

CITY OF FORT COLLINS
NATURAL AREAS DEPARTMENT

DRAFT FOR PUBLIC REVIEW

NATURAL AREAS MASTER PLAN

July 31, 2014



naturally yours

*Photo Credits: Valley Loop Trail, Bobcat Ridge Natural Area (Photo by D. Daniels);
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Master Naturalist at McMurry Natural Area (City of Fort Collins Natural Areas Department Photo), Great
horned owl at Bobcat Ridge Natural Area (Photo by Norm Keally).*



*Milky Way above Bobcat Ridge Natural Area
(Photo by Jeremy White; Courtesy of National Park Service)*

Conservation and Wellbeing

In many regards, Fort Collins is the envy of other mid-size communities around the nation. Again and again, publications and surveys tout its high quality of life. Many factors contribute to the success of Fort Collins. The physical environment of Fort Collins, with its beautiful location on the Rocky Mountain Front Range and, in particular, the matrix of conserved natural areas in and around the City, is a fundamental part of the City's renowned character. Additional factors include a culture of entrepreneurship, an accomplished local school system, Colorado State University, an engaged community, and in particular a devotion to the outdoors and environmental protection. The City's network of natural areas, made possible by a series of citizen-initiated sales taxes, constitutes a strong testament to this devotion and plays a key role in making Fort Collins one of the best places to live in the country.

Fort Collins' natural areas are a leading expression of our community's values, hopes, and aspirations. Moreover, in Fort Collins and other communities around the world, there is growing understanding and appreciation for the symbiotic relationship between local land conservation and human wellbeing. This emerging understanding will be a major driver as the Natural Areas Department pursues its core conservation mission over the next ten years.

The Fort Collins model of conserving land lies squarely within a great American tradition that many historians trace to the Presidency of Theodore Roosevelt. During his tenure Roosevelt established numerous National Forests and Parks and protected nearly 230 million acres in the public domain. Since the turn of the last century, land conservation has become firmly entrenched in the culture and history of America, and the tradition of conservation continues to be one of our nation's greatest achievements.

Two interesting phenomena in the land conservation movement occurred in the latter part of the 20th century. The conservation land trust movement exploded and there are now over 1,700 land trusts that have helped conserve nearly 50 million acres nationally. In addition to the private, non-profit sector, local governments launched their own conservation efforts. This has been especially true in Colorado, and Fort Collins has been a leader in the local government conservation movement.

An important factor that drove the desire for land conservation in Fort Collins was the booming economy in the 1990s and early 2000s. Community members in Fort Collins recognized that unless something was done to set aside key lands, they would be lost to development. Citizen activists orchestrated a series of citizen-initiated sales tax measures that provided additional resources to acquire important lands and to restore their ecological value, as well as to provide recreation amenities, public safety, education, and outreach programs.

Fort Collins can be deservedly proud of its role in the local government conservation movement. To date, the efforts of the City have resulted in the conservation of approximately 41,000 acres. The Natural Areas Department manages 35,000 acres with a full-time permanent staff of 30 and another 20 seasonal employees. In addition to the professional staff, volunteers donate thousands of hours of their time each year. On-the-ground management of the 6,000 acres that have been protected with conservation easements is conducted by the City's community partners and private landowners. On an annual basis the City monitors the eased lands to ensure compliance with the protective terms of the easements.

Of course, the numbers only scratch the surface of the underlying story. They are unable to capture the joy of a child playing at the water's edge; the deep contentment of an afternoon spent fly casting in the middle of town; the music of birdsong on a warm spring day; a quiet walk, or a hard run on the Foothills Trail as the sun rises. These descriptions hint at the deeper meaning and values of the City's natural areas system—a system that supports two fundamentally intertwined benefits associated with conservation at the local scale: the preservation and support of the diversity of life, and support for human wellness and health.

Fort Collins is on the leading edge of a movement that is just beginning to appreciate and understand how supporting the diversity of life at the local scale can also help support the wellbeing of local residents. Human health experts are beginning to realize, through peer reviewed research, that outdoor activity can have highly beneficial impacts on both physical and mental health.

In *Last Child in the Woods*, Richard Louv (2005) argues forcefully that children have become too disconnected from nature in our highly regimented approach to education, sports, and the pervasive use of electronic media. When the broken connection to nature is re-established, children are happier, calmer, and better at solving problems. Similar results have been shown for adults; for example, numerous outdoor programs have been established for war veterans to help them cope with trauma and re-integrate into civilian society. With over 100 miles of trails and nearly 35,000 acres of land open to the public, the Natural Areas Department provides numerous opportunities for connecting and re-connecting with nature.

"This principle holds that a reconnection to the natural world is fundamental to human health, well-being, spirit, and survival."

Richard Louv (2011)

The Nature Principle: Human Restoration and the End of Nature-Deficit Disorder

In addition to human wellness, biologists and city planners now understand that supporting a matrix of conserved lands at the local level can be fundamentally important to sustaining the diversity of life. For example, conservation at the local level can play a vital role in connecting biological corridors that would otherwise be disconnected by urban development.

Two examples from the Fort Collins' experience are the Cache la Poudre River corridor and Soapstone Prairie Natural Area. In the case of the Poudre, biologists note that riparian corridors in Colorado are the primary reservoirs of biological diversity in the state. The City's history of conserving land along the Poudre, and more recent efforts to reconnect the river to its floodplain and to modify or remove dams to facilitate fish passage, are intended to restore and sustain important elements of the river's biological richness. Public ownership of over 60% of the Poudre River floodplain within Fort Collins has contributed to multiple community goals, strongly evidenced by the resilience of the river system to the September 2013 flood event. In the case of Soapstone Prairie, this 22,000-acre property provides a vital link in a series of protected lands in the 150,000-acre *Mountains-to-Plains Laramie Foothills Project* that connects higher elevation habitat to the prairie, a regional connection that is vanishing along the developing Front Range of Colorado.

Perhaps in a way that our community was not able to anticipate 20 years ago, efforts to enhance wellbeing and social sustainability as well as efforts to conserve and restore the quality of our natural areas are symbiotically reinforcing each other. This symbiosis is likely to be one of the most important movements of the 21st century, especially as population trends place increasing pressure on the resilience of our economic, social, and environmental fabric.

The Natural Areas Department will continue to implement programs and initiatives that strongly support the movement towards local resilience, biological conservation, and human health and wellbeing. Looking forward to the next ten years, the Department will execute its core conservation mission by protecting land and water, providing a safe and appropriate user experience, sharing through learning opportunities, and restoring and rehabilitating land and natural systems to build ecological diversity and staying power.



*John Stokes at Two Creeks Natural Area
(City of Fort Collins Natural Areas Department Photo)*

*John Stokes
Director of Natural Areas Department (2003–Present)*

ACKNOWLEDGMENTS

The City of Fort Collins Natural Areas Department thanks all the citizens who have contributed to the conservation and stewardship of our community's natural areas. Your citizen-initiated sales tax dollars have conserved natural areas, provided visitor services, and restored habitat for generations to come. We especially thank citizen open space leaders, public officials, conservation partners, volunteers, and City staff who have supported the natural areas vision over the last 22 years.

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Karen Weitkunat, Mayor
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Bob Overbeck, District 1
Lisa Poppaw, District 2
Gino Campana, District 3
Wade Troxell, District 4
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Land Conservation and Stewardship Board

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Kent Leier
Kelly Ohlson
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*Staff, volunteers, and visitors at Gateway Natural Area
(City of Fort Collins Natural Areas Department Photo)*

TABLE OF CONTENTS

Chapter 1 Introduction	1
Plan Fort Collins and the Natural Areas Master Plan	2
The Value of Natural Areas	2
Four Decades of Land Conservation and Stewardship	3
Land Conservation and Stewardship Master Plan (2004)	7
A Continuous Dialogue: Community Involvement in the 2014 Master Plan Update	7
2014 Natural Areas Master Plan Outreach	9
Performance Metrics	12
Chapter 2 Funding and Expenditures	13
Historical Funding and Expenditures (1993–2013)	13
Future Funding and Expenditures over the Next Ten Years (2014–2023) with and without Larimer County’s “Help Preserve Open Space” Sales Tax	14
Other Potential Funding Sources	16
User Fees	18
Chapter 3 Land Conservation	21
Inventory of City Natural Areas and Other Protected Sites	21
Conservation Focus Areas	28
Local Focus Areas	30
Community Separators Focus Areas	31
Regional Focus Areas	32
Land Conservation Strategies	33
Chapter 4 Stewardship	39
Staffing	39
Land Conservation and Stewardship Board	40
Policies, Plans, and Procedures	40
Management Zoning System	42
Education	43
Volunteer Coordination	45
Research	46
Resource Management	48
Cache la Poudre River and Other Aquatic Systems	54
Ranger and Visitor Services	59
Recreation	61
Cultural Resources	68
Agriculture	71
Energy Development and Minerals Extraction	73
Utility Easements and Rights-of-Way	74
Private Land Management Assistance	76
Facility Operations	77
Environmental Sustainability	79

Chapter 5 Looking Forward to the Next Decade and Beyond	83
Partnership Opportunities	83
Priorities	84
Challenges	88
References	89
Appendix A 2014 City Council Resolution to Adopt the Natural Areas Master Plan (Pending)	A-1
Appendix B 2011 City Plan Principles and Policies	B-1
Appendix C “Our Lands – Our Future” Results for Fort Collins	C-1

List of Figures

Figure 1. Percentage of “Very Good” or “Good” Quality Ratings of Natural Areas Department Programs and Facilities (Fort Collins Citizen Surveys 2003–2013)	8
Figure 2. Natural Areas Revenue, 1993–2013 (Total \$184,006,420)	14
Figure 4. Natural Areas Expenditures by Work Group, 1993–2013 (Total \$170,444,314)	15
Figure 3. Change in Distribution of Natural Areas Expenditures over Time	15
Figure 5. Natural Areas Estimated Expenditures by Work Group with “Help Preserve Open Space” Sales Tax over the next Ten Years, 2014–2023 (Total \$117,618,251)	17
Figure 6. Natural Areas Estimated Revenue with “Help Preserve Open Space” Sales Tax over the next Ten Years, 2014–2023 (Total \$117,618,251)	17
Figure 7. Natural Areas Estimated Revenue without “Help Preserve Open Space” Sales Tax Extension over the next Ten Years, 2014–2023 (Total \$93,878,417)	17
Figure 8. Total Spending and Acres Conserved by Focus Areas (2003–2013)	28
Figure 9. Number of Volunteer Hours per Year, 2007–2013	45
Figure 10. Number of Natural Areas Open to Specific Recreation Types	63

List of Tables

Table 1. Current Natural Areas Department Metrics	12
Table 2. Examples of Conservation and Stewardship Partnerships over the Past Ten Years	19
Table 3. Natural Areas Inventory of Conserved Lands.....	24
Table 4. Natural Areas Policies, Plans, and Procedures (2004–2014).....	41
Table 5. Examples of Special-Permit Research Projects on City Natural Areas over the Last Four Years.....	47
Table 6. Selected List of Research Topics to Help Stewardship of Natural Areas over the Next Ten Years.....	48

List of Maps

Map 1. Local Natural Areas and Community Separators	22
Map 2. Regional Natural Areas.....	23
Map 3. Land Conservation Focus Areas.....	29



INTRODUCTION

Arapaho Bend Natural Area.
(Photo by Norm Keally)

Established in 1992, the then City of Fort Collins Natural Areas Program evolved into a multi-faceted department responsible for the conservation and stewardship of land and water with natural resource, agricultural, recreation, and scenic values. The Natural Areas Department is not alone in this endeavor. Other City of Fort Collins departments, neighboring cities, Larimer County, state and federal agencies, land trusts, and private landowners all partner with the Department. Above all, the support of the Fort Collins community itself has made the original vision of the 1992 *Natural Areas Policy Plan* a reality.

The Fort Collins community has conserved over 40,000 acres and the Natural Areas Department manages 35,000 of those acres within 43 local and regional natural areas. More than 30,000 acres—roughly 75% have been conserved in just the past ten years. With over 100 miles of trails on the 40 sites open to-date, natural areas have become a beloved community asset, central to Fort Collins' identity and quality of life. This remarkable accomplishment has presented new resource management, natural areas education, and recreation opportunities, as well as inherent challenges.

City of Fort Collins Mission Statement

Exceptional service for an exceptional community.

Natural Areas Department Mission

The mission of the Natural Areas Department is to conserve and enhance lands with natural resource, agricultural, and scenic values, while providing meaningful education and appropriate recreation opportunities.

2014 Natural Areas Master Plan Vision

Through the work of the Natural Areas Department, a diverse system of conserved and restored lands will connect community members to nature. These conserved lands will protect nature and contribute to the health and wellbeing of our community.

This 2014 *Natural Areas Master Plan* summarizes the accomplishments of the last ten years, since adoption of the 2004 *Land Conservation and Stewardship Master Plan*. The 2014 *Plan* establishes the priorities for conservation and stewardship of the City's natural areas system for the next ten years based on ballot measure language, the values and functions of the natural areas system as a whole, community input, and emerging trends and needs. The *Master Plan* will also serve as a foundation for future site-specific management plans.

Plan Fort Collins and the Natural Areas Master Plan

In 2011, the City adopted its updated comprehensive plan. *City Plan Fort Collins* (2011a) provides strong direction for the Natural Areas Department, with numerous policies and principles devoted to environmental health, including a section entitled "Open Lands" that largely reflects the mission of the Department. Moreover, a central tenet of *Plan Fort Collins* is natural resource and natural area conservation. Relevant principles and policies of *Plan Fort Collins* for economic sustainability, land conservation, and stewardship of natural areas are included in Appendix B. While the Department's main focus is on natural areas, community separators and agricultural lands are also conserved when they meet the Department's mission.

