes to occur (to the extent possible in an urban setting).
Establish a potential route for the paved Fossil Creek regional trail and the Mason Street connector trail through the site to provide a pleasant and scenic trail experience.	4	3	1	**#2:** Non-paved trails (gravel). **#3:** It sound like your focus is more on recreation, not habitat protection.	Adopt this management objective	This is part of the City-wide trail system, which is paved to accommodate a variety of visitor uses, including accessibility. On this site, recreation and alternative transportation take priority over habitat protection (i.e., red tailed hawk nesting sites).
Help trail users learn about red-tailed hawks, which used to nest on this natural area.	6	5	1	**#1:** Left marks in both *Agree/ Disagree* columns and left this commentary: O.K. But, what does past nesting have to with it?	Adopt this management objective	It is important to provide information about wildlife use of a natural area, even if site (or nearby) modifications have caused the wildlife to abandon the site.
Additional comment				Continue to nurture the RR corridor as a wildlife corridor.	Protect wildlife corridors to the extent possible	Protecting wildlife corridors fits the mission of City of Fort Collins Natural Areas Program

Redtail Grove Natural Area
Management Strategies Comments

Management Strategy RTG	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Restore natural ecological processes to sustain native vegetation. This may include prescribed burns, grazing, and other restoration tools.	4	4		**#3:** Use fire as a last resort. This is short grass prairie habitat.	Adopt this management strategy	This has become standard practice in City of Fort Collins natural areas
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible.	5	5		**#4:** "?" *Agree* column.	Adopt this management strategy	Typical wildland firefighting includes some strategies that are destructive to habitat and scarring to the site, e.g. digging firelines. When wildland fire on this natural area can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum.	5	5			Adopt this management strategy	It will be important to protect the off-trail areas of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.
Remove concrete from around the foundation on the northeast corner of the site and either remove the foundation itself or use excess soil during trail construction to bury the foundation.	5	5		**#4:** "?" *Agree* column and "Why?" in the comments section.	Adopt this management strategy	This strategy improves the aesthetics of the site. Burying (with soil excavated during trail construction) may be the most economical strategy and may also be the most appropriate disposal of that soil. When burying is not the most economical and/or appropriate, concrete will be removed.

Management Strategy RTG	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	**Staff Recommendation**	Basis of staff recommendation
Parks Department expects to build the Mason Street trail connection in 2005 (see map) and the Fossil Creek trail in 2006.	4	4		**#2:** As long as trail is not paved (gravel). **#3:** Build only one trail. Why buy these sites if you are going to chase away the wildlife by building trails where they want to nest.	Adopt this management strategy	Both trails are a part of City-wide trail and transportation systems, and as such, will be paved to accommodate a variety of visitor uses, including accessibility. Connecting points (to Fossil Creek Trail and to the Mason Street Corridor) require two separate trails.
Install an interpretive feature along the trail. Topics: red-tailed hawks; fossils.	5	5		**#4:** Sign for fossils may "encourage" removal of fossils.	Adopt this management strategy	Interpretive techniques will be employed to provide information about fossils in a manner that reduces the likelihood of creating the temptation for removal.
Install site sign and mini-kiosks in conjunction with opening of trail.	5	5			Adopt this management strategy	This is standard practice on the City's natural areas.
Additional comment				**#6:** For this and other areas adjacent to the RR tracks, continue to nurture the RR corridor as a wildlife corridor.	Protect wildlife corridors to the extent possible	Protecting wildlife corridors fits the mission of City of Fort Collins Natural Areas Program

Two Creeks Natural Area

Site Objectives Comments

Management Objective TCN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect, re-establish, and maintain upland and riparian habitats to increase wildlife species diversity	6	6		**#5:** Plant habitats have value on their own. Wild animals are just a bonus.	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Improve habitat value of site for salamanders and muskrats.	5	5			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Improve habitat for two-spotted skipper (rare butterfly seen on the site).	5	5			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Protect scenic values.	5	5			Adopt this management objective	Fits goals for acquisition of local natural areas.
Help neighbors and visitors understand creek morphology and wildlife of the site.	6	6			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Prevent re-establishment of prairie dog colony.	6	4	2	**#1:** Why are the "neighbors" an issue here? **#5:** Prairie dogs become quite destructive unless controlled population.	Adopt this management objective	The size and location of this site make it a poor site on which to try to maintain a prairie dog colony.
Protect fragile stream banks.	6	5	1	**#1:** Why? Is it a problem? Are they not native?	Adopt this management objective	It is important to keep visitors off of stream banks, both for visitor safety and to keep stream banks from collapsing.

Two Creeks Natural Area

Management Strategies Comments

Management Strategy TCN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Stabilize creek banks with native plantings/seeding.	6	5	1	**#5:** Erosion is part of the natural progression in this area.	Adopt this management strategy	While erosion is a part of the natural process of stream channel changes, development in this area doesn't allow for stream channel changes, therefore, stabilization of the banks is needed.
Do small wildlife enhance-ment plantings.	6	6			Adopt this management strategy	Wildlife habitat enhancement is in keeping with the mission of the City's Natural Areas Program.
Continue to remove and con-trol exotic shrubs including Russian olive, saltcedar, and Siberian elm.	5	5			Adopt this management strategy	Important for the health of native vegetation
Relocate or fumigate prairie dogs that move onto the site.	6*	3	2	**#1:** Why (Ok. If there is a reason). **#2:** Relocate dogs not fumigate. **#6:** Relocate!	Adopt this management strategy	Size and location make this a poor site for a prairie dog colony. Relocation sites are seldom available. Fumigation is an accepted practice in the Prairie Dog Policy For City Natural Areas.
Conduct vegetation burning as needed for weed control and native grass establishment.	6	6			Adopt this management strategy	This is standard practice in the City's natural areas.
Enforce on-trail-only use of this site to keep recreational activities (including walking) from causing erosion of fragile stream banks. Other measures, such as additional fencing, may be needed if violation of the on-trail-only regulation cannot be controlled.	5	5		**#5:** Keep a balance of areas where people can get close to stream (including adjacent park) and keeping the natural areas natural.	Adopt this management strategy	This strategy is needed on the natural area for human safety and protection of fragile stream banks. This strategy applies only to the natural area; it does not impact use of Fossil Creek Community Park.

Management Strategy TCN	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	**Staff Recommendation**	Basis of staff recommendation
Develop interpretive features along Fossil Creek. Interpretive topics will be selected from the following: creek morphology; swallows; salamanders; two-spotted skipper; fossils.	5	5			Adopt this management strategy	Will help visitors understand ecological aspects of this natural area.
Install site sign in 2005.	6	6			Adopt this management strategy	Standard practice on City natural areas
Continue to remove debris from the creek.	6	6			Adopt this management strategy	Important for aesthetics and water flow purposes
Install mini-kiosks (providing regulatory and trail directional information) at all points where trails enter the site.	6	6			Adopt this management strategy	This has become standard practice on City natural areas.