The Value of Natural Areas

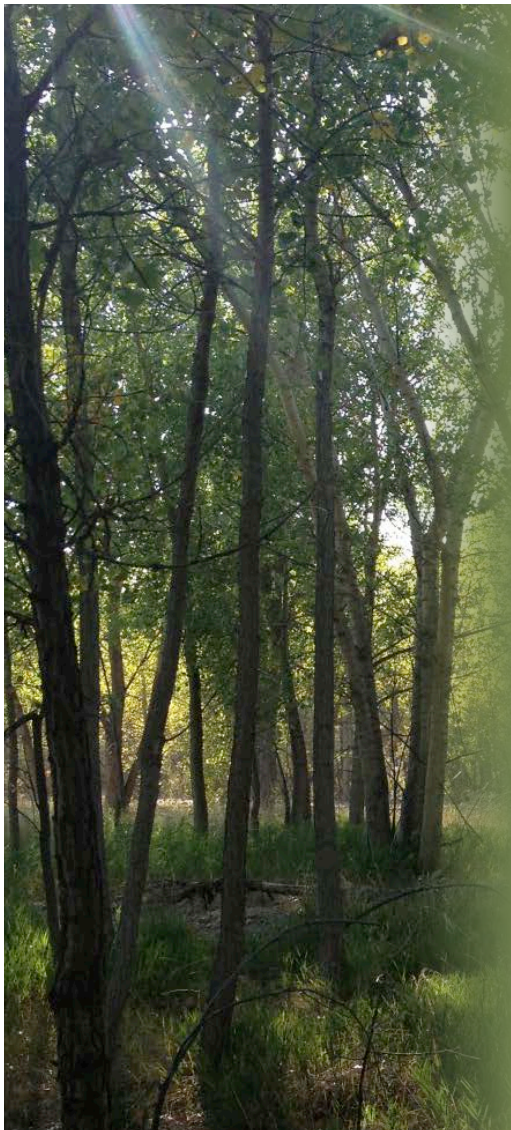
The Fort Collins landscape is endowed with prairie grasslands, streams and forested river corridors, and an iconic foothills backdrop of mountain mahogany shrublands and ponderosa pine forests that support a high diversity of natural systems throughout the year. Human-made reservoirs, gravel ponds, detention ponds, drainage channels and irrigation ditches contribute to the diversity of habitats within our urban, built environment. Pockets of naturalized vegetation within stormwater drainage features, parks, and

agricultural lands also provide valuable wildlife habitat.

Fort Collins natural areas offer ecosystem goods and services, such as filtering the water and air, providing pollination of crops, stormwater detention, and flood protection. Our natural areas support unique native plant populations, including 36 species listed as rare or sensitive; two of which are federally threatened species. Our natural areas provide habitat for 18 species of animals on the Colorado Parks and Wildlife Species of Concern List, including seven in the threatened or endangered category. More bird species have been recorded from our natural areas than from such iconic national parks as Rocky Mountain, Yellowstone, or even the Everglades. Unique archeological, historical, paleontological, and geological features can be found on many of our natural areas. The Lindenmeier Archaeological Site on Soapstone Prairie Natural Area is listed on the National Register of Historic Places and is recognized as a site of international cultural significance.

Natural areas provide a respite from the urban environment—a place to hike, bike, walk your dog, ride your horse, fish, picnic, create art, or just enjoy some quiet time outdoors. Natural areas give everyone the opportunity to connect to nature's spiritual qualities. Each person has their own reason for caring about natural areas. Among others, Fort Collins residents value them for their ecological, recreational, educational, scientific, economic, cultural, and spiritual significance.

Conserved natural areas add economic value to the community and contribute to make Fort Collins a highly desirable place to live and work. The high quality of life provided in part by natural areas amenities helps support the City's healthy economic climate. Nature-based recreation areas also play an important role in providing enjoyable experiences for visitors and also offer active living options for residents.



What is a 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; or unique or rare examples of our natural heritage.” (City Plan 2011)

What is a Community Separator?

“Community separators define the area between more intensely developed urban areas of one municipality and the same of another. They provide visual and physical separation between communities by providing transitions from urban level development using rural/ open lands (including agricultural uses and clustered residential development) and lower densities.” (City Plan 2011)

What is Agricultural Land?

“Land in use for agricultural purposes such as pasturage, farming, dairying, horticulture, animal husbandry, and related activities.” (City Plan 2011)

Kingfisher Point Natural Area (Photo by Norm Keally)

Sustainability is a core philosophy of the City of Fort Collins, one that underpins every City effort, from the smallest of daily tasks to the largest multi-year initiatives. The central premise of any sustainable operation is that it considers the three legs of the sustainability stool: human (social) capital, economic activity, and environmental quality in decision-making and management. This approach to decision making is commonly known as a “triple bottom line” (TBL) analysis. The Natural Areas *Master Plan* project team conducted a TBL analysis in September 2013 to help incorporate social, economic, and environmental considerations into this planning process.

Four Decades of Land Conservation and Stewardship

The Open Space Plan (1974)

Official City recognition of the value of natural areas first occurred 40 years ago in 1974 when City Council adopted *The Open Space Plan*. This plan addressed a wide variety of community needs and led to the establishment of an open space acquisition and management program. The plan identified priority areas within and adjacent to Fort Collins to be included in the City’s Open Space system. The importance of the area for fish and wildlife habitat was among the criteria used to identify priority

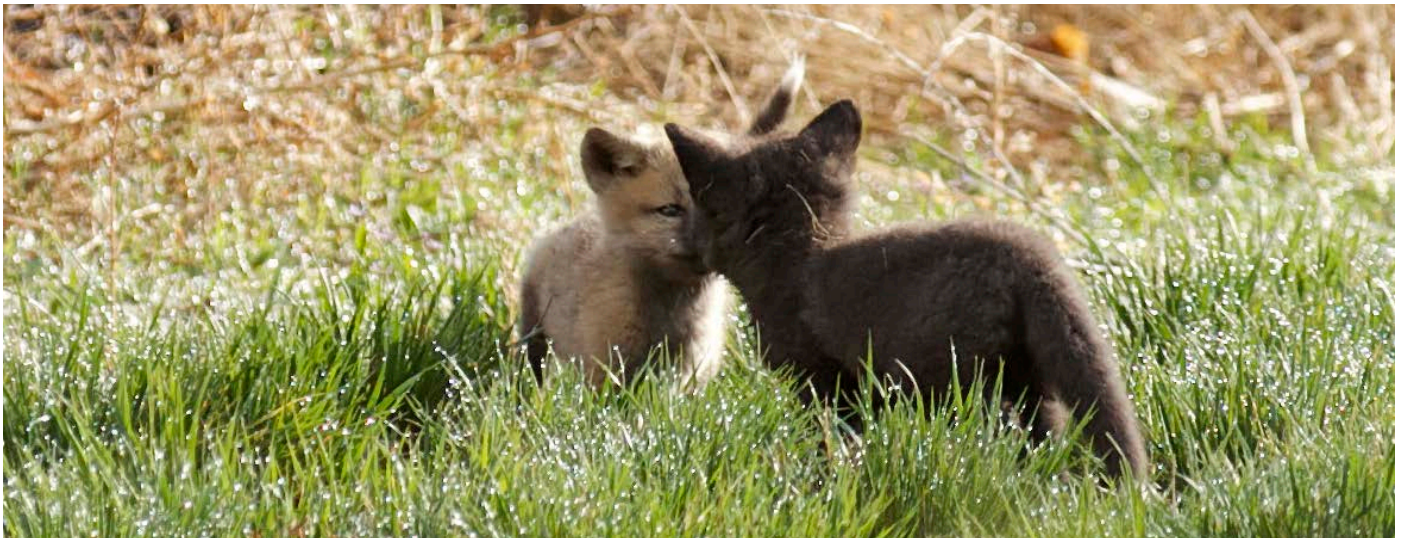
Awards to the Natural Areas Department

The City of Fort Collins Natural Areas Department has been recognized as an outstanding organization over the last ten years, including these achievements:

- Colorado Alliance for Environmental Education Award for Best Governmental Educational Program, 2014
- Friend of Preservation Award, for restoration of historic outbuildings on Bobcat Ridge Natural Area, 2013
- Colorado Division of Mining Reclamation and Safety and the Colorado Stone, Sand and Gravel Association- Jack Starner Reclamation Award, for restoration at Running Deer Natural Area, 2011
- Association of Marketing and Communication Professionals Gold Award, for interpretive signage at Soapstone Prairie, 2010
- Blue Grama Award, Colorado Open Space Alliance, 2007
- Millions of dollars in grants from competitive grant processes such as Great Outdoors Colorado, History Colorado, Natural Resources Conservation Service, and Poudre Heritage Alliance

Natural areas are key to Fort Collins' high quality of life, as recognized by these prestigious awards:

- Most Satisfied (94.9%) with their City in Nation, Time Magazine, 2014
- 3rd Highest Community (along with Loveland) in Well-being Index for Nation: Gallup and Healthways Survey, 2014
- Best Towns in America: Outside magazine, 2013
- 4th Healthiest Mid-Size City in the U.S.: Gallup-Healthways Survey, 2012
- Top Ten Places to Retire: CBS Money Watch, 2012
- One of the Top 15 Best Places for triathletes to live and train: Triathlete Magazine, 2011
- One of the Top Ten Places to Retire in the Nation: Charles Schwab's On Investing, 2011
- One of the Top 25 Best Places to Retire: CNNMoney.com, 2010
- One of the Top 10 Best College Towns: Small-Sized Cities Category, USA Today, 2010
- 6th Best Place to Live in the Nation: Money Magazine, 2010
- One of the Greatest Places to Live in the West: American Cowboy magazine, 2010
- One of Top 20 Places to Thrive: Best Boomer Towns, 2009
- One of the Best Places to Raise Your Kids: Business Week, 2008
- 2nd Best Place to Live: Money magazine, 2008
- Top 10 College Towns for Grown-Ups: Kiplinger's magazine, 2007
- #1 Best Place to Live in the Nation: Money Magazine, 2006
- Fort Collins is one of the 50 Best Places to Live (ranked 34th): Kiplinger's magazine, 2006
- American Dream Town. Fort Collins rated as one of the Best Towns in the U.S.: Outside Magazine, 2005
- Fort Collins & Larimer County Named Top Nature-Friendly Communities, 2005



Red fox kits at Gustav Swanson Natural Area (Photo by Norm Keally)

sites. Specific areas identified as priorities included the Poudre River corridor, portions of Spring Creek, and the foothills west of the City.

Initial funding for the new Open Space Program was through a referendum passed in 1973 by the citizens of Fort Collins for a 7-year 1-cent Capital Improvement sales tax; a portion of which went for the purchase of open spaces. Through other funding, the Parks and Recreation Department was responsible for acquiring and managing natural areas preserved as open space, with the primary goal of providing recreational areas. The Parks Department also acquired areas that were left in a natural state in conjunction with some of their developed parks. One of the largest of these was a portion of Lee Martinez Community Park along the Poudre River.

By the end of the 1980s, a little over 1,000 acres of significant foothills and riparian habitat had been protected through the City's Open Space Program. These lands helped maintain corridors for recreational trails, wildlife movement, and visual serenity.

Natural Areas Policy Plan (1992)

As development pressures on wildlife habitat in and around Fort Collins continued to increase

due to expanding residential and commercial development, the City recognized the need to step-up land conservation efforts. In 1992, the Natural Resources Division presented to City Council the *Natural Areas Policy Plan*, which focused land conservation on the protection and enhancement of natural areas—a change in direction from the previous efforts to acquire open spaces focused on providing recreational opportunities. The policy plan also set forth strategies to protect habitat through land development regulations, partnerships with other departments and agencies, encouraging enhancement of habitat on privately owned land, and providing education and interpretive programs to help ensure future conservation efforts.

Soon after adoption of the *Natural Areas Policy Plan*, Fort Collins voters passed the first citizens-initiated ¼-cent sales tax entirely dedicated to implementing the plan through 1997. The Natural Areas Program within the Natural Resources Division was established and the Parks' "open spaces" became known as "natural areas."

As more land was acquired, site maintenance duties were transferred from Parks to Natural Areas and a Ranger Program was established in 1997. The need for a maintenance facility became critical to the Natural Areas Program's success. In

40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0

North Shields Ponds (1962)

Prospect Ponds (1974)

Maxwell, Pineridge (1976)

Riverbend Ponds, Fischer (1977)

Ross (1978)

Reservoir Ridge, Salyer (1985)

Gustav Swanson (1988)

Springer, Williams (1990)

Red Fox Meadows (1992)

Redwing Marsh, Cathy Fromme Prairie (1993)

Coyote Ridge, River's Edge, Prairie Dog Meadow, Udall (1994)

Fossil Creek Wetlands, Maggie Meander, Arapaho Bend (1995)

Butterfly Woods, Kingfisher Point, Redtail Grove (1996)

Cottonwood Hollow, Cattail Chorus (1997)

Colina Mariposa, McMurry, Running Deer (1998)

Hazaleus, Two Creeks (1999)

The Coterie (2000)

Fossil Creek Reservoir (2001)

Eagle View, Mallard's Nest, Pelican Marsh (2002)

Bobcat Ridge, 1st Conservation Easement (CE)

Robert's Ranch CE, Soapstone Prairie (2004)

Wellington and Timnath Community Separators (2005)

Gateway, Picnic Rock (2007)

Wire Draw Ranch CE (2008)

Soapstone Prairie Additions (2009)

Windsor Community Separator (2010)

State Certification for Conservation Easements (2011)

Kingfisher Point Additions (2013)

LAND ACQUISITION AND CONSERVATION

STEWARDSHIP AND EDUCATION

FUNDING AND PLANNING

1-cent Capital Improvement
Sales Tax referendum passed (1973)
Open Space Plan adopted (1974)

Additional 1/2-cent
Capital Funds tax approved (1984)

Natural Resources Division
established (1986)

Natural Areas Policy Plan adopted (1992)
First citizen-initiated 1/4-cent sales tax entirely
dedicated to NAPP Implementation (1992)

1st GOCO Grant for land conservation (1994)
Larimer County Open Lands established,
citizens initiate 1/4-cent sales tax
for acquisition, maintenance (1995)

Voters extend a portion of the 1/4-cent sales
tax for natural areas for eight years (1997)
Citizen-initiated Help Preserve Open
Space funded (1999)

Open Space Yes! Citizen initiative extends fully-
restored City's 1/4-cent sales tax to 2030 (2002)

Land Conservation &
Stewardship Plan adopted (2004)
Land Conservation & Stewardship
Board established (2005)

Wildlife and Vegetation Management
Guidelines, Soapstone Prairie and Foothills
Management Plans adopted (2007)
Natural Areas Program
becomes a Department (2011)

Poudre River ERM Study initiated (2012)
Energy by Design and Our Lands - Our Future
planning processes (2013)
Poudre River Forum participation (2014)

Pineridge Open Space opens (1976)

Riverbend Ponds Open Space opens (1978)

Reservoir Ridge Open Space opens (1985)
1st Restoration Project completed
(Gustav Swanson) (1986)

1st Interpretive Signs installed
(Gustav Swanson) (1990)
Adopt-a-Natural Area Program
established (1993)

Master Naturalist Program
established (1994)

Ranger Program established (1997)

1st Art-in-Public Places Project
installed (1998)

1st Annual Volunteer
Appreciation Picnic held (1999)

Nix Farm Facility completed, 1st
Controlled Burn (2002)

1st Onsite Ranger (Bobcat Ridge) (2006)

Ranger Program established;
Gateway transferred from Parks;
Primrose Studio opens (2007)

Natural Areas and Trail Rangers Policies and
Procedures Manual (2008)

Soapstone Prairie opens to public (2009)

Trails and Trails debuts (2010)

Museum of Discovery opens; Adopt-a-Trail
Program established (2012)

100th mile of Natural Surface Trails opened; North
Shields Ponds Floodplain Restoration (2013)

McMurry Floodplain Restoration Project (2014)



Full Moon setting over Bobcat Ridge Natural Area (Photo by Norm Keally)

2002, the Nix Farm Facility on Hoffman Mill Road was completed to house most office staff and all field crews and rangers. At the end of 2003, the City had conserved about 11,500 acres of natural areas and had begun to acquire regional natural areas, including Bobcat Ridge, and to purchase conservation easements to conserve agricultural and viewshed values within community separators.

Land Conservation and Stewardship Master Plan (2004)

In response to requests by City Council and the public to look at more land conservation opportunities beyond the borders of Fort Collins, Natural Areas Program staff developed the *Land Conservation and Stewardship Plan*, which was adopted in 2004. This plan focused on identifying and protecting natural areas within three major focus areas: (1) Local (Fort Collins Growth Management Area west to Horsetooth Reservoir and Bellvue); (2) Community Separators (Wellington, Timnath, Lower Poudre and Windsor, Fort Collins-Loveland); and (3) Regional focus area (high value Larimer County foothills west of Horsetooth, Rist Canyon, Upper Poudre to County Road 27, Owl Canyon, Dry Creek, Laramie Foothills to Plains area).

In 2011, the Natural Areas Program became a department within the City of Fort Collins government. The last ten years have been a period of significant growth as the Department has tripled the amount of acreage under its management. The largest site, Soapstone Prairie, is over 22,000 acres alone.

Today, with annual expenditures over \$10 million, the Department has expanded its efforts to restore degraded natural areas, provide educational opportunities, and develop public recreational amenities, including over 100 miles of natural surface trails. Volunteers provide over 10,000 hours of labor to the Department each year to support various programs.

A Continuous Dialogue: Community Involvement in the 2014 Master Plan Update

The 2002 City of Fort Collins “Open Space Yes!” ballot language describes and directs the Department’s efforts in fulfilling the community’s conservation vision. It emphasizes ongoing community dialog and input on natural areas plans and policies as well as implementation. Over the past decade, the Department has used a variety of means to listen to and incorporate ideas from the

community. The 2014 *Natural Areas Master Plan* builds upon a number of previous and ongoing outreach efforts and partnerships in order to continuously understand stakeholders and act in a responsive manner to public preferences regarding land conservation, stewardship, and recreation efforts. Three specific efforts that directly influenced the *master plan* are highlighted below: the Fort Collins Citizen Surveys, *Our Lands – Our Future* surveys, and 2014 *Master Plan* outreach.

Citizen Surveys

Numerous quality of life surveys, along with specific land conservation and recreation surveys, have demonstrated that Fort Collins citizens remain enthusiastic about land conservation and outdoor recreation—a finding that mirrors statewide trends. In 2013, 2,000 randomly selected Fort Collins households were asked to rate the quality of life in the City and their satisfaction with community amenities and local government, including satisfaction with City natural areas. Key findings included the following:

- When asked to rate the quality of 19 recreational and cultural programs and facilities offered by the City of Fort Collins, respondents rated natural areas and open space (95% “very good” or “good”), recreational trails (96%), and parks (96%) as the most favorable.
- About 98% of residents indicated that the same effort (65%) or more effort (33%) should be devoted to environmental protection and land conservation.
- Respondents also indicated satisfaction with Natural Areas Rangers (81% very good or good) and perceptions of safety in natural areas (88% always or usually safe).

“Our Lands – Our Future” Survey Results

From 2012 through 2013, the City of Fort Collins joined with Larimer County and all of its municipalities to analyze the challenges, opportunities, and possible gaps in their collective land conservation, stewardship, and outdoor

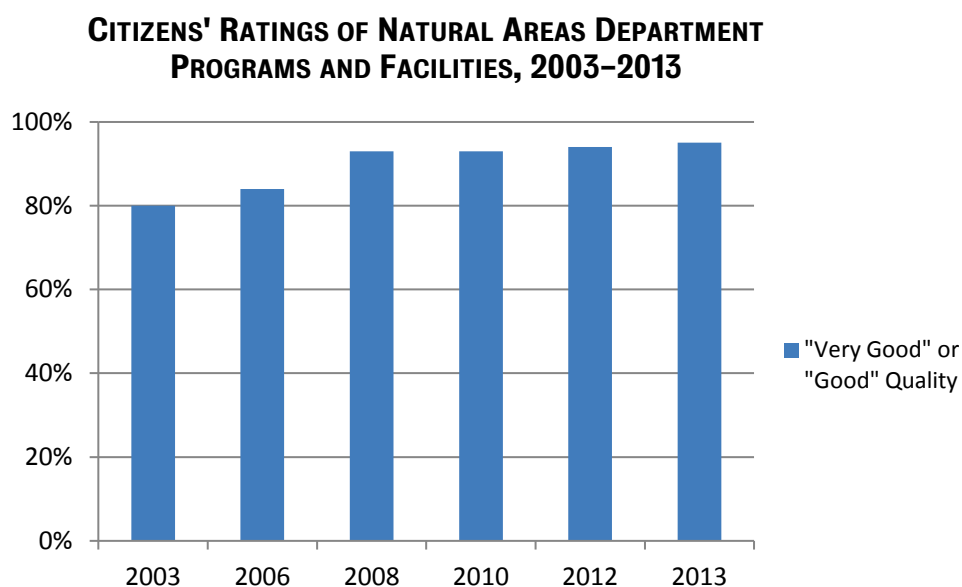


Figure 1. Percentage of “Very Good” or “Good” Quality Ratings of Natural Areas Department Programs and Facilities (Fort Collins Citizen Surveys 2003–2013)

recreation programs and portfolios. From this precedent-setting countywide study, called *Our Lands – Our Future: Recreation and Conservation Choices for Northern Colorado* (Larimer County 2013), came a statistical analysis of the conservation values and outdoor recreational preferences of Larimer County and Fort Collins residents. Between June 2012 and June 2013, over 4,200 citizens offered their feedback through statistically valid surveys, regional events, interactive online geographic information system (GIS) scenarios, participation of all open space advisory boards across the county, and over 45 local presentations. Many of the events occurred in Fort Collins, and over 50% of survey respondents were Fort Collins residents. Key findings included the following:

- The top activities for Fort Collins residents, children in their household, and the household overall are walking/hiking/running on natural surfaces (53%) and paved surfaces (46%), as well as biking on paved trails (52%). These activities are closely followed by camping (44%), biking on roads (37%), and fishing (34%). Overall, Fort Collins residents reported greater satisfaction with nearly all activities offered than other county residents.
- Respondents identified that more land or facilities are needed for walking/hiking/running on natural and paved surfaces, biking on paved trails, camping, fishing, recreating with dogs, and watching wildlife/birding.
- All types of land conservation are important, with “Lands that provide regional trail corridors to connect to cities and towns” and “Ecologically sensitive lands” rated as the most important, while “Working farms and ranches” were rated as relatively less important. In order to understand community attitudes toward land conservation in greater detail, respondents identified their single most important priority. “Ecologically sensitive lands” are considered the highest priority by Fort

Collins residents (26%), followed by “lands within our communities near neighborhoods and schools” (20%), and “lands that provide regional trail corridors” (16%). On the whole, Fort Collins residents favor an equal balance between natural resource preservation and outdoor recreation.

- There is significant support from respondents for allocating revenues toward a broad set of purposes, from land acquisition to ecological restoration to investing in current facilities.

The regional visioning process also helped further define the Department’s unique role in implementing the *Our Lands – Our Future* vision. See Appendix C for more information on the City of Fort Collins survey results.



Bobcat Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)

2014 Natural Areas Master Plan Outreach

In addition to Citizen Surveys and the 2013 *Our Lands – Our Future* survey results, the Fort Collins community provided specific feedback on the 2014 *Natural Areas Master Plan* through two open houses, online comment opportunities, and relevant City Boards and Commissions. A *Coloradoan* newspaper article invited the public to the open houses, and comment opportunities were promoted through press releases, email invitations to approximately 350 people and organizations, announcements in *Natural Areas E-news* (2,500 subscribers), communication with volunteers, and social media postings. The website devoted to the *Master Plan* featured open-house materials, an online comment opportunity, and related materials. The website had 1,099 page views as of July 21, 2014.

Open House #1

The first open house was held on January 30, 2014. The Natural Areas Department presented a review of *Our Lands – Our Future*, described current work, and highlighted changes being considered in the *Master Plan*. Participants were asked to comment on the current level of service and priorities in recreation, resource management, education, and land conservation. Specific input was sought on the Department's role in local food production, hunting at Soapstone Prairie Natural Area, camping at Bobcat Ridge Natural Area, interpreting and conserving cultural resources, and conserving and restoring the Cache la Poudre River. In addition, reactions to an updated mission statement were also sought.

An opportunity for open-ended input was provided. Eighty-five people attended the open house, and 59 written comments were received. During the online comment period (January 30–March 3, 2014), 67 online feedback forms were completed for a total of 126 written comments.

The comments received represented the diversity of the community that the Natural Areas Department serves; a variety of viewpoints on each topic were expressed. But in general, the current level of service was positively viewed in most areas including recreation, public amenities, visitor and ranger services, restoration, education, and cultural and historic preservation. The feedback was more mixed on land conservation, with a positive reaction to proposed priorities and some requests for additional recreational opportunities or more of an emphasis on a different focus area. Most citizens suggested that the Natural Areas Department be a leader in Poudre River conservation, with many supporting the current role.

The question about hunting pronghorn at Soapstone Prairie Natural Area generated lively discussion; hunting was generally supported, but some participants expressed concern. Limited

backcountry camping at Bobcat Ridge Natural Area received strong support. A slight majority of the participants supported the Natural Areas Department's role in local food production. A simplified mission statement was supported by most. The open-ended comment section had a variety of responses—several gave the Natural Areas Department kudos, some reiterated support for hunting, and some expressed a desire to have Reservoir Ridge Natural Area stay open later in the evening.



January 2014 Open House for Natural Areas Master Plan (City of Fort Collins Natural Areas Department Photo)

Open House #2

The second open house was on June 19, 2014. The Natural Areas Department presented the priorities for the *Master Plan* at its offices at Nix Farm. Participants were asked to comment on the priorities, 80 people attended. Twenty-one comment forms were submitted either on paper at the Open House or online in the 30 days afterwards.

The vision and mission were positively viewed with a few requests for more focus on recreation and providing public access. Land conservation priorities were positively received with some

concern about lack of regional focus, too much agricultural land conservation, or not enough conservation easements. Work on the Cache la Poudre River was supported with some concerns about lack of family-friendly access, potential reservoir projects, and proposed water park. Education and Outreach was supported with some concern about the concept of reaching 1 in 10 people annually.

Resource Management comments were positive with interest in reintroductions of species and some concern about hunting. Views on local food and agriculture were mixed. Support was expressed by some while others were concerned about grazing as a restoration activity, government involvement in a private sector activity, and overly ambitious plans. Comments on Ranger/Visitor Services included concerns about limited horse trail availability, dogs-off-leash problems, or not enough dog-off-leash areas. Recreation, Public Improvements, and Facility Operations generated several longer comments about hunting (both pro and con), a request for more emphasis on trails, and concerns about camping and about remodeling the little house at Nix.

Cultural resources were important to several participants with others concerned that this is not the Natural Areas Department's role or budget priority. Mineral development was a concern for several participants as well as more trails at Maxwell Natural Area. The "follow-up from Open House #1" and open-ended comments were quite varied with mixed support for hunting, dogs-off-leash, and concerns with trail maintenance, lack of twitter for trail conditions, and mineral development. Several ended their input with positive or encouraging comments.

Outreach to Citizen Boards, City Departments, and Other Agencies

City and County citizen advisory boards provided feedback to staff during the *Master Plan* process:

- Land Conservation and Stewardship Board—2013-14; monthly updates and feedback opportunities; discussed draft plan in July; will make recommendation to Council in September
- Natural Resources Advisory Board, April 2014
- Parks and Recreation Board, April 2014
- Planning and Zoning Board, June 2014
- Water Board, June 2014
- Larimer County Open Lands Advisory Board, May 2014

On June 12th, a draft plan was sent to various City departments and external agencies for review and comment:

- Park Planning & Development
- Parks and Recreation
- Office of Sustainability
- Planning Department
- City of Loveland Natural Areas Program
- Larimer County Department of Natural Resources
- Colorado Department of Parks and Wildlife
- The Nature Conservancy
- Legacy Land Trust

Taken as a whole, public feedback made it clear that protection and proper management of natural areas is strongly supported and is vital to ensuring Fort Collins' future as a world-class community.

Performance Metrics

The ongoing dialogues with the community and recent City-wide efforts to systematically measure and communicate how effectively citizens' tax dollars are being spent have led to a series of performance metrics. Each work group within the Natural Areas Department typically keeps track of various measures for its own management objectives. Now a set of measures is reported to City managers and the public through an interactive website and through the budgeting process and report. Table 1 lists the current measures being used and proposed by the Natural Areas Department. Some of the data are collected and managed directly by Department staff. Other data are collected via the City-wide Citizen Survey conducted every two years (mentioned above). Some of the Citizen Survey data is directly related to natural areas and included in the measures listed in Table 1. Over the next ten years these metrics could change as the Department and the City improve efforts to measure progress.