Prairie Dog Meadow Natural Area

Site Objectives Comments

Management Objective PDM	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect the prairie dog colony.	4*	3		**#1:** Why? If we keep them out of the two creeks- why here?	Adopt this management objective	This much larger site is an important raptor feeding site
Continue to work with adjacent neighbors to control the movement of prairie dogs onto neighboring properties.	4	4			Adopt this management objective	Has become a standard practice for this site
Help visitors understand the wildlife of the site and the management strategies necessary to protect them.	4	4			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Continue experimental vegetation restoration and management with prairie dogs on site.	4	4		**#3:** I hope that this is safe for prairie dogs.	Adopt this management objective	Reduces the need to fumigate or remove prairie dogs

Prairie Dog Meadow Natural Area

Management Strategies Comments

Management Strategy PDM	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Prescribed burns, grazing, and other tools may be used to mimic the natural disturbance needed to maintain a natural diversity of grasses.	3*	2		**#2:** Use of herbicide I disagree with. #**4:** Use fire sparingly.	Adopt this management strategy	Fire and herbicide are standard vegetation management practices in the Natural Areas Program
Reduce weed infestations through integrated pest management (IPM) measures including herbicide, hand pulling, mowing, and biological control.	4	4	1		Adopt this management strategy	This complies with general management guidelines; is required by law (for noxious weeds); is necessary for the creation and maintenance of native plant communities
Replace cover crop with native mixed (short-mid) grasses. As it is determined which natives will remain in the presence of prairie dogs, more and more natives are being planted.	4	4			Adopt this management strategy	An important step in the restoration process
Continue to enhance natural predator habitat.	4	4			Adopt this management strategy	Will enhance raptor use of the site
Mow vegetation along the street to comply with Streets Department requirements.	4	4		**#2:** As long as its minimal.	Adopt this management strategy	Vegetation height must be controlled along streets
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible.	4	4			Adopt this management strategy	Typical wildland firefighting includes some strategies that are destructive to habitat and scarring to the site, e.g. digging firelines. When wildland fire on this natural area can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.

Management Strategy PDM	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Evaluate research permit applications to keep disturbance by researchers to a minimum.	4	4			Adopt this management strategy	It is important to protect the interior of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.
Remove logs, telephone poles, and other debris.	4	4			Adopt this management strategy	Improves the site aesthetically
Replace (old style) site sign west of the Humane Society parking lot.	4	4		**#3:** I didn't know that it was there!	Adopt this management strategy	Sign will be a typical natural area sign and will match other site signs on the site.
Install kiosk (with site identifier and interpretive sign) and bench at the end of Kyle Avenue in 2005 or 2006 - interpretive topic: prairie dogs ("Living Next to Prairie Dog Colonies").	4	4		From 12/10/04 meeting: Humane Society personnel would like for City to consider providing WildKind information on the kiosk.	Adopt this management strategy	In addition to prairie dog topics, City will explore options for providing education about appropriate interaction with wildlife (particularly "rescuing" wildlife babies that probably have not been abandoned by their parents). This may be on the sign or in a publication.
At an appropriate place along the sidewalk on Skyway, install an interpretive sign to identify the natural area and provide information about the ecology of this site.	4	4			Adopt this management strategy	This will provide helpful education/ interpretation to the public
Install a site sign on the Skyway side of the site.	4	4			Adopt this management strategy	This will be helpful in site identification
Additional Comment				From 12/10/04 meeting with Humane Society personnel: Humane Society is looking to expand (possibly within 5 years). Unsure where that expansion will occur (not on natural area).	Be aware of this in managing this natural area	Site planning opportunities may become available.

Pelican Marsh Natural Area
Site Objectives Comments

Management Objective PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
ℙrotect scenic values.	21*	19	1	**#11:** Does option 1 do this? **#13:** The lake is a scenic value. **#23:** Leave as is!	Adopt this management objective	Fits goals for acquisition of local natural areas. Either Option will protect outstanding scenic values.
ℙrotect, enhance, and maintain habitat for high diversity of wetland birds.	19	17	2	**#5:** Would protect birds but not at the extent of not allowing people in. **#7:** In addition to birds listed- Great Blue Heron. **#8:** If that means leaving the lake as it is now. **#11:** How is this achieved with Option 1? Have you made your case- I think not. **#13:** You named this Pelican Marsh natural area. Without the lake there will be no pelicans along with other species that visit the lake. **#16:** Pelicans, geese. **#23:** There is plenty of diversity- simply maintain current levels.	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program. Human access will be carefully planned to leave major portions of the natural area free of human disturbance. Dam/wetland options will be explored to ensure that wildlife habitat is maintained or enhanced (see discussion under strategies 10 and 11).
ℙrotect and maintain habitat for prairie dogs and burrowing owls on a portion of the site.	19	18	1	**#5:** Object to protection of prairie dogs as they are hard to control. **#8:** If that means leaving the lake as it is now.	Adopt this management objective	Prairie dogs will be on eastern portion of site. See discussion under strategy 2
ℙrotect coyote and fox dens.	17	17		**#7:** Left a mark between the *Agree /Disagree* columns and stated, "May require population controls- both species like to frequent Victoria Estates and raid the cat population." **#8:** If that means leaving the lake as it is now. **#13:** Dens exist. With the work removing the dam, dens will be gone. **#23:** They are wonderful and prosperous.	Adopt this management objective	Protecting wildlife habitat fits the mission of City of Fort Collins Natural Areas Program. For pet safety, it is best to keep pets indoors. Site work, (dam rebuilding or removal) will disturb some existing wildlife populations during soil movement activities.

Management Objective PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Establish potential trail routes through the site to provide a pleasant and scenic trail experience.	19*	15	2	**#2:** Put trails closer to reservoir, away from the houses in Victoria Estates. **#5:** Trail with Victoria Estates access. **#6:** Would this include horses? **#7:** Would like to see bridle trails established, since many neighbor-hood residents own horses. **#10:** As long as it does not impact foxes and coyotes. **#12:** Agree if paved further to the East. **#13:** A viewing area on the north side of the lake would allow visitors the opportunity to see real natural habitat. **#14:** Trail routes should have resource protection as 1st priority, recreational experiences as 2nd priority. **#15:** I think that you offer too many trails in your plans. **#18:** For horse owners also in Victoria Estates. **#23:** Left a mark between the *Agree/Disagree* column and left this commentary: I'm in the middle here, might take away.	Adopt this management objective	Trail routes are designed to provide human enjoyment with minimal wildlife impacts. Trails on this site would follow the Natural Areas Program policy of allowing horses on, or within 10 feet of, trails.
Help students, neighbors, and other visitors understand the natural values of the site.	19*	17	2	**#1:** Easier to say help visitors…? **#11:** With dam removal- what will be the "natural values" of the site? **#23:** Strongly disagree! Don't care if folks understand natural values? Coloradoans know and practice natural values everywhere! They are installed and not simply realized.	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program. See dis-cussion under strategies 10 and 11.

Pelican Marsh Natural Area
Management Strategies Comments

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
1. Complete the native grassland restoration project.	20	20		**#12:** Will users be allowed to go anywhere on the NA? If yes, can native grass stand the use?	Adopt this management strategy	Restoration to native vegetation fits the goals of the City's Natural Areas Program. This will be an on-trail-only site. Visitors must stay on trails (horses, within 10 feet of trails).
2. Allow prairie dogs to move back into a portion of the site, thus improving habitat for burrowing owls and raptors. This will be a small, managed colony. Boundary containment (including fumigation) may be required. If a small population cannot be successfully maintained, prairie dogs may permanently be removed.	20*	16	3	**#5:** Would not allow prairie dogs in. **#7:** Burrowing owls lost their home when the housing development went in south of Carpenter Road (Stoner Development). **#10:** Against fumigation. **#12:** But only if the colony is located to the center of the NA, well away from neighbor boundaries. **#20:** Move prairie dogs from undesirable places to here? **#23:** We are indifferent, but helping to support the coyotes and fox strategies.	Adopt this management strategy	Burrowing owls moved into adjacent property in '04 (requiring development activity to be halted near the owls until the owls moved out). Allowing prairie dogs into the eastern part of this natural area would provide habitat where burrowing owls could be undisturbed. An inventory will be conducted to determine appropriate target prairie dog population density. Prairie dogs may be controlled at site boundaries if necessary to maintain target population density. Fumigation, while the method of last resort (with live trapping being the preferred method), is an accepted practice in the Prairie Dog Policy For City Natural Areas. Sites for relocation are seldom available, but options to support raptor or black-footed ferret recovery programs are often available. This being such a small site, allowing prairie dogs to simply move into the eastern part of the site on their own will be preferable to moving the animals from other sites.

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
3. Continue to mow vegetation along streets to comply with Streets Department regulations.	19	18	1	**#10:** Minimal mowing.	Adopt this management strategy	Vegetation height must be controlled along streets
4. Reduce weed infestations using integrated pest management (IPM) measures (mow-ing, herbicide, hand pulling, burning, biological control).	19*	16	2	**#10:** No herbicide. **#14:** Use fires as a last resort. It may damage short grass habitat. If burning, do not burn when ground nesting birds are present.	Adopt this management strategy	This complies with general management guidelines, is required by law (for noxious weeds), is necessary for the creation and maintenance of native plant communities
5. Prescribed burns, grazing, and other tools may be used to mimic the natural disturbance needed to maintain a natural diversity of grasses.	18	18			Adopt this management strategy	This is the adopted practice of the Natural Areas Program
6. Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible.	19	19			Adopt this management strategy	Some wildland firefighting strategies destroy habitat and scar the site, e.g. digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
7. Evaluate research permit applications to keep disturbance by researchers to a minimum.	18*	17		**#11:** However- presently duck hunters are using the lake- is this a disturbance? **#23:** Sounds like this would be unnecessary.	Adopt this management strategy	Off-trail areas of this natural area must be protected from human disturbance to the extent possible, while still allowing research that provides valuable site data.
8. Consult with appropriate departments (e.g., Utilities) in determining reservoir option/ design.	18	16	2		Adopt this management strategy	Decision cannot be made without information from Water and Stormwater.
9. Meet State requirements for safety of Benson dam. Complete design in 2005 (from Option 1 or 2 below); construct in 2006.	16	14	2	**#12:** "Maybe" in-between *Agree/ Disagree* columns. Considering options 1 and 2 is not acceptable. Consider intermediate options.	Adopt this management strategy	State engineer advised the City several years ago that dam is in poor condition and action must be taken to remedy the situation.

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
10. Option 1 – Remove dam (see discussion on narrative sheets)	21	5	16	**#1:** A smaller lake will be more in keeping with the natural character of area. **#2:** Please notify Victoria Estate residents of upcoming meetings and advisory groups discussing dam options and other issues! **#4:** Disagree- remove dam **#5:** I strongly disagree. The lake is beautiful. We need the reservoir as large as it is. It is a focal point to me and I enjoy it. **#7:** Afraid standing water would provide breeding waters for mosquitoes- West Nile virus., heartworm disease. **#11:** Not valid to reduce options to one set of dichotomous alternatives. **#12:** Disagree very much- a whole spectrum of reservoir sizes can be considered between the two you've outlines. **#13:** Actually there are more options than the two you have mentioned including the option to do nothing. **#15:** I don't believe that you will be able to maintain any water if you tear down the dam. **#22:** Should leave this area and lake as it has been for many years.	Consider this management strategy	The State engineer requires that the dam either be rebuilt to safe standards or put out of service. Good management practice dictates that all options be fully explored before taking action on a project of this magnitude. Many questions remain unanswered, including whether the Natural Areas Program has water rights to maintain water in the lake even if the dam is rebuilt. As was stated in Planning and Zoning hearings in 1996, the reason the Natural Areas Program was interested in acquiring this site was to enhance the wetlands and habitat value. That remains the Natural Areas Program's goal for this site. The existing habitat is working well. A concept enhancement plan written in 1996 suggests that habitat value will be even better if a more wetland type configuration is created (which was stated at 1996 Planning and Zoning Board hearings as the likely recommendation). There is no intent to eliminate open water, but rather to reduce the amount of open water and increase wetland and edge type habitat, which the enhancement plan advises will provide more habitat not only for wildlife (such as white pelicans) to use as a stopover site, but also as a nesting site. Staff recommends getting additional information about both strategies in order to make a well-informed
11. Option 2 – Reconstruct dam (see discussion on narrative sheets)	20	13	7	**#5:** This is the best option. **#7:** Yes-provided limited access for non-motorized water craft, establish fish population, keep West and South non-accessible. No established trails to provide quiet area for natural habitats and wildlife.	Consider this management strategy	

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
				#12: Disagree very much-You've provided no info about reservoir sizes under your two alternatives. In between those two extremes, opportunity certainly exists for substantial water surface area and wetland increase. **#18:** Need to keep reservoir as is for pelicans and scenic value. **#22:** Repair dam as necessary to protect lake and wildlife as it is. **#23:** Left a mark between the Agree/Disagree columns.		decision. It is intended that this information be gathered, and a decision reached, in 2005, with construction (of whichever decision is reached) in 2006. It is recognized that many residents fear that anything other than a dam and the existing lake will eliminate habitat for the wildlife they are currently enjoying. This is definitely not the intent, but rather the intent is to maintain and enhance habitat for current wildlife, making it even more useful for those wildlife, and possibly create habitat that will attract additional wildlife. Information will be made available to residents, and there will be additional opportunities for public comment.
12. Install site sign(s).	15	12	3	**#5:** Minimal. **#6:** Very few signs. **#7:** Minimal- not to disrupt natural habitat and prevent over-use of site.	Adopt this management strategy	Standard on City natural areas
13. Construct soft trail connections from the neighborhood park and from the neighborhood open space to the natural area (see map for possible location).	16	14	2	**#2:** "?" in between the *Agree/ Disagree* columns. **#5:** Would like access to Victoria Estates also. **#12:** OK if trail ties into the paved trail further East. **#15:** Do you really think people are going to stay on the trail and not invade the surrounding area? This is going to be too populated of an area. I think you should plant some kind of barrier from any trails you make and the natural area. are thorn bushes native?	Adopt this management strategy	The mission of the Natural Areas Program considers protection of natural features a high priority but also provides for appropriate recreation. Trail location was chosen because it provides access to outstanding views without impacting prime habitat. The City's natural areas and trails rangers will patrol for off-trail use. (See discussion of strategy 22 regarding Victoria Estates access). Portions of the trail will be constructed to ADA standards.