Table 1. Current Natural Areas Department Metrics

Budgeting for Outcomes Offer		Target/Goal
<i>Land and Resource Management</i>		
Metric ENV8	Percent of urban natural area acres in greater than 75% native condition	50% by 2030
New Metric	Poudre River restoration—linear extent of river channel or riverbank restored per year	Yet to be determined
New Metric	Poudre River restoration—acres of river floodplain restored per year	Yet to be determined
<i>Public Improvements, Education and Outreach, Rangers and Visitor Services, Facility Operations</i>		
Metric ENV98	Percent citizens responding very good/good quality of natural areas and open space, determined by Citizen Survey	Above 80%
Metric CR66	Trail condition	85% of trails in good condition
Metric CR6	Cumulative program participation per capita	Reach 8%–10% of Fort Collins population each year
Metric SAFE36	Percent of citizens responding always safe/usually safe in natural areas/open space, determined by Citizen Survey	85% or higher
Metric SAFE51	Percent of citizens responding very good/good quality Natural Area Ranger service, determined by Citizen Survey	80% or higher
<i>Land and Water Conservation, Program Management</i>		
Metric ENV15	Cumulative land conservation	Upward trend annually
New Metric	Poudre River in-stream flow—number of days where City has positively impacted river flows through any given reach	To increase duration and magnitude of flows
New Metric	Poudre River in-stream flow—additional acre-feet added to river as a direct result of City management action	To increase duration and magnitude of flows



The Natural Areas Department is fortunate to have funding from both the County - Help Preserve Open Space ¼-cent Sales Tax and the City - Open Space Yes! ¼-cent Sales tax; both were citizen-initiated. The anticipated revenue for 2014 from each of these taxes is \$3.8 million and \$6.6 million, respectfully for a total \$10.4 million. This level of funding allows the Department the ability to manage 35,000 acres of land on 43 sites and maintain over 100 miles of trails, while still conserving land. Over the next ten years, the Department anticipates spending 60% of its revenues on stewardship (the operation and maintenance of already conserved land and developed public improvements) and 40% on land conservation.

Historical Funding and Expenditures (1993–2013)

The primary funding for the Natural Areas Department has come from the following ballot measures:

1992—City ¼-Cent Sales Tax for Natural Areas

The initial funding for the Natural Areas Program began with 53% voter approval of this citizen-initiated 5-year ¼-cent sales tax, which expired in 1997.

1995—Larimer County Help Preserve Open Space (HPOS) Sales Tax

A citizen-initiative approved by 65% of voters in 1995. This sales tax was collected from 1996 through 2003.

1997—Building Community Choices (BBC) – City ¼-Cent Sales Tax with a portion going to Natural Areas

69% of Fort Collins voters approved this seven-year sales tax, which expired in 2005. This tax also funded the following capital projects: Community Horticulture Center (Gardens on Spring Creek), Fossil Creek Community Park, Community Park Improvements, and Regional Paved Trails.

1999—Larimer County Help Preserve Open Space (HPOS) Sales Tax

60% of the voters approved this citizen initiative for a 15-year extension of this sales tax. This sales tax will provide funding for the City's Natural Areas Department from 2004 through 2018.

2002—Open Space Yes! – City ¼-Cent Sales Tax for Natural Areas

65% of Fort Collins voters approved this citizen-initiated 25-year sales tax extension at the fully restored 1992 ¼-cent level. This sales tax will be collected through 2030. Eighty percent or more of these revenues must be spent on land conservation or land restoration, while 20% or less of these revenues can be spent on operations and maintenance.

About 18% of the Natural Areas Department revenue from 1993-2013 came from sources other than the ballot measures (Figure 2). In 2004, at the time of the Bobcat Ridge and Soapstone Prairie natural areas purchases, funds for land conservation were depleted. Yet, there were still incredible opportunities for land conservation, and land values were on the rise. City Council decided to use Certificates of Participation (COPS), a funding mechanism available to local governments, to create a \$15,000,000 reservoir for additional land conservation (Figure 2). The Department will complete its payments for the certificates in 2019.

In 1993, when the Natural Areas Program assumed the responsibility of managing 1,203 acres of already conserved lands from the Parks Department, the focus was primarily on land conservation with only minimal focus on stewardship (operations and maintenance) and capital site improvements of the existing 1,203 acres of natural areas and the few miles of trails.

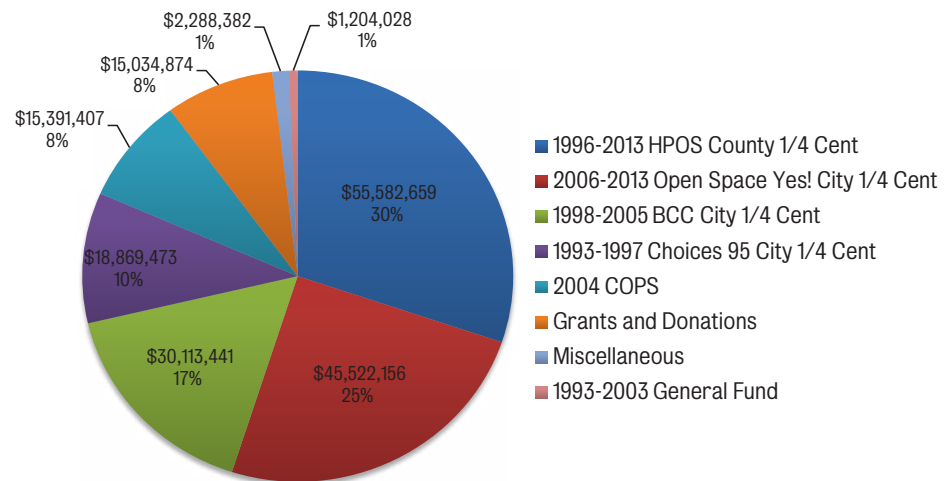


Figure 2. Natural Areas Revenue, 1993–2013 (Total \$184,006,420)

As the amount of conserved land and interest in recreation increased, so did the need for capital site improvements to open sites to the public. Over time, costs associated with site improvements and stewardship (which includes restoration, long-term operations, and maintenance) have required a greater proportion of the Natural Areas Department funding (Figure 3). In 2003 the Department spent about 77% of its revenues on land conservation, while in 2013 it spent only about 41% (Figure 3).

Over the entire 21 years, 60% of the revenues were spent on land conservation (Figure 4). As more land is conserved and more sites are developed for public the costs to operate and maintain those lands and public improvements will continue to grow; thus, amount of funding available for land conservation will continue to decrease, unless additional funding is provided. The Natural Areas Department will continue to leverage existing land conservation funding through partnerships and grants to maximize the Department’s land conservation efforts.

Future Funding and Expenditures over the Next Ten Years (2014–2023) with and without Larimer County’s “Help Preserve Open Space” Sales Tax

The two primary funding sources for the Department over the next ten years (the life of this *Master Plan*) are the “Fort Collins Open Space Yes!” ¼-cent sales tax, which expires in 2030, and Larimer County’s “Help Preserve Open Space” ¼-cent sales tax, which expires in 2018 (unless renewed by the voters). The potential expiration of the County tax represents a significant challenge to the Department because the tax supports a majority of its operating and stewardship expenses.

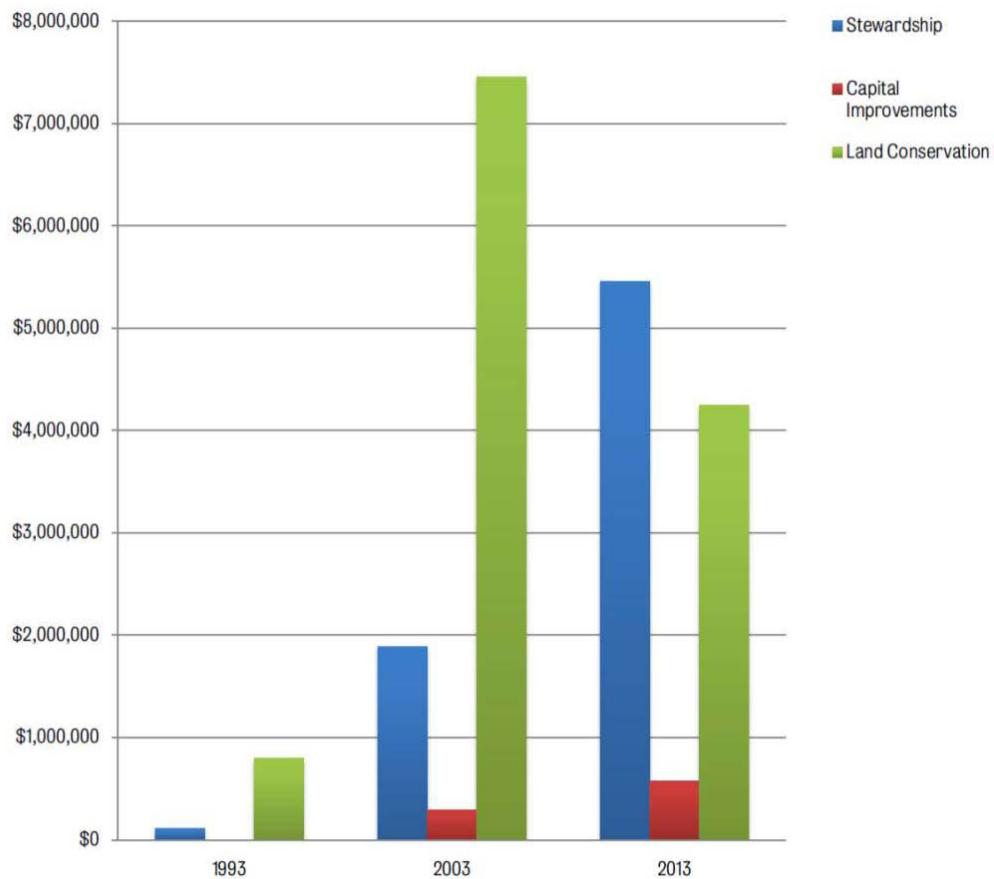


Figure 3. Change in Distribution of Natural Areas Expenditures over Time

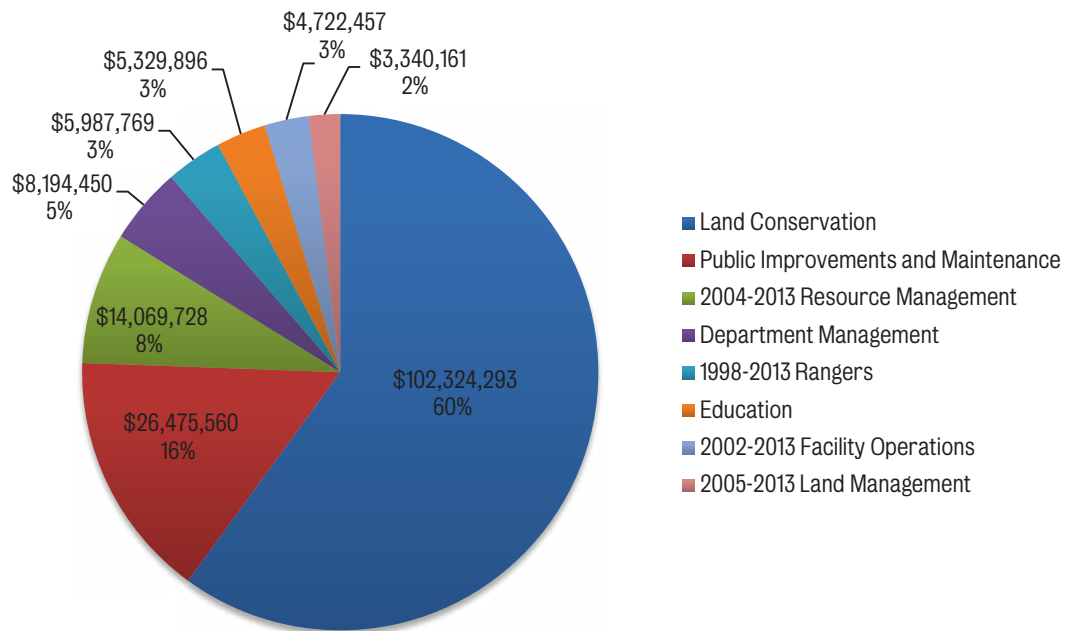


Figure 4. Natural Areas Expenditures by Work Group, 1993–2013 (Total \$170,444,314) (see page 39 for description of Work Group responsibilities; prior to 2004, “Maintenance” Work Group handled Public Improvements and Resource Management Activities)

Larimer County Commissioners have placed an extension of HPOS on the November 2014 ballot.” (for the assumption that they will do this on July 29th). With the assumed revenues from extending the “Help Preserve Open Space” sales tax, potential expenditures by the Natural Areas Department over the next 10 years are shown in Figure 5. Please note that these are projected expenditures and it is likely that spending would vary at least slightly from these projections.

Assuming that the Larimer County “Help Preserve Open Space” sales tax is extended, estimated revenues over the next 10 years (the life of this *Master Plan*) would be as shown in Figure 6.

If the Larimer County “Help Preserve Open Space” sales tax is not extended, it would be difficult for the Department to provide stewardship of conserved lands and recreation amenities. Activities such as maintenance of natural surface trails, restrooms, parking lots, weed control and programmatic efforts such as educational programs, ranger services, and planning would need to be significantly reduced or eliminated. Addition of new or improved trails or other recreation amenities would be severely limited. Revenues from 2014 to 2023 would be greatly reduced, as shown in Figure 7.

The potential reduction in revenues is made more difficult because the City $\frac{1}{4}$ -cent sales tax ballot language requires that 80% or more of the funds be spent on land conservation and restoration and that 20% or less be spent on operations and maintenance. In order to meet these requirements without the County $\frac{1}{4}$ -cent sales tax, public maintenance and recreation improvements would need to be significantly reduced or the requirement for the 80/20 split would need to be changed by voters.

Even if the City sales tax 80/20 split were removed by voters, there would still be no County sales tax; the City would only have the resources to



Canada geese in flight (Photo by Norm Keally)

maintain existing natural areas at current service levels—funds for land conservation, restoration, and capital projects such as new trails would be very limited.

As directed by City Council in 2003, the Department has a contingency plan to continue operating at current service levels from 2018 to 2021 if the County tax is not renewed. However, land conservation, restoration, and capital projects would be greatly reduced during this period.