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
14. Construct a paved trail from Carpenter Road providing a transportation connection across the natural area between neighborhoods and schools south of Carpenter Road and Provincetowne. Investigate installing a pedestrian crossing light where trail meets Carpenter Road.	15	9	6	**#2:** "?" in between the *Agree/ Disagree* columns. **#6:** It is such a small area- why do we need a paved trail? Keep them soft dirt trails. **#12:** Locate paved trail further East. **#14:** Paved transportation connections should not be on natural areas when they cause site disturbance. There should be an on-street bike lane and sidewalks. **#23:** Left a mark in-between the *Agree/Disagree* columns and left this commentary: A bit of a selfish standpoint: access is less good (we like privacy and the peacefulness of our community).	This trail is required in order to meet neighborhood needs as a result of development. During development review, developer will be asked to provide this trail and signalized pedestrian crossing.	This trail is only feasible if a pedestrian light can be installed at Carpenter Road and/or if trail connects to a sidewalk along Carpenter Road. Otherwise, it would be extremely unsafe to take trail users to Carpenter Road. The need for the trail, and the possibility of installing the pedestrian light, will continue to be evaluated. If the need is exhibited, and the light can be installed, the trail will be built in the approximate configuration shown on the map. The neighborhood connecting point on the north may be changed by the developer, thus trail placement will change (from what is currently showing on the map) as necessary to meet the new connecting point. The point at which the trail meets and crosses Carpenter Road may change if needed for safety. The expected crossing would be at Victoria Ct., but this will require a sidewalk along Carpenter from the trailhead to the Carpenter Road crossing location.
15. Construct a boardwalk at east end of reservoir (near the trees) if Stormwater allows, otherwise, along north side of reservoir west of where trail comes from the park. Boardwalk will allow educational groups access to the wetland.	18	14	4	**#6:** Marked between *Agree/ Disagree* columns and left this commentary: You seem to want to install a lot of stuff. Would like to keep it to a minimum. Don't fill it up with a lot of stuff even if it is educational. **#14:** Education should not be used as an excuse for disturbing wetlands.	Pursue the possibility of this management strategy	It is recognized that education by example is the best type of education, therefore, allowing disturbance of wetlands for educational purposes can be considered questionable. The mission of the Natural Areas Program, while recognizing that protection of natural features is a high priority, also includes providing appropriate education.
16. Install pet clean-up bag holder(s).	17	15	2		Adopt this management strategy	Helps dog owners keep trails clear of pet excrement

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
17. Install fencing around perimeter to prevent illegal vehicle access.	16	14	2	**#2:** Depends on the kind of fencing. Wood/lodgepole rail OK. **#12:** Use the buck and rail fencing used on other properties, looks good. **#14:** wood fencing only! No wire fencing in natural areas!	Adopt this management strategy	Type of fencing will continue to be explored.
18. Install benches in locations conducive to wildlife watching and enjoyment of scenic views.	18	13	5	**#6:** Marked between *Agree/Disagree* columns. **#12:** takes away from the natural area concept unless benches are near the boardwalk. **#23:** Use blanket or ground.	Adopt this management strategy	This site has areas where visitors are likely to want to sit and enjoy the views, watch wildlife, or just enjoy the ambiance. Benches (estimated one or two) will be installed at locations along the trail (probably the natural surface trail or the boardwalk) where these activities are most likely to occur).
19. Install interpretive features along trail(s). Possible topics from which to choose: pelicans; reservoirs; coyotes; burrowing owls; views/ orientation.	19*	14	4	**#6:** Marked between *Agree/ Disagree* columns. **#11:** "Pelicans, reservoirs" is circled with the comment "Option1?" **#23:** They become vandalism targets.	Adopt this management strategy	While vandals do target interpretive features, our experience is that natural area visitors appreciate the opportunity to learn about the wildlife and other features of natural areas and how best to protect them.
20. Plan for anticipated high education (Master Naturalist) use by nearby schools in Loveland as well as in south Fort Collins.	17	15	2	**#23:** Awesome wildlife here! Must be kept sacred.	Adopt this management strategy	Natural areas with high wildlife use are usually highly sought after by school groups. By having Master Naturalists lead many of the school group visits, the attempt will be made to teach students to respect and protect wildlife and their habitat.
21. Install mini-kiosks (providing regulatory and trail directional information) where trails enter the site.	17	14	3	**#6:** It isn't big enough to need maps or directions.	Adopt this management strategy	Has become standard in all City natural areas.
22. Construct connecting trail to Victoria Estates. Location will depend on where Victoria Estates can provide the connecting	17	13	4	**#5:** People need an area where they can walk around and enjoy. **#12:** People from Victoria Estates can access the N.A. at the usual entry locations.	Adopt this management strategy if Victoria Estates residents want a connection and	Victoria Estates residents have expressed pros and cons of this strategy. The Natural Areas Program will work with Victoria Estates residents if they want a connection

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
location on the neighbor-hood side.				**#14:** Only if neighbors provide access in location where impacts to the natural area are minimal. **#15:** I wouldn't mind a big fence to keep everyone out. But seems that the neighborhood likes to walk their dogs and horse riding is a high priority here. So think you should have a horse trail along our fence line. With another fence to stop people and dogs from going into wetlands. One of us might give access, maybe. **#18:** Horse accessible. **#19:** "?" in the *Agree* column. **#21:** Our neighborhood has neighborly, but narrow county lanes- we don't want everyone in Larimer County trying to park there. (*When this citizen came by the office to drop-off his comment sheet, he stated that his house is the only one on the road closest to the lake. He is concerned that he will need to put up a gate at the private road to avoid it becoming a parking lot for people to pick up a walking trail to the PMN. If the city were to estab-lish a distinct parking area to access the trail, that may ease this citizen's concerns).* **#23:** No one from Victoria Estates uses or access the property as is! No need to disrupt wildlife or natural areas.	provide appropriate access	and if they provide access at an appropriate location (probably along the east side of the development).
23. Additional Comment				**#4:** Hiking and bike trails would be nice.	See strategies 13 & 14	

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
24. Additional Comment				**#3:** How many times do we have to deal with the fate of Robert Benson Reservoir? I live in Victoria Estates and along with many of my neighbors feel that the lake is a part of our neighborhood. On 2 occasions we have rallied to preserve our reservoir as it is. It is home to a variety of wildlife and birds. I don't see how a smaller body of water could accommodate hundreds and hundreds of geese and huge numbers of pelicans that frequent this reservoir. This area was named for the pelicans may very well disappear. When I think of the wood "marsh" and the small bodies of water, mosquitoes and West Nile virus comes to mind. Why try to create an unfavorable situation? I appreciate the fact that this is now a natural area and is out of danger of being developed into a housing project, but my main concern is with maintaining the reservoir as is, at it's present size. Why try to create a new environment for the already existing coyotes, fox, pheasant, geese, pelicans and other wildlife? Please notify Victoria Estate residents of upcoming advisory groups and meetings! Thank you.	See discussion under strategies 10 & 11	
25. Additional Comment				**#5:** We need walking access around the reservoir. An area like the Cathy Fromme area and trails would be good. However the Cathy Fromme area has too many rattlesnakes and is dangerous. If we drain the lake	A trail around the lake is not recommended	The wildlife of the area (regardless of whether the lake remains as is or wetland enhancement is done) need large areas free of human disturbance. The Cathy Fromme Prairie trail is designed to cause minimal wildlife

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
				we loose a beautiful view from the college and loose much potential for enjoyment. We have seen herring, geese, ducks as well as pelicans on the reservoir and enjoy seeing them. A raised wooden boardwalk around the lake would be wonderful. A paved trail would be good. Human access and enjoyment is needed. It would be nice to be able to go for a walk around the lake.		disturbance. See discussion in strategies 10 & 11 – while the lake may be reduced in size, there is no plan to drain it.
26. Additional Comment				#6: We live in Victoria Estates and enjoy having that area so near, but would like access to it. I don't want to clutter it up with a bunch of signs, trails, benches, etc. Please consider that in you planning.	See discussion of strategies 22, 19, and 18.	
27. Additional Comment				**#8:** We must also consider how changing Robert Benson Lake will affect the homeowners in Victoria Estates. Many of us have built our homes to maximize the view of natural, undisturbed lake. How will changing the lake affect the value of our homes?? Unfortunately, all of these options, although designed to enhance wildlife and its viewing will potentially decrease the wildlife because of the increased foot traffic, noise, etc. The wildlife in this area are very sensitive to any and all disturbances.	See discussion of strategies 10 & 11.	
28. Additional Comment				#11: Planning Process: Goals-inventory-alternatives-decision (evaluation/ selection of alternative)-implementation/budget-monitoring. You have listed only two alternatives! Blow dam/don't	See discussion of strategies 10 & 11.	

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
				blow dam! Should be at least 4 alternatives including a "do nothing" alternative. Your process is flawed- have never seen (only) two alternatives presented in a natural resource plan?? There is no flexibility here- where is the equity? What are the physical/biological consequences of Option1? What are you contingency plans? Are contingency plans even germane with…blow dam/don't blow dam? I agree, that protecting (or creating if you can) the most heterogeneous array of habitats (size and community types) is the preferred management solution for species richness- does your plan demonstrate this? How would you achieve this? What definition of variants are you using? A - U.S. Wildlife (Cowardin etal 1979:3)? a) Army Corps of Engineers (i.e. your requirements); b) U.S. Department of Agriculture- soil conservation services, "swamp buster" provision/Food Security Act of '85? I, assume, that active management will be needed to maintain the "target" diversity desired early. Epitemeral potholes-midsummer aquatic breeding areas-large lake area-could this be achieved with slight changes to the existing conditions? Where are these options?		

Management Strategy PMN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
29. Additional Comment				**#15:** The City and Natural Resources department tried to get rid of the lake back in 1987, as I am sure you all know. Then again in 1996 with Provincetown. We already met with the Advisory Board in 1997 and we keep telling you we want the lake. We haven't all died or retired and moved on yet, some of us are still here to remember the disputes. There has been a lot of damage since 1987, but you can't blame it all vandalism on us, you've turned your head away from Benson lake for a long time. How can you uphold a water wildlife population by getting rid of the lake? When your evaluating your already planned ideas, get all the comments we've made over the years and include them. The Natural Resources Department originally thought it was OK to build housing in Pelican Marsh/Lake, so I don't hold a lot of faith that what you prefer is best for the wildlife or South Fort Collins.	See discussion of strategies 10 & 11.	

Fossil Creek Wetlands Natural Area

Site Objectives Comments

Management Objective FCW	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect scenic values.	9	9		**#2:** Beautiful **#5:** Crossing to the West over Stanton Creek farther North will make a more scenic path!	Adopt this management objective	Fits goals for acquisition of local natural areas.
Protect, enhance, and maintain habitat for shore-birds, waterfowl, raptors, and grassland birds.	9	9		**#2:** Love seeing water fowl!	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Establish a potential route for the paved Fossil Creek regional trail through the site to provide a pleasant and scenic trail experience.	12*	7	2	**#1:** The criteria in any natural area should be to minimize site impact. **#3:** Please consider moving the bike trail to East side of Stanton Creek further to the North to provide better views and stay away from current properties. **#5:** Crossing to the West over Stanton Creek farther North will make a more scenic path! **#6:** I favor keeping a trail away from Fossil Creek Reservoir (as shown in the diagram) to protect bird watching and nesting areas. **#8:** As long as this paved Fossil Creek Regional Trail is not a continuation of the private Paragon point path system. Are the Natural Areas used to establish routes for paved trails? **#10:** Would prefer the path be kept at a greater distance from property lines of homes on Barbuda Dr. **#11:** We back onto the wetlands. Our backyards are very small and would prefer that you put the trail	Adopt this management objective	Trail alignment will be finalized prior to construction. (See discussion under trail strategy)

				on the East side of the Creek to protect our privacy in our yard as we paid thousands of dollars to buy their lot so we would not have people behind us. And we enjoy the coyote's that live right behind our yard, you have to cross the creek one time for the trail and if you could cross it further North of where the map shows we would appreciate it. **#12:** Habitat protection must be 1st priority in trail placement. Recreational experience should be lower priority. **#13:** Prefer gravel trail.		
Help visitors learn about some of the birds that use this site and understand the importance of this site in the context of watershed conservation.	12*	10	1	**#1:** Left marks in both *Agree/ Disagree* columns and left this commentary: How are we going to do this? **#4:** Visitors need to be able to view the birds in the wetland. **#5:** Redtail hawks use our fencing lines for perching and drying out mice, snakes, etc. Worried current location of path will disturb them (Cross Stanton Creek further to the North).	Adopt this management objective	This will provide education and recreation enjoyment with minimal resource disturbance
Protect the prairie dog colony and fox and coyote dens.	10	9	1	**#5:** How the current bike path is laid will go over a coyote den located approximately behind our houses (Barbuda Dr.) **#9:** Protection OK, but numbers must be limited to protect adjoining neighborhoods and to prevent plague.	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program