Other Potential Funding Sources

While it would be difficult to predict with any certainty, the Department anticipates finding other sources of revenues to enhance its ability to conserve and steward land, although backfilling for a potential loss of \$3.5 million/year if the “Help Preserve Open Space” sales tax fails to be renewed is unlikely. With that said, the Department will continue to apply for grants and engage in partnerships to leverage and extend funding. In addition, the Department will participate in the City’s budget process to compete for “Keep Fort Collins Great” discretionary sales tax funds or general funds that are administered by City Council. The Department may also benefit from renewal of the existing $\frac{1}{4}$ -cent capital projects sales tax.

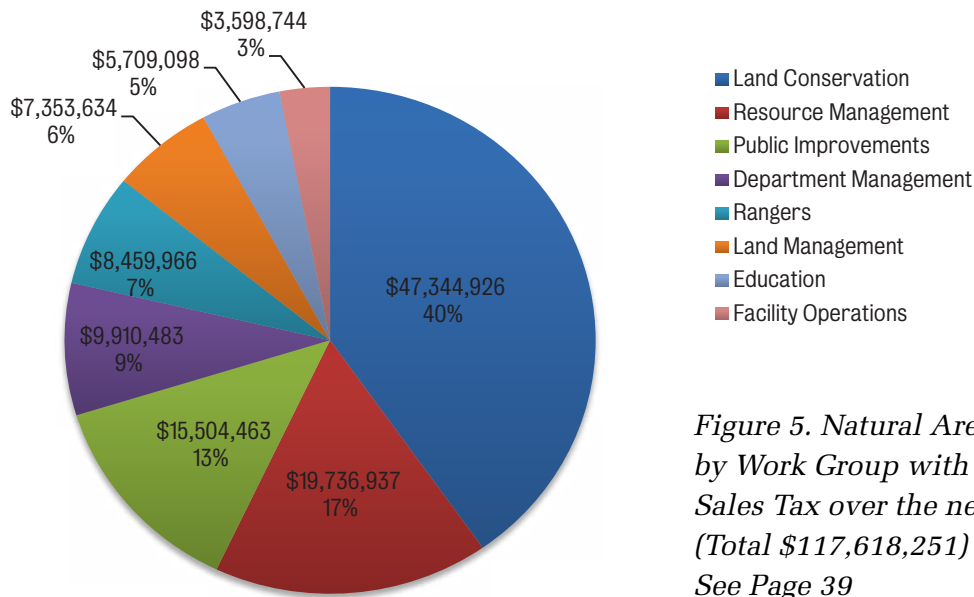


Figure 5. Natural Areas Estimated Expenditures by Work Group with “Help Preserve Open Space” Sales Tax over the next Ten Years, 2014–2023 (Total \$117,618,251)
See Page 39

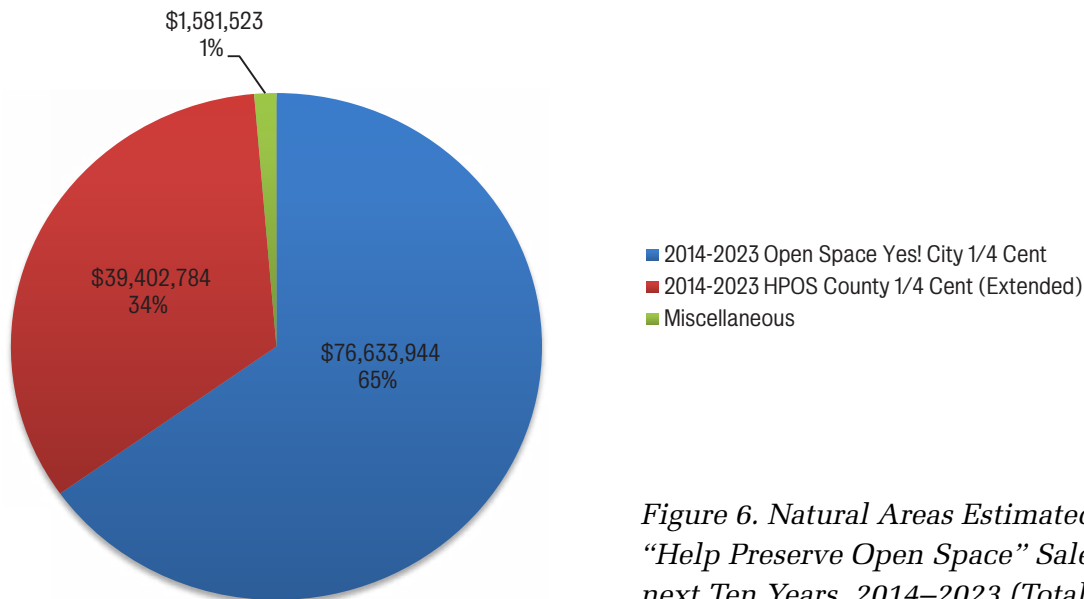


Figure 6. Natural Areas Estimated Revenue with “Help Preserve Open Space” Sales Tax over the next Ten Years, 2014–2023 (Total \$117,618,251)

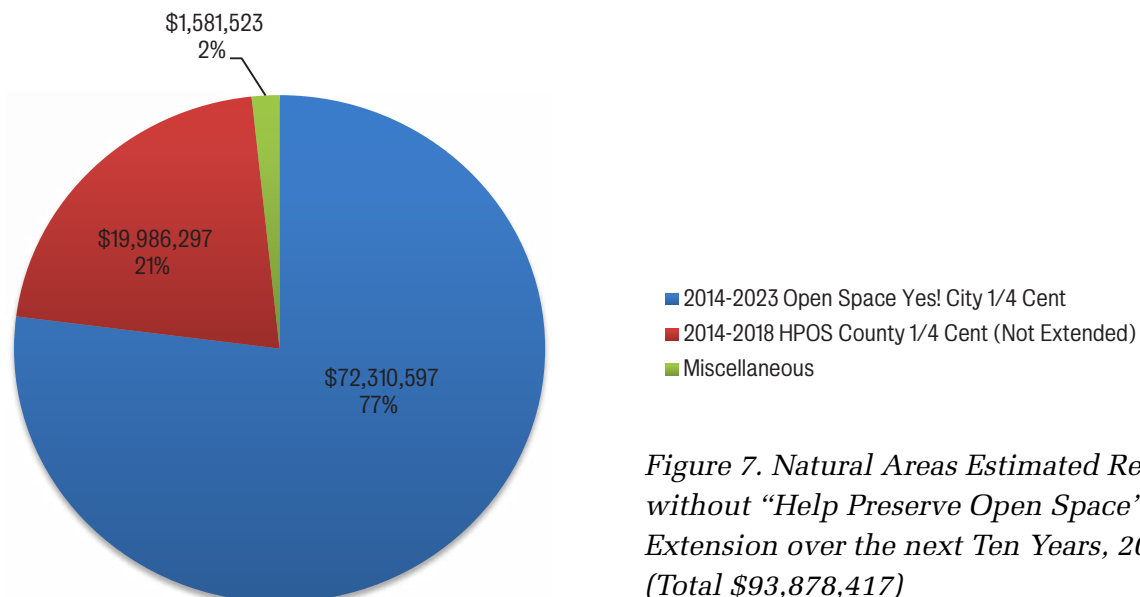


Figure 7. Natural Areas Estimated Revenue without “Help Preserve Open Space” Sales Tax Extension over the next Ten Years, 2014–2023 (Total \$93,878,417)

Partnerships

The Natural Areas Department has had the benefit of many partners throughout the program's history. Partnerships offer each partner the ability to leverage resources, share expertise, build synergy, and collaborate to implement innovative community projects. The Department's most significant partners have been, and will likely continue to be, Larimer County Department of Natural Resources and Great Outdoors Colorado, both programs that go before the voters for renewed funding during the time horizon of this plan. In the last ten years alone, more than 25 partnerships have provided multiple benefits to the conservation and stewardship of City of Fort Collins natural areas (Table 2).

User Fees

The Natural Areas Department operates under the informal philosophy that citizens are paying taxes for public natural areas and should not be charged again for the privilege of visiting the sites. The exception to this guideline is Gateway Natural Area, which was supported by an entrance fee and a shelter reservation fee when it was previously managed by the City Parks Department. The Natural Areas Department has kept these fees due to the higher costs of maintaining the “park-like” portion of the natural area. The only other fee-based operation is the Primrose Studio meeting room at Reservoir Ridge Natural Area. These rental fees cover the upkeep of the meeting room and the salary of the part-time attendant for the building. While future funding levels could ultimately dictate whether or not user fees may need to be charged at some point, at this time the Department intends to continue to maintain its philosophy of leaving the vast majority of natural areas free to users.



Gateway Natural Area (City of Fort Collins Natural Areas Department Photo)

Table 2. Examples of Conservation and Stewardship Partnerships over the Past Ten Years

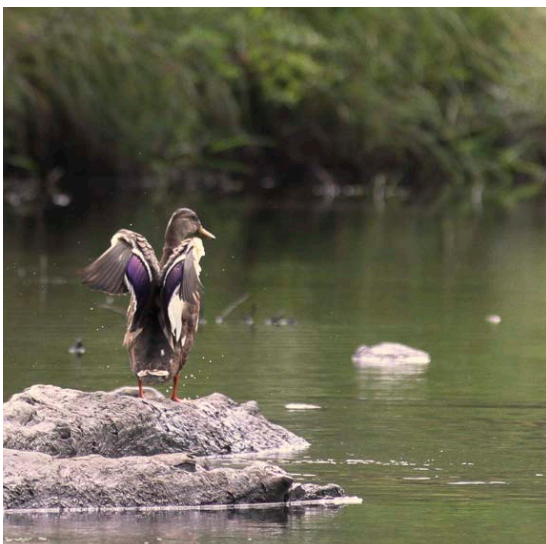
Project (Years)	Natural Areas Benefits	Partners
<i>Multiple Agency Partnerships</i>		
Fort Collins – Loveland Community Separator (2004-present)	Land Conservation	Larimer County; Loveland; Great Outdoors Colorado (GOCO)
Fossil Creek Reservoir Natural Area (2004–present)	Land Conservation; Resource Management; Recreation; Ranger and Visitor Services; Education	Larimer County; North Poudre Irrigation Company; GOCO
Laramie Foothills Mountains to Plains (2004-present)	Land Conservation	Larimer County; The Nature Conservancy; GOCO; Legacy Land Trust; Private Landowners
Poudre River Regional Trail (2012-present)	Trail Connections	Larimer County; Timnath; Windsor, Greeley; GOCO
Our Lands – Our Future: Regional Land Study (2012-2013)	Planning; Research	Larimer County; All County Municipalities; GOCO
<i>Multiple City Departments</i>		
Riverbend Ponds Flood Control Project (2006–2007)	Restoration	Stormwater Utility; Transportation
Prospect Road Widening (2006-2007)	Trail Connections; Restoration	Transportation; Stormwater Utility
Red Fox Meadows Stormwater Improvements (2007–2012)	Restoration; Resource Management; Recreation	Stormwater Utility
Udall Water Quality and Stormwater Improvements (2004-2005)	Land Conservation; Resource Management; Recreation	Stormwater Utility
Multipurpose Land Use Study – Trail, Wildlife, and Drainage Corridors (2012-2013)	Wildlife Corridors; Neighborhood Natural Areas; Trail Connections	Utilities; Parks
North Shields Bridge Improvements (2013–Present)	Recreation; Resource Management	Larimer County; Parks; Stormwater
West Vine Outfall (2013–Present)	Land Conservation; Wildlife Corridor; Trail Connection	Stormwater; Parks
<i>Non-Profit Partners</i>		
Neotropical Bird Surveys (2007–present) and Screech Owl Survey (2013)	Resource Management; Research	Rocky Mountain Bird Observatory
<i>Corporate Partners</i>		
West Main Natural Gas Pipeline Replacement Project (2012–Present)	Land Conservation; Restoration; Recreation	Xcel Energy
Woodward Development Project (2013–Present)	Land Conservation; Resource Management; Recreation	Woodward, Inc.
Rigden Water Storage Reservoir (2013–Present)	Land Conservation; Wetland and Pond Conservation	Flatiron Company; Fort Collins Water Utility
Nature Tracker Software (2012-2013)	Enhanced Customer Service; Volunteer Coordination	Squarei, Technologies, Inc.
<i>State and Federal Partners</i>		
Nix Farm Historic Barn Restoration (2005)	Cultural Resources	History Colorado
Bobcat Ridge Historic Outbuilding Restorations (2011–Present)	Cultural Resources; Education	History Colorado; Pulliam Charitable Trust
Shields Pit Restoration (2013-present)	Wetland Restoration	Colorado Parks and Wildlife
Museum of Discovery Displays (2011-2012)	Education	U.S. Fish and Wildlife Service
Soapstone Prairie Black-Footed Ferret Reintroduction (2013-present)	Resource Management; Education	U.S. Fish and Wildlife Service
Bobcat Ridge Trail Easement (2007)	Recreation	U.S. Forest Service



LAND CONSERVATION

Soapstone Prairie Natural Area
(Photo by Mario Miguel Echevarria)

The Fort Collins community is fortunate to have a wealth of wildlife habitat and native plant communities at its doorstep. Over the past 20 years, the Natural Areas Department has worked to protect special lands both within and outside city limits. From shortgrass prairies to cottonwood forests and farm fields, the portfolio has grown from a handful of properties to encompass more than 40,000 acres conserved through fee-simple acquisitions, conservation easements, and donations. Working closely with willing property owners, a number of key acquisitions have involved partnerships with the Larimer County Department of Natural Resources, Great Outdoors Colorado, the City of Loveland, Legacy Land Trust, and other conservation organizations. To date, the City of Fort Collins has acquired nearly 34,800 acres of natural areas for public use and protected another 5,800 acres in conservation easements. The recreational rights are leased on 900 acres of reservoirs to help protect key wildlife habitat.