Fossil Creek Wetlands Natural Area

Management Strategies Comments

Management Strategy FCW	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Continue to control weed infestations.	1	1			Adopt this management strategy	This complies with general management guidelines, is required by law (for noxious weeds), is necessary for the creation and maintenance of native plant communities
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible.	1	1			Adopt this management strategy	Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g. digging firelines. When wildland fire can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum.	1	1			Adopt this management strategy	It is important to protect the off-trail portion of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.
Mow short connector trail to Stanton Creek.	1	1			Adopt this management strategy	This connector is provided at request of the neighborhood and will be paved in the future as part of the Fossil Creek Trail project
Install site sign in 2004.	1	1			Adopt this management strategy	Standard practice on the City's natural areas. Sign was installed at Timberline/Carpenter in late 2004. Sign will be installed on Trilby in 2005.
Maintain and enhance parking/pull-off area on Trilby east of the railroad track and add ADA accessible shelter.	1	1			Adopt this management strategy	This will provide a wildlife viewing area on the north side of this natural area

Management Strategy FCW	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Install bike pull-out and bench at corner of Carpenter/Timberline when Fossil Creek trail is built.	1	1			Adopt this management strategy	This will provide an opportunity for trail users to enjoy the views and watch wildlife
Maintain short loop on west side of site connecting to neighborhood open space.	1	1			Adopt this management strategy	This connection is provided at request of the neighborhood and will be paved in the future as part of the Fossil Creek Trail project.
Parks Department to build Fossil Creek Trail in 2008 or later (see map for location).	1	1			Adopt this management strategy	The initial proposed alignment, while representative of the ultimate alignment, and considered best for wildlife, given the topography of the site, is conceptual. It is anticipated that the trail will remain as close to the west side of the natural area as practical to protect habitat interior to the site. The alignment will be finalized prior to construction to consider such factors as existing wildlife habitat (e.g., coyote dens).
Remove old erosion control fencing and other debris.	1	1			Adopt this management strategy	This is important site clean-up
Remove or cover concrete and riprap.	1	1			Adopt this management strategy	This will improve aesthetics of the site
Install interpretive features; possible topics: conserving a watershed (at proposed bike pull-out near Carpenter/ Timberline intersection); avocets (at Trilby parking pull-out).	1	1			Adopt this management strategy	This will provide ecological information for site visitors
Install mini-kiosks (providing regulatory and trail directional information) where trails enter the site.	1	1			Adopt this management strategy	This has become standard on City of Fort Collins natural areas

Management Strategy FCW	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Additional Comment:				**#5:** Prairie dog colonies have recently (within 3 years) greatly increased. Resilient little guys. Redtails and other hawks use the grass areas behind our houses on Barbuda Dr. and Stanton Creek for hunting area. This is where the current location of the bike path will be! Please consider crossing Stanton Creek further to the North. There is not enough room to put a bike path and protect privacy.		See discussion under trail strategy above
Additional Comment:				**#6:** Make the Wetlands Natural Area part of a continuous natural area all around Fossil Creek Reservoir.	Not applicable	While it can be confusing to have several sites with "Fossil Creek" in their names, various factors have led to different site names in this general area. Fossil Creek Wetlands Natural Area (owned and managed by the City) goes only as far east as Timberline Road. Fossil Creek Reservoir Natural Area (owned and managed by the City) is adjacent to the Fossil Creek Reservoir lease. Fossil Creek Reservoir Regional Open Space is jointly owned by the City and the County and managed by the County.
Additional Comment:				**#7:** We have plenty of picnic tables and shelters in Parks—don't need them in natural areas.	A picnic table and shelter will be provided at this natural area near the Trilby parking area.	A goal of the Natural Areas Program is to provide accessible shelters in some natural areas

Note: Due to an unfortunate error, the open house packets failed to include comment sheets for proposed management strategies on this site. The packet included only a comment for management objectives. Therefore, except for one person (who did obtain the entire comment sheet packet) all comments relative to this site are on the management objectives sheet.

Fossil Creek Reservoir Natural Area

Site Objectives Comments

Management Objective FCR	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Protect scenic values.	7	7			Adopt this management objective	Fits goals for acquisition of local natural areas.
Protect, enhance, and maintain habitat for shorebirds, waterfowl, raptors, and grassland birds.	7	7			Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program
Help visitors understand Fossil Creek's natural functions and the importance of wetlands.	8	8		**#4:** Figure out a way to get visitors to overlook or get near the water/ wetlands. Consider a boardwalk from trail. **#7:** Good learning tool.	Adopt this management objective	Fits mission of City of Fort Collins Natural Areas Program. Because of this site's proximity to a busy intersection, a right-in-right-out parking lot is all that would be allowed, which isn't logical when most visitors would be coming from the north or west. Therefore, the only people who can access the site are those using the Fossil Creek bike trail. This limited use may not justify the cost of a boardwalk.

Fossil Creek Reservoir Natural Area

Management Strategies Comments

Management Strategy FCR	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of Staff Recommendation
Plant cottonwoods on the City-owned portion for raptor roosts and perches.	7	7		**#7:** What size trees?	Adopt this management strategy	Enhances wildlife habitat
Plant native shrubs on the City-owned portion to increase habitat diversity and provide wildlife food and cover.	7	7			Adopt this management strategy	Enhances wildlife habitat and native plant populations
Plant next generation of cottonwoods on leased portion to maintain eagle roosting.	7	7		**#7:** Excellent foresight!	Adopt this management strategy	Enhances wildlife habitat
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible.	7	7		**#3:** "?" in *Agree* column	Adopt this management strategy	Wildland firefighting includes some strategies that destroy habitat and scar the site, e.g. digging firelines. When wildfire can be kept from spreading and/or damaging nearby properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum.	7	7			Adopt this management strategy	It is important to protect the off-trail portion of this natural area from human disturbance to the extent possible, while still allowing research that provides valuable site data.
Install mini-kiosks (providing regulatory and trail directional information) where the trail enters the site.	7	7			Adopt this management strategy	This has become standard on the City's natural areas.