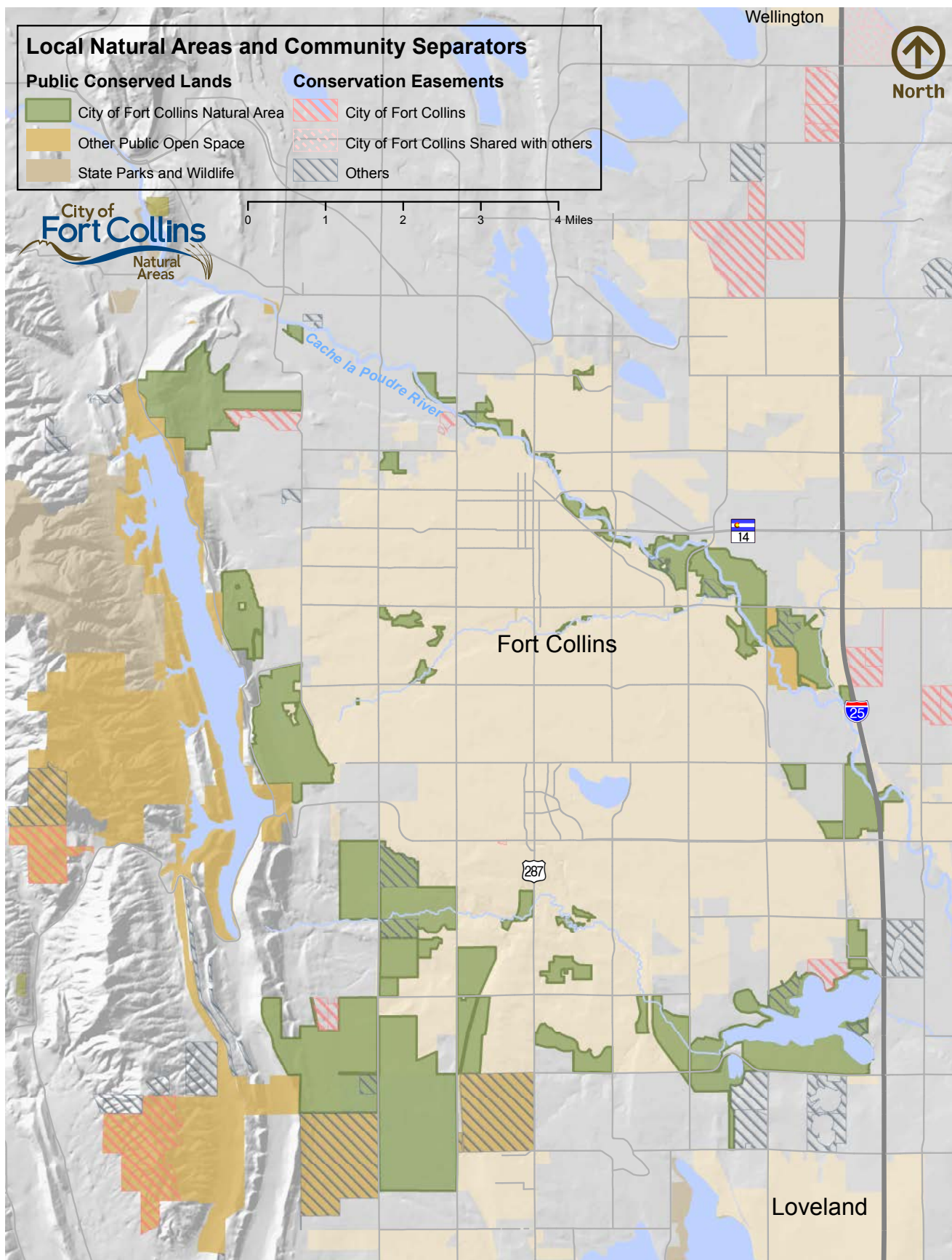


Mallard on the Poudre at Riverbend Ponds Natural Area (Photo by Norm Keally)

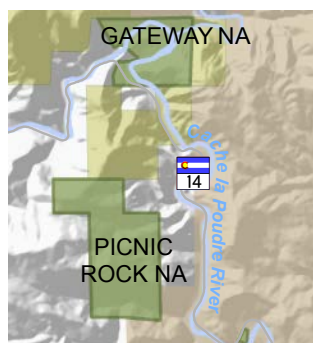
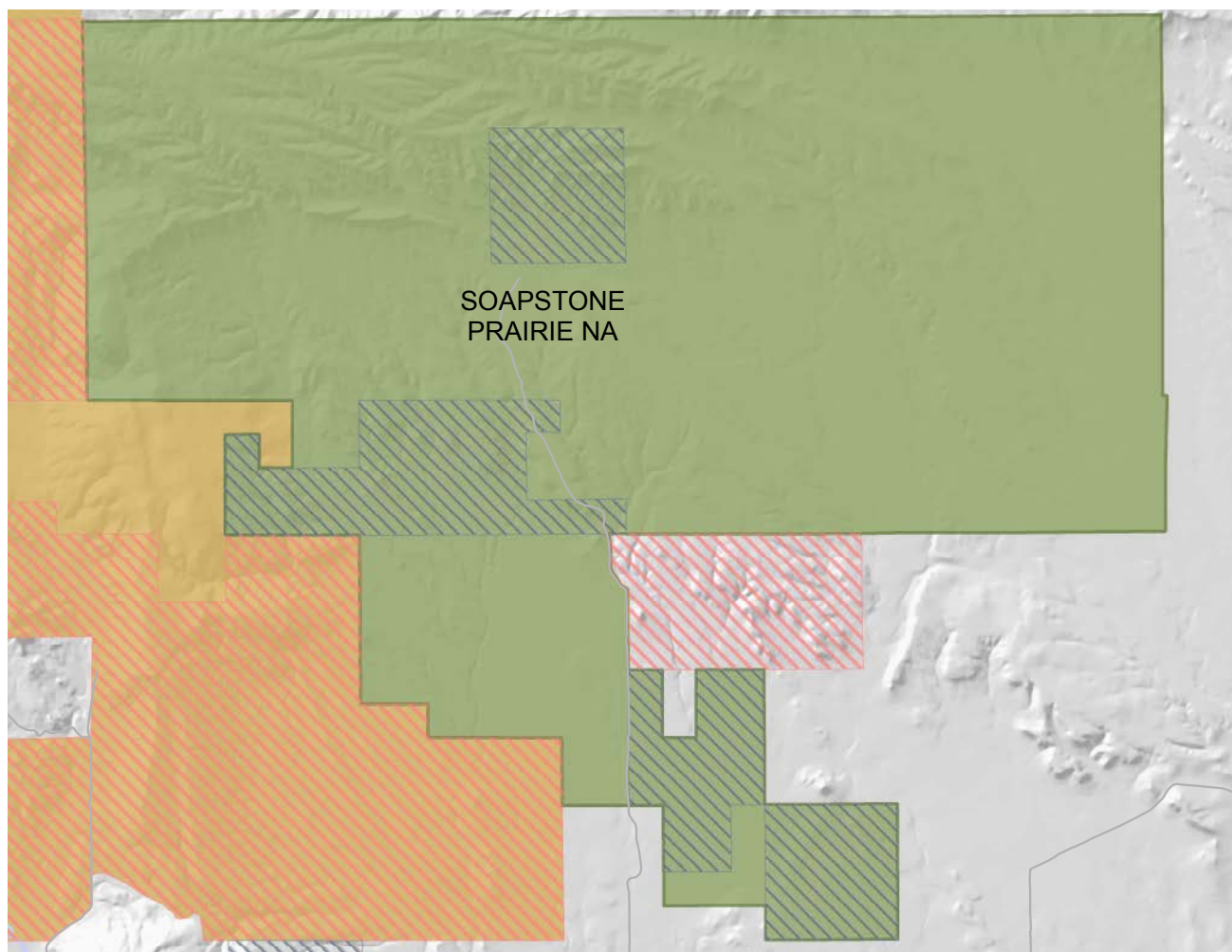
Inventory of City Natural Areas and Other Protected Sites

As a result of following the 2002 Open Space Yes! ballot language, City Council direction, and the 2004 *Land Conservation and Stewardship Master Plan*, the Natural Areas Department has conserved over 30,000 acres with willing landowners in the last ten years alone (Table 3).

The Department now manages 43 natural areas ranging in size from one acre to 22,258 acres (Table 3; Maps 1 and 2). A wide diversity of native plant communities have been protected, including mature cottonwood forests, foothills shrublands, wet meadows, emergent marshes, and shortgrass prairies. These areas provide critical habitat for a suite of native wildlife species.



Map 1. Local Natural Areas and Community Separators



Regional Natural Areas (2014)

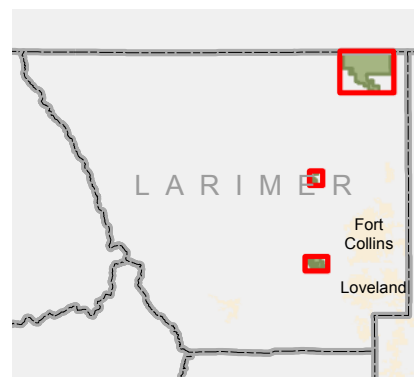
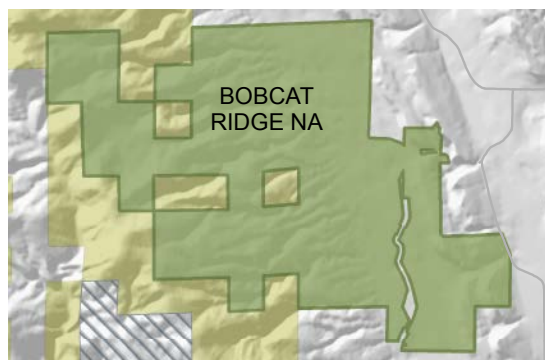
Public Conserved Lands

- City of Fort Collins Natural Area
- Other Public Open Space
- State Parks and Wildlife
- Federal Land

Conservation Easements

- City of Fort Collins
- City of Fort Collins Shared with others
- Others

0 1 2 3 4 Miles



Map 2. Regional Natural Areas

Table 3. Natural Areas Inventory of Conserved Lands

Site	Purchase History	Acres Conserved by City ¹	Acres Conserved by Natural Areas since 2004
<i>Local Focus Areas</i>			
Core Natural Areas			
Fischer Natural Area ²	Donated 1977 to Parks; transferred to Natural Areas.	12	
Mallard's Nest Natural Area ²	Acquired ³ 1985-2002 by Parks, Utilities, and Natural Areas; Natural Areas and Utilities manage.	7	
Red Fox Meadows Natural Area ²	Acquired ³ 1986-2000 by Utilities, Parks, and Natural Areas; Natural Areas and Utilities manage.	9	
Redwing Marsh Natural Area ²	Acquired 1993-1995 by Natural Areas and Utilities; Natural Areas and Utilities manage.	16	
Ross Natural Area ²	Acquired 1978 by Parks and Utilities; transferred to Natural Areas; Natural Areas and Utilities manage.	27	
The Coterie Natural Area ²	Acquired 2000 by Natural Areas.	5	
#13IS1 (not named yet)	Acquired 2013 by Stormwater Utility and Natural Areas (41%); currently managed by Stormwater; no public access yet.	37	15
Dry Creek Stormwater Wetland	Acquired 1999 by Natural Areas and Utilities; managed by Stormwater Utility; no public access.	7	
Horticulture Center (buffer portion)	Acquired 2001 by Natural Areas for Spring Creek buffer and native plant demonstration area; managed by Parks.	5	
Focus Area Subtotal:		157	15
Poudre River Corridor			
Arapaho Bend Natural Area ²	Acquired ³ 1995-2011 by Natural Areas.	302	24
Butterfly Woods Natural Area ²	Acquired 1996 by Natural Areas and Parks.	24	
Cattail Chorus Natural Area ²	Acquired 1997 by Natural Areas; received GOCO Grant.	102	
Cottonwood Hollow Natural Area ²	Acquired 1995-1998 by Natural Areas.	93	
Gustav Swanson Natural Area ²	Acquired ³ 1955-2002 by City of Fort Collins and Natural Areas.	12	
Kingfisher Point Natural Area ²	Acquired ³ 1979-2013 by Parks and Natural Areas; received GOCO Grant.	157	17
Magpie Meander Natural Area ²	Acquired 1995-2013 by Natural Areas.	21	10
McMurry Natural Area ²	Acquired ³ 1998-2003 by Natural Areas; received GOCO Grant.	45	
North Shields Ponds Natural Area ²	Acquired ³ 1962-2014 by City of Fort Collins and Natural Areas.	54	44
Prospect Ponds Natural Area ²	Acquired 1974 by Utilities; Natural Areas manages.	25	
River's Edge Natural Area ²	Acquired 1994-2001 by Natural Areas.	8	
Riverbend Ponds Natural Area ²	Acquired ³ 1977-1999 by Parks and Natural Areas.	220	
Running Deer Natural Area ²	Acquired 1998-2011 by Natural Areas; received GOCO Grant.	294	19
Salyer Natural Area ²	Donated 1985 to Parks; transferred to Natural Areas.	24	
Springer Natural Area ²	Donated 1990 to Parks; transferred to Natural Areas.	21	
Udall Natural Area ²	Acquired ³ 1994 by Natural Areas and Utilities; Natural Areas and Utilities manage.	25	
Williams Natural Area ²	Donated 1990 to Parks; transferred to Natural Areas.	1	

Table 3. Natural Areas Inventory of Conserved Lands (Continued)

Site	Purchase History	Acres Conserved by City ¹	Acres Conserved by Natural Areas since 2004
#14PR1 [Woodward; will have name this summer] Natural Area ²	Donated 1990-2014 to Parks and Natural Areas.	37	34
#14PR2 [Shields Pit] Natural Area	Acquired 2014 by Natural Areas; not yet open to the public.	50	50
Arnett Conservation Easement	Conservation Easement acquired 2013 by Natural Areas; landowner manages; will have trail easement in future.	25	25
Focus Area Subtotal:		1,540	223
<i>Fossil Creek Corridor</i>			
Cathy Fromme Prairie Natural Area ²	Acquired ³ 1993-2002 by Natural Areas and Larimer County Open Lands (7%); received GOCO Grants. Total site acreage=1,083	954	
Colina Mariposa Natural Area ²	Acquired ³ 1998 by Natural Areas.	192	
Eagle View Natural Area	Acquired 2002 by Natural Areas; not yet open to the public.	90	
Fossil Creek Reservoir Natural Area ²	Acquired ³ 1998-2010 by Natural Areas and Larimer County (17%); 810 acres leased from North Poudre Irrigation Company; Natural Areas started managing in 2010. Total site acreage = 1,399.	1,164	95
Fossil Creek Wetlands Natural Area ²	Acquired 1995 by Natural Areas.	229	
Hazaleus Natural Area	Acquired ³ 1999 by Natural Areas; not yet open to the public.	168	
Pelican Marsh Natural Area ²	Acquired 2002 by Natural Areas.	156	
Prairie Dog Meadow ²	Acquired ³ 1994–2003 by Natural Areas.	84	
Redtail Grove Natural Area ²	Acquired ³ 1996-2010 by Natural Areas.	51	8
Two Creeks Natural Area ²	Acquired ³ 1999 by Natural Areas.	30	
Coventry Hidden Cattails Conservation Easement	Dedicated 1994 to Natural Areas; sold to Coventry with Conservation Easement 2005.	3	
Swift Farm Conservation Easement	Conservation Easement acquired 2003 by Natural Areas; landowner manages; not open to the public.	82	
Focus Area Subtotal:		3,203	103
<i>Foothills Corridor</i>			
Coyote Ridge Natural Area ²	Acquired ³ 1994–2007 by Natural Areas and Larimer County Open Lands (11%); a portion of site is also in Fort Collins–Loveland Separator. Total site acreage = 2,242	2,005	151
Maxwell Natural Area ²	Acquired ³ 1976–1996 by Parks and Natural Areas.	290	
Pineridge Natural Area ²	Acquired ³ 1976–2007 by Parks and Natural Areas; 83-acre Dixon Reservoir leased.	744	83
Reservoir Ridge Natural Area ²	Acquired ³ 1985–2008 by Parks and Natural Areas.	764	297
Hazelhurst Conservation Easement	Conservation Easement acquired ⁴ 2005; landowner manages; not open to the public.	35	35
MacEwen Conservation Easement	Conservation Easement acquired ⁴ 2005; landowner manages; not open to the public.	45	45
Million Conservation Easement	Conservation Easement acquired 2011; landowner manages; not open to the public.	100	100
Focus Area Subtotal:		3,983	711
<i>Community Separator Focus Areas</i>			
<i>Wellington Separator</i>			

Table 3. Natural Areas Inventory of Conserved Lands (Continued)

Site	Purchase History	Acres Conserved by City ¹	Acres Conserved by Natural Areas since 2004
Bee Conservation Easement	Conservation Easement acquired 2004 by Larimer County and Natural Areas (50%); landowner manages; not open to the public. Total site acreage = 139.	70	70
Kerbel Conservation Easement	Conservation Easement acquired 2002 by Larimer County and Natural Areas (50%); landowner manages; not open to the public. Total site acreage = 84.	42	
Kraft Farm II Conservation Easement	Conservation Easement acquired 2011 by Natural Areas; received Farm and Ranch Protection Program (FRPP); landowner manages; not open to the public.	156	156
Lockman Conservation Easement	Conservation Easement acquired 2011 by Natural Areas; received FRPP Grant; landowner manages; not open to the public.	121	121
Maxwell Farm Conservation Easement	Conservation Easement acquired 2013 by Natural Areas; landowner manages; not open to the public.	136	136
Phytogen Conservation Easement	Conservation Easement acquired 2011 by Natural Areas; received FRPP Grant; landowner manages; not open to the public.	66	66
Sod Farm Conservation Easement	Conservation Easement acquired 2005 by Natural Areas; landowner manages; not open to the public.	453	453
Weber Conservation Easement	Conservation Easement acquired 2004 by Larimer County and Natural Areas (50%); landowner manages; not open to the public. Total site acreage = 70.	35	35
Focus Area Subtotal:		1,079	1,037
<i>Fort Collins–Loveland Separator</i>			
Prairie Ridge Natural Area	Acquired 2000 by City of Loveland Larimer County, and Natural Areas (25%); received GOCO Grant; City of Loveland manages; not open to the public yet. Total site acreage = 785.	196	
Long View Farm Open Space	Acquired 1997 by Larimer County Open Lands and Natural Areas (33%); received GOCO Grant; Larimer County manages; not open to the public. Total site acreage = 479.	159	
Focus Area Subtotal:		355	
<i>Lower Poudre and Windsor Separator</i>			
Three Bell I & II Conservation Easements	Conservation Easements acquired 2010 by Larimer County and Natural Areas (28%); landowner manages; not open to the public yet. Total site acreage = 338.	169	169
Focus Area Subtotal:		169	169
<i>Timnath Separator</i>			
Cribari I & II Conservation Easements	Conservation Easements acquired 2005 by Natural Areas; landowners manage; not open to the public.	73	73
Hansen I & II Conservation Easements	Conservation Easements acquired 2004-2012 by Natural Areas; landowner manages; not open to the public	82	82
Person I & II Conservation Easements	Conservation Easements acquired 2005-2013 by Natural Areas; landowner manages; not open to the public.	141	141
Focus Area Subtotal:		296	296
<i>Regional Focus Areas</i>			
<i>Foothills/Buckhorn/Redstone</i>			

Table 3. Natural Areas Inventory of Conserved Lands (Continued)

Site	Purchase History	Acres Conserved by City ¹	Acres Conserved by Natural Areas since 2004
Bobcat Ridge Natural Area ²	Acquired ³ 2003 by Natural Areas.	2,604	
Culver Open Space	Acquired 2004 by Larimer County and Natural Areas (13%); County manages; site not open to the public; City holds Conservation Easement. Total site acreage = 288.	38	38
Devil's Backbone Open Space (Indian Creek Property)	Acquired 2003–2004 by Natural Areas (75%) and Larimer County; received GOCO Grant; Larimer County manages; open to the public. Total site acreage = 1,545 (Indian Creek only).	1,159	1,159
Rimrock Open Space	Acquired 2002 by Larimer County Open Lands and Natural Areas (10%); Larimer County manages; open to the public. Total site acreage = 437 acres.	43	
Focus Area Subtotal:		3,844	1,197
Upper Poudre			
Gateway Natural Area ²	Acquired 1930 by City of Fort Collins; management transferred to Parks in 2002 and then to Natural Areas in 2007.	170	170
Picnic Rock Natural Area ²	Acquired 1986–2008 by City of Fort Collins and Natural Areas; management of 1986 acreage transferred to Natural Areas in 2007.	323	323
Focus Area Subtotal:		493	493
Meadow Springs			
Soapstone Prairie Natural Area ²	Acquired 2004–2011 by Natural Areas; received GOCO Grant; Larimer County holds conservation easement on a portion of the property.	22,258	22,258
Red Mountain Open Space (Gallegos Property)	Acquired 2007 by Larimer County and Natural Areas (24%); received GOCO Grant; Natural Areas holds conservation easement on the property; open to the public. Total site acreage = 1,480 (Gallegos Property only).	361	361
Wire Draw Ranch Conservation Easement	Conservation Easement acquired 2007; by Natural Areas; landowner manages; not open to the public.	1,150	1,150
Focus Area Subtotal:		23,769	23,769
Laramie Foothills			
Roberts Ranch Conservation Easement	Conservation Easement acquired 2004; by Nature Conservancy, Larimer County, and Natural Areas (60%); received GOCO Grant; landowner manages; not open to the public. Total CE acreage = 4,557.	2,734	2,734
Stonewall Creek Ranch Conservation Easement	Conservation Easement acquired 2005 by Larimer County; Natural Areas contributed (71%) to purchase, but does not hold easement. Total CE acreage = 136 acres.	97	97
Focus Area Subtotal:		2,831	2,831
Total Acres Conserved by City:		41,550	
Acres Acquired for Public Use:		34,842	
Conservation Easements:		5,815	
Leased:		893	
Total Acres Conserved by Natural Areas since 2004:			30,844

Table Notes:

¹Current acres may not correspond to 2004 document due to change in names of sites or combining sites together.

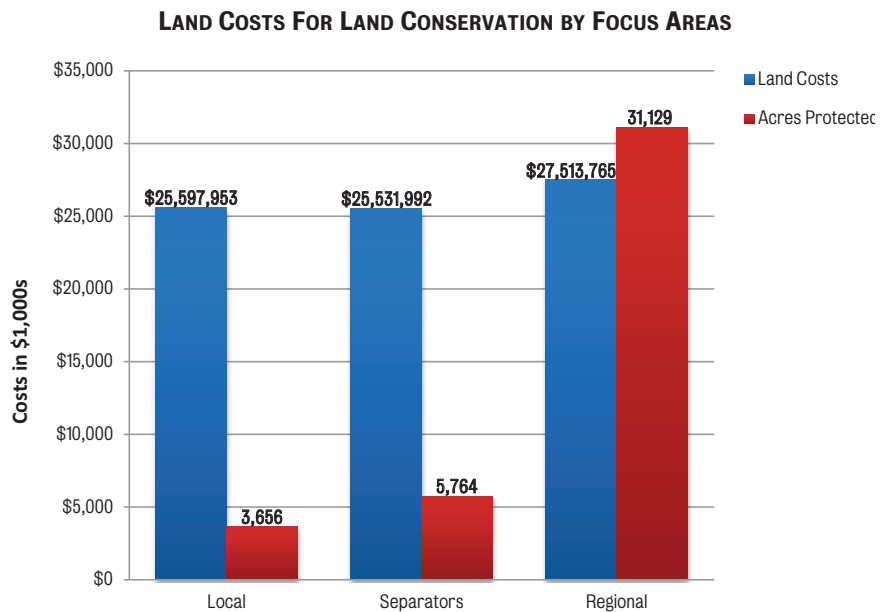
²These sites are open to the public and managed by the Natural Areas Department.

³Includes partial donation, dedication, and/or reduced purchase price.

Conservation Focus Areas

Land conservation efforts from 1993 to 2003 primarily were focused within the Fort Collins Growth Management Area and the Fort Collins–Loveland Community Separator Area. In 2002, City Council directed the Natural Areas Department to develop a land conservation plan that also included a regional focus. The resulting 2004 *Land Conservation and Stewardship Master Plan* outlined a number of high-priority land conservation (“focus”) areas that were grouped into three categories: local, community separators, and regional (Map 3). The ten-year *Master Plan* provided guidance that land conservation funds were to be equally divided between the three focus area categories. However, more land conservation opportunities arose regionally (in particular, the Soapstone Prairie/Red Mountain acquisitions), and therefore spending in the Regional Focus Area category outweighed that of the Community Separator and Local areas categories. Total spending from 1993 to 2013, however, is almost equally balanced between the three focus area categories (Figure 8). Nevertheless, the acreages conserved are not balanced due to the differences in land conservation costs in each of the focus areas. As shown in Figure 8, conservation of local focus area lands cost more per acre than separator lands, and regional land conservation is much less expensive.

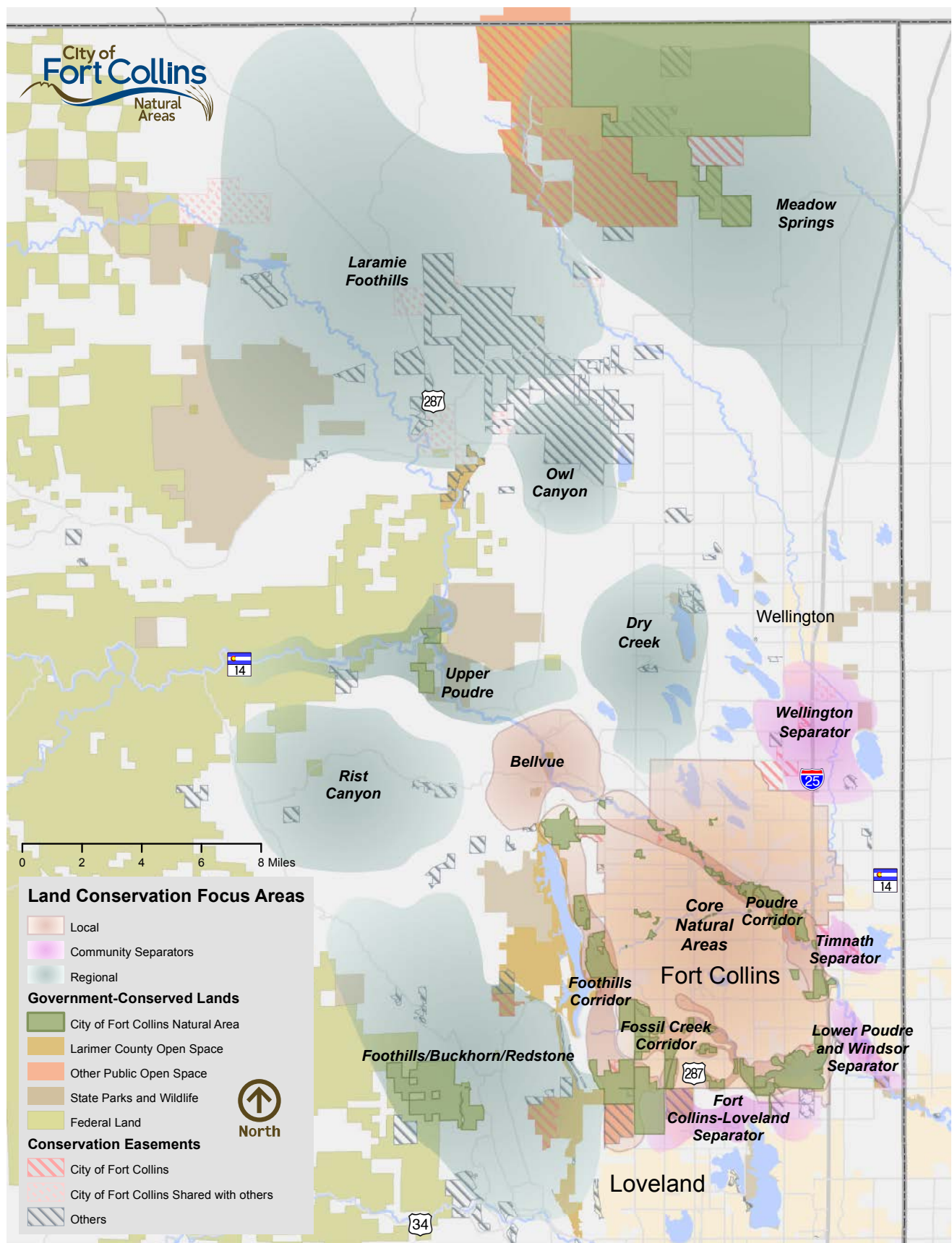
In June 2012, local governments within Larimer County, including the City of Fort Collins, embarked on an effort, *Our Lands – Our Future*, to analyze the future challenges and opportunities for land conservation. By defining common open space goals and using the best available geographic



*Figure 8. Total Spending and Acres Conserved
by Focus Areas (2003–2013)*

information system (GIS) datasets, the partners developed maps highlighting agricultural, natural resource, and regional and local conservation opportunities. The outcomes of that effort and other public outreach activities have helped provide the framework for the next decade’s conservation vision—one that is shared by Larimer County and its municipalities. As the Department looks to the next ten years, the *Master Plan*’s focus areas remain the same, but the priorities for land conservation within and between the focus areas have been further refined by the outcomes of the *Our Lands – Our Future* project and the subsequent public process.

The intent of the focus areas is to identify properties within these areas that may be considered for conservation when willing landowners desire to sell or donate their land or conservation easements. As described in Chapter 2 (Funding), the Department’s ability to achieve the community’s future land-conservation aspirations hinges on the extension of Larimer County’s Help Preserve Open Space! sales tax.



Map 3. Land Conservation Focus Areas

Local Focus Areas

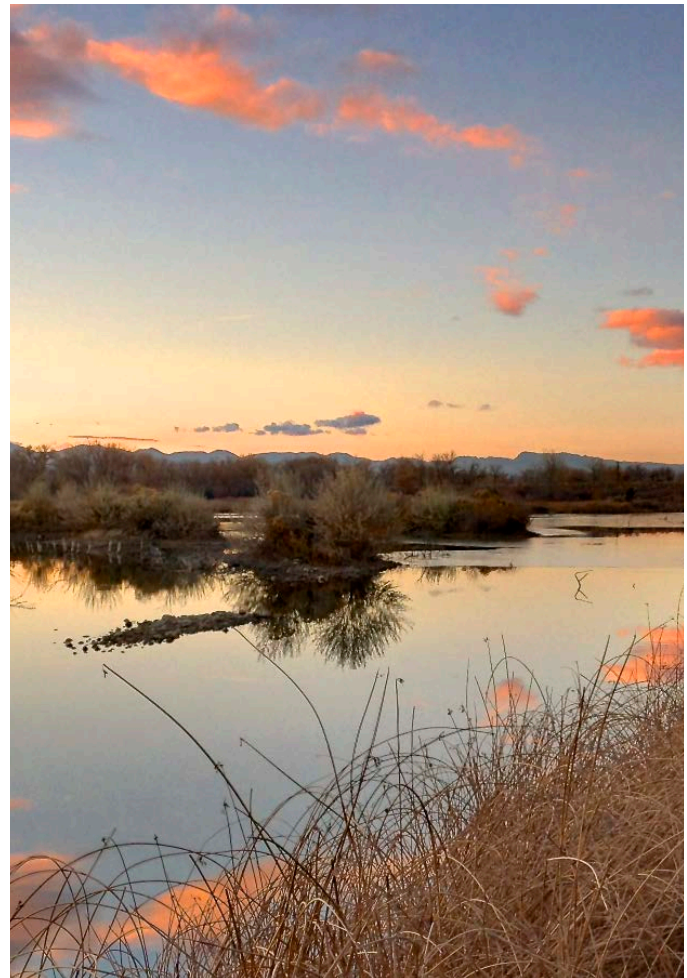
Local Focus Areas encompass stream corridors, foothills habitat, and pockets of open land within and near Fort Collins city limits that provide opportunities for a variety of land protection goals including wildlife habitat, recreation, agriculture, and viewsheds. Land in the local focus areas tends to have higher costs for acquisition as a result of development potential. Stewardship costs are also typically higher due to greater recreation pressure and restoration needs due to impacts from past land use and urbanization. Over the next ten years, the local focus areas discussed below will be the primary focus for conservation efforts. This focus is aligned with public feedback received through the *Our Lands – Our Future Project, Master Plan* open houses, and the Land Conservation and Stewardship Board. Other City initiatives, such as *Nature in the City* (which the Department participates in) and the *Multi-purpose Lands* effort (which the Department is the lead) may provide partnership opportunities to conserve natural areas in partnership with other City departments.

Bellvue

Bellvue, a small agricultural community northwest of Fort Collins lies in Pleasant Valley. The narrow valley at the mouth of Rist Canyon stretches between the Dakota Hogback ridge and the foothills. Resource values are plentiful: wildlife habitat, agricultural production, scenic viewsheds, community separator, and the Poudre River floodplain. Key elements for protection include rare species habitat and important wetlands, especially along the Poudre River floodplain and adjacent riparian community. The Department is interested in conservation opportunities that would preserve ecosystem connectivity from the shortgrass prairie to the foothills forest and linkages to Horsetooth Mountain Open Space and Lory State Park. Conservation in the Bellvue area will help maintain the agricultural heritage and rural character of Bellvue and Laporte. To date, the City has not completed any conservation projects within this focus area.

Poudre River Corridor

The Poudre River, often considered the life blood of the Fort Collins community, is not only a critical water source for irrigation, drinking, and industry, but also a haven for wildlife and recreationists. Resource values include wildlife habitat, floodplain, and watershed protection. The City has a strong desire to protect and enhance the natural state of the river by expanding its current inventory of natural areas from the canyon mouth through the City. Continued protection along the river will ensure floodplain protection, habitat, and migration/travel corridors for both wildlife and people. As previously discussed, the Poudre River corridor has been an important focus since the beginning of the program, with more than 1,500 acres protected adjacent to the river, of which 223 acres have been protected since 2004.



Riverbend Ponds Natural Area (Photo by Norm Keally)

Core (Neighborhood) Natural Areas

Conservation of nature in an urban environment has many benefits, including aesthetic values, nearby recreational opportunities, and protection of islands of habitat that promote biodiversity and provide a home for species that otherwise would not be able to exist in an urban environment. In light of the data gleaned from *Our Lands – Our Future*, Plug In To Nature (Design Workshop 2012), and Nature in the City (City of Fort Collins Planning Department) studies, the Department is committed to acquiring properties that would provide enhanced access to nature within the City's Growth Management Area and better reach underserved areas, such as the city's northeast quadrant (see Map 1 for current location of natural areas). Approximately 157 acres have been protected within this focus area to-date, and 15 acres since 2004.

The Plug in to Nature study found that while 87% of survey respondents reported their child's connections with nature as very high, 79% of respondents wanted their children to spend more time in nature than they currently do. Time, location, and cost were the three greatest barriers to increasing access to nature, highlighting the need for more nature closer to home (Design Workshop 2012).

Fossil Creek Corridor

While the Department has made great strides in protecting the ecologically sensitive Fossil Creek area since 2004, some opportunities remain. Land conservation will help protect rare species and riparian/wetland areas by expanding upon the existing Fossil Creek natural areas, will provide recreation opportunities, and will extend the Fossil Creek Trail. Additional land protection in this area contributes to community separation between

Fort Collins and Loveland/Windsor and preserves views to the foothills and mountains along the I-25 corridor. Within this focus area, more than 3,000 acres have been protected, which mostly consists of two larger properties, Fossil Creek Reservoir and Cathy Fromme Prairie natural areas. Just over 100 of these acres have been acquired since 2004.

Foothills Corridor

Land conservation in the foothills will not only preserve the City's mountain viewshed, but will also help conserve unique plant communities, important wildlife habitat and travel corridors, and the unique geology of the hogback ridges. There are opportunities to improve the ecological connections between the shortgrass prairie and the foothills, as well as connections to other protected lands to the west. The Foothills Corridor is extremely popular for recreationists, particularly cyclists and trail runners. Land conserved in the southern portion of this area also functions as a community separator between Fort Collins and Loveland. Nearly 4,000 acres have been protected by the City within this focus area, more than 700 of which have been acquired since 2004.

Community Separators Focus Areas

Community separators are parcels of undeveloped or minimally developed land that create a buffer between municipal jurisdictions and preserve the individual identity of communities. Separators often consist of undeveloped farmland, low-density rural developments, floodplains, or other areas that may or may not be desirable for residential or commercial development. A separator can be achieved through a variety of mechanisms, including conservation easements, fee purchase of land for natural areas or other open space uses, or zoning restrictions. Separators are often implemented along major roadways connecting municipalities in order to preserve the open viewshed that provides a natural boundary between two communities. Land within the

community separator focus areas, particularly those discussed below, is the second highest conservation priority over the next ten years, due in part to rising land values and greater development pressure than lands within the Regional Focus Areas face.

Wellington Separator

The Natural Areas Department has conserved more than 1,000 acres in this separator, with more than 80% of the acreage protected since 2003. The Department will continue to reach out to landowners, particularly on the west side of I-25. Lands in the Wellington Separator Focus Area provide prime soils for agriculture, an important viewshed to the foothills and mountains, and a significant number of irrigated farmlands that are a staple of the local economy. Partnerships with the State of Colorado and City of Thornton in this focus area are warranted, given that each entity has large landownership positions in this area.

Lower Poudre and Windsor Separator

This separator area, located southeast of Fort Collins, contains opportunities to protect rare species habitat, wetland and riparian communities, and agricultural values along the Poudre River. The Natural Areas Department has successfully helped to protect 338 acres along the Lower Poudre, which in combination with Fossil Creek Reservoir Natural Area (nearly 1,400 acres) creates community separation between Fort Collins and Windsor. The Department will continue to collaborate on conservation efforts with the Larimer County Department of Natural Resources, as well as with the Towns of Windsor and Timnath, including efforts to acquire key parcels for Poudre River Trail System connections.

Fort Collins–Loveland Separator

The majority of the Fort Collins–Loveland Separator has already been conserved. In addition to the



*Sod Farm Conservation Easement in the Wellington Separator
(City of Fort Collins Natural Areas Department Photo)*

1,264 acres within Long View Farm Open Space (managed by Larimer County) and Prairie Ridge Natural Area (managed by the City of Loveland), the 2,242-acre Coyote Ridge and 1,399-acre Fossil Creek Reservoir natural areas, considered as local focus areas, contribute greatly to this community separator. These shortgrass prairies and farmlands preserve scenic views, wildlife habitat and travel corridors, and agricultural land. The open character between Loveland and Fort Collins along the north-south main arterials helps give each community its own sense of character. The City will continue to work with Loveland to protect additional parcels appropriate for conservation and regional trail connections.

Regional Focus Areas

The Natural Areas Department has conserved nearly 31,000 acres in the regional focus areas, most of which are located in the Laramie Foothills and Meadow Springs focus areas. The regional focus areas, in comparison to the other two focus categories, have lower acquisition costs due to lower development pressure and lower stewardship costs due to lower recreational pressure and higher quality habitat. Opportunities exist to conserve a wide range of conservation values, including wildlife habitat, scenery, agricultural, watershed protection, and recreation.

Foothills: Buckhorn, Redstone, and Rist Canyon

Land conservation projects in these areas preserve important wildlife habitat in the foothills transition zone, while providing ecosystem connectivity and possible future trail connections to Horsetooth Mountain Park, Lory State Park, and Coyote Ridge Natural Area. In addition, conservation efforts will focus on protection of high-diversity wetland and riparian areas and maintaining natural viewsheds and rural/open character in the foothills. To date, the Natural Areas Department has conserved 3,844 acres in this focus area.

Upper Poudre

The Natural Areas Department will consider partnership opportunities to conserve lands along the Upper Poudre River and Poudre Canyon that will enhance habitat protection and ecosystem connectivity for migrating wildlife within the canyon corridor. Land protection projects in this area will also help maintain a healthy watershed to ensure a clean and natural river water supply and provide buffers that help mitigate property damage from floods and fires. A total of 633 acres has been acquired by the City within this focus area. A total of 493 acres has been acquired by the City for public use within this focus area.

Laramie Foothills–Meadow Springs

The Natural Areas Department will seek to conserve additional lands in the Laramie Foothills–Meadow Springs focus areas to further enhance the conservation of this landscape-scale wildlife corridor and wildlife area. Land conservation projects in this area support opportunities for larger-scale prairie conservation, including protection of prime pronghorn habitat, protection of the *Foothills-to-Plains* wildlife corridor, reintroduction of native shortgrass prairie species such as the black-footed ferret and the American bison, and protection of historical and archaeological resources. It also sustains



*Mule deer on Soapstone Prairie Natural Area
(Photo by Daylan Figgs)*

preservation of the I-25 viewshed to the west with its uninterrupted views of the foothills and mountains. The Department and its partners have protected nearly 30,000 acres within this focus area. The Department has protected 26,600 acres within this focus area.

Land Conservation Strategies

The City uses three primary strategies to conserve land: fee ownership, conservation easements, and land development regulations. The first two mechanisms can be tailored to specific opportunities in partnership with willing landowners, other agencies, and nonprofits.

Fee Ownership

Purchase of Fee Interest in Land

Acquiring the fee interest, that is, obtaining full ownership, nearly always includes eventual public access to at least a portion of the site. Land costs to obtain fee ownership is generally two to three times more than purchase of a conservation easement, which in contrast allows continued use of the land by the private landowner. In addition, owning a property creates a long-term maintenance obligation. Fee acquisition is most appropriate

when public access and recreation, high natural resource values, large restoration or management demands, or other issues are present that make full ownership of a property more advantageous. It should also be noted that fee acquisition does not always mean full control of the property. For example, many parcels the Natural Areas Department has acquired are considered “split estate,” or have had some rights (usually mineral rights) severed from the property. In practice, this means that the Department must either seek out and purchase the mineral rights from the owner or must negotiate with the right owner if it wants to exercise the right on the property.

Over the last ten years, the Natural Areas Department has purchased the fee interest on over 25,000 acres in both local and regional focus areas.



Reservoir Ridge Natural Area (Photo by Norm Keally)

Donation of Fee Interest

When a landowner donates a portion or all of the fee interest to a property, the landowner may be eligible for a tax deduction (considered a charitable contribution). Donations have contributed to land conservation of several natural areas over the last ten years.

Bargain Sale

A bargain sale is merely a purchase in which a

landowner sells property to the City at a price below the fair market value. The purchase can be either fee interest or a conservation easement. Usually the landowner can take a tax deduction or credit (treated like a charitable contribution) for the difference between the fair market value, as determined by a certified appraisal, and the sale price.

Conservation Easements

Where public ownership of the land itself is not essential to the public interest, or when the property owner is not interested in selling their property, the City may conserve the property by acquiring a perpetual conservation easement (also called the purchase of development rights) from willing landowners. A conservation easement limits development rights and places restrictions on certain activities to achieve desired land uses and protect important conservation values of a property. Each conservation easement is tailored to the specific property, runs with the land in perpetuity, leaves the land in private ownership, and usually does not permit public access. Conservation easements are far less expensive initially and over the long term than full ownership; however, the