Management Strategy FCR	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of Staff Recommendation
Parks Department to construct Fossil Creek Trail in 2008 or later.	7*	6		**#6:** Keep pets away from birds and other wild species. **#9:** Non-paved trails.	Adopt this management strategy	This site will be managed as an on-trail only site; pets will only be allowed on the trail and must be leashed. This is part of the City-wide trail system, which is paved to accommodate a variety of visitor uses, including accessibility.
Construct bike pull-out along the paved trail and install interpretive feature.	7	7			Adopt this management strategy	This will provide an opportunity for trail users to enjoy the views and learn about the site.
Install smooth wire fencing in 2005.	7	6	1	**#2:** No wire fencing on natural areas. It is hazardous to wildlife.	Install fencing – possibly wood	Staff is exploring the possibility of installing a single rail wood fence
Interpretive topics will be chosen from the following: Wetlands; the difference between wetlands and open water; stream life; Fossil Creek.	7	7			Adopt this management strategy	This will provide an opportunity for trail users to learn about ecological aspects of the site.
Remove debris around reservoir on north and east sides and rip/reseed.	7	7			Adopt this management strategy	This is important site clean-up
On the leased portion, prairie dogs that move into the area until restoration is complete will be relocated or fumigated. North Poudre Irrigation will remove prairie dogs as necessary to maintain dam integrity.	7	7		**#1:** Again, I assume the reason is to enhance restoration. If so, I agree. **#7:** I would prefer the prairie dogs be relocated vs. fumigated. **#9:** As long as fumigation is not used.	Adopt this management strategy	Prairie dog management is stated in the lease. The priority management strategy on the restoration portion will be to try to manage with the prairie dogs on site, then if they must be removed, try to relocate, and fumigate as a last resort. It is acknowledged, however, that relocation sites are seldom available. Fumigation is an accepted practice in the Prairie Dog Policy For City Natural Areas.

Management Strategy FCR	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of Staff Recommendation
On the leased portion, public access will be allowed on a paved bike trail from the Fossil Creek Reservoir Regional Open Space parking lot west to Timberline and east along Carpenter Road, a short trail loop from the parking lot to the wetland, and a short boardwalk off the trail loop with a wildlife viewing platform to be built on the leased property out into the wetland. These trails are a part of the Fossil Creek Reservoir Regional Open Space plan.	6	5	1	**#9:** Walking Paths only using gravel trails.	Adopt this management strategy	These trails are a part of the adopted Fossil Creek Reservoir Regional Open Space plan.
Additional Comment				**#5:** If pets are allowed they should be on leash.	Adopt this management strategy	It is required by law
Additional Comment				**#6:** Extend natural area buffer around Fossil Creek Reservoir.	Pursue this management strategy	Staff will continue to work toward protecting the ¼-mile buffer around the reservoir.
Additional Comment				**#8:** We received the postcard asking us to tell you how to manage natural areas. I just wanted to call to say you are doing a great job. And that Fossil Creek Reservoir for the birds is just great. We were out there the day we saw 2 bald eagles in the tree. If that is not special, I don't know what is. Anyway, just wanted you to know you are doing a great job. Keep it up.		Thank you for your comment

Eagle View Natural Area

Site Objectives Comments

Management Objective	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of Staff Recommendation
ℙrotect the quarter mile buffer along the north side of Fossil Creek Reservoir.	9	9			Adopt this management objective	Resource protection fits the mission of the City of Fort Collins Natural Areas Program
ℙrotect the winter eagle roosting site on the north shore of Fossil Creek Reservoir.	9	9			Adopt this management objective	**Resource protection fits the mission of the City of Fort Collins Natural Areas Program**
ℂreate more natural site contours along the Fossil Creek Reservoir Inlet Ditch and establish a more stream-like habitat for water fowl and other wildlife along the ditch.	9	6	3	**#4:** This is a ditch! It's waste water! Don't waste money pretending it's some kind of wonderful waterway. #8: Disagree unless you can do very cheaply- this is not high quality water.	Pursue the possibility of this management objective	It will be determined whether this is cost effective.
ℝestore site to native grassland to provide habitat for prairie dogs and other raptor prey species.	9	9			Adoption of this man-agement objective will depend on trail con-figuration	If trails are kept to the edges of the site, there will be adequate area for prairie dogs to move in and create raptor and burrowing owl habitat. If trails are created interior to the site (north of the existing County Rd. 34E) this reduces the site's potential habitat value, and prairie dogs likely will not be allowed to move into the site. The current proposed trail configuration will likely permit prairie dogs to be allowed to move into the site.
ℙromote the site as an out-door classroom for the three nearby schools where students can learn about the wildlife of this natural area.	9*	6	2	**#4:** If this means you'll invite classes to use the site appropriately, I agree. But don't use education as an excuse to put trails where good wildlife habitat could be created. #8: Keep to edge of N.A.	Adopt this management objective	**This site is convenient for schools in the area**

Management Objective	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of Staff Recommendation
Establish a potential route for the paved accessible Fossil Creek Regional Trail through the site to provide a pleasant and scenic trail experience.	8*	6	1	**#3:** Keep trail to edge of property. Option A not Option B. **#8:** Keep to edge of N.A. **#9:** Consider combination of trail on the East and West side of the area (nearer to the perimeter on the East) if area is too sensitive for interior trail. #11: Use gravel for trail.	Adopt this management objective	This will provide transportation through the site
Create a soft trail system in the natural area to provide wildlife viewing opportunities.	8	7	1	#8: Keep to edge of N.A.	Adopt this management objective	This will provide recreation through the site
Provide an accessible eagle observation area and picnic area.	9*	6	2	**#4:** Picnic areas are for parks. They create and invite too much litter for natural areas. #8: Checkmark between *Agree/ Disagree* columns and left this commentary: No picnic areas in N.A.'s parks- good for that and we have plenty of parks.	Adopt this management objective	The strategy of the Natural Areas Program is to build picnic shelters and provide picnic tables in some natural areas

Eagle View Natural Area
Management Strategies Comments

Management Strategy EVN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Explore the possibility of reshaping the agricultural fields and ditch to restore more natural contours. This would include laying back the sides of the ditch, which currently are quite steep and deep, to create a more stream like habitat. Exploration of this possibility should look at costs and site impacts.	11*	6	3	**#2:** Not a good use of NA funds **#4:** See comment under objectives. **#5:** This is a major undertaking and could bankrupt (or majorly dent) N.A. funds, NOT a good use of my money! **#8:** Checkmark between *Agree/ Disagree* columns and left this commentary: Only if you can do cheaply.	Pursue the possibility of this management strategy	Project, if determined to be cost effective, may be limited to laying back the banks, but not reconfiguring the ditch
Plant native grasses to restore to native grassland habitat.	9	9			Adopt this management strategy	Fits mission of City of Fort Collins Natural Areas Program
Prescribed burns and other tools may be used to mimic the natural disturbance needed to maintain a natural diversity of grasses.	9*	8		**#2:** Burn!! **#4:** Use fires sparingly. Don't use it to damage short grass habitat or wildlife habitat.	Adopt this management strategy	This is standard practice on the City's natural areas
Work with Poudre Fire Authority to control wildfire in a manner that causes as little unnatural disturbance as possible.	9	9			Adopt this management strategy	Typical wildland firefighting includes some strategies that destroy habitat and scar the site, e.g. digging firelines. When wildland fire can be kept from spreading and/or damaging other properties through less damaging practices, these less damaging practices will be used.
Evaluate research permit applications to keep disturbance by researchers to a minimum.	8	8			Adopt this management strategy	It is important to protect the portion of the site south of the existing County Road 34 E from human disturbance to the extent possible, while allowing research to collect valuable site data.

Management Strategy EVN	**Total # of Responses**	**Agree**	**Disagree**	**Comments**	**Staff Recommendation**	Basis of staff recommendation
Consider granting an inundation easement to the neighbor on the east to inundate up to 7,200 sq. feet of the slough/wetland with water to increase the size of the pond on his property, which could be benefit to the natural area.	8	5	3	**#2:** No…why? **#4:** private property pursuits should not be permitted on public lands. That's not what I voted for.	Adopt this management strategy	This will allow the neighbor to have the desired size pond.
Seed site with native grassland mix.	9	9			Adopt this management strategy	Fits mission of City of Fort Collins Natural Areas Program
Install site sign.	8	8		**#1:** Isn't this operational?	Adopt this management strategy	Standard practice in the City's natural areas
Where possible, remove barbed wire fence and replace with smooth wire (keep barbed wire in areas where controlling cattle is an issue); install new gates.	10*	7	1	**#4:** Use wood fencing. **#8:** Checkmark between *Agree/ Disagree* columns and left this commentary: Replace with wood fence, not wire.	Adopt this management strategy	Type of fencing will continue to be investigated.
Remove debris and trash	9	9			Adopt this strategy	Keeps the site aesthetically pleasing
Install benches, trash can, pet clean-up bag holder.	9	9		**#7:** Consider making pet free. **#11:** Use gravel for trail.	Adopt this management strategy	Important visitor amenities
Fossil Creek Trail connection to Poudre Bike Trail (to be built by Parks Department in 2008 or beyond) will cross the site. Trail Option A (see maps for trail option locations) (see discussion on text sheets)	7	5	2	**#1:** Not as good as an experience for people. **#4:** Will be a good trail experience students will learn to respect their habitat. **#7:** 2nd choice. **#10:** Don't like the Sharp Trail. **#11:** Use gravel for trail.	Adopt new trail configuration	See map for redesigned trail configuration.
Trail Option B (see maps for trail option locations) (see discussion on text sheets)	7	5	2	**#1:** Improve the experience for people. **#2:** Strongly disagree **#4:** These trails are too expensive and impact potential habitat. **#6:** I like the "B' better than Option A.	Adopt new trail configuration	

Management Strategy EVN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
				#7: 1st choice. Keep pets off of the "green" trail.		
Work with Larimer County to explore closing Co. Road 7 just north of the ditch bridge and closing Co. Road 34E at the proposed parking lot on the east side of the site.	7	7		**#7:** Good idea.	Pursue this management strategy	Will make a more pleasant recreational atmosphere. Will reduce the likelihood traffic will increase as development in the area increases. Will eliminate the need to replace the bridge across the canal.
Construct a small parking lot on the southeast side of the site (see map). Construct a small parking lot with bus parking on the northwest side to provide convenient parking for school groups.	7	6	1	**#4:** Only one parking lot- the one on the southeast side.	Adopt this management strategy with modifications	West parking lot will be located near the road closure on County Road 7 and will have bus parking. East parking lot will be constructed in the future, at originally proposed location, if it is needed.
Construct an accessible eagle viewing blind, vault toilet, and picnic area near the southeast parking lot.	7	6	1	**#4:** No picnic area.	Adopt this management strategy	Will provide amenities for visitors. Location will be slightly west of original proposal. The strategy of the Natural Areas Program is to build picnic shelters and provide picnic tables in some natural areas
Construct/install kiosks at the parking lots.	7	7			Adopt this management strategy	These will provide valuable information for site visitors
Possible topics of interpretative features: eagles, waterfowl, muskrats, sloughs.	7	7			Adopt this management strategy	This will help visitors understand ecological aspects of the site
Additional Comment				**#5:** Prefer concept A thru-out! Concept A is great for this site- concept B is way over the top. Concept B- 2 parking lots is excessive. Paved trail location is bad- put it out on the edges of the N.A. and protect the wetlands and trees to minimize the disturbance to these.	See discussion above under trail strategy	

Management Strategy EVN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
Additional Comment				**#6:** It would be nice to not allow pets, but if they are allowed they should be on a leash.	Pets will be allowed on leash	Trails on this site are conducive to pets as long as they are on leash
Additional Comment				**#7:** Make this part of the natural area buffer surrounding the Fossil Creek Reservoir. Overall excellent objectives and strategies. Please work with "Fossil Creek Reservoir Regional Open Space" management to ensure protection of natural area surrounding Fossil Creek Reservoir.	Site provides resource protection for Fossil Creek Reservoir	Human activity will not be allowed on the portion of the site south of the existing County Rd. 34E, thereby protecting the eagle habitat on Fossil Creek Reservoir.
Additional Comment:				**#12:** Although I am not necessarily a "dog person", I feel our program and community could benefit from dedicating 10 or so acres of the Eagle View Natural Area to dogs off leash. I envision a perimeter trail that goers along the roads, fence line, and ditch, with a parking lot and trail head at the house site. So it would not be an open dog park like what the Parks Department manages, but rather, with a small trail system so that people could walk, run, or bike with their dogs. The southern area could be left separate and dedicated to viewing the eagles at the Fossil Creek Reservoir. Here are my reasons: - Enforcement/compliance:- As I have worked in the field this season, I have seen many users with dogs, some on leash and some off-leash. When confronting the owners who were not using a leash, I got a negative reaction both times, as did the ranger who I informed of the situation. Although the one visitor	Dogs will be allowed, but only on leash and on trail.	This is not an appropriate site for a dog park.

Management Strategy EVN	Total # of Responses	Agree	Disagree	Comments	Staff Recommendation	Basis of staff recommendation
				had a good point when he said there are no good places in this town to run off-leash. After talking to Dave Irwin about that situation, we agreed that his job would be much easier if we had such a place. - The Human Dimension- There is a large percentage of our public (tax-payers) who have dogs. Without their tax-dollars our program would not be what it is. Ten acres is a drop in the bucket compared to the 10,000 plus that we currently manage. - Bobcat and Coyote Ridge- These two areas' management plans call for no dogs at all, and for legitimate reasons. But if we have areas that don't allow dogs at all, shouldn't we cover both ends of the spectrum. - Pristine- As this area was recently a farm/disturbed area, now with much of Canada Thistle and Leafy Spurge, it is far removed from it's natural state. It is also less than a mile from 1-25. The wildlife that uses it would be able to move to a less disturbed part of the area, such as ground nesting songbirds, foxes, and coyotes. I have spent a fair amount of time there and have seen no evidence of prairie dogs. Thank you for hearing my ideas.		

** Not all respondents indicated with either an Agree/Disagree preference, but did leave commentary per the question posed*

All comment sheets were numbered. The number (e.g. #15) preceding each comment is the number of the comment sheet from which that comment came.

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This document also available at fcgov.com/naturalareas

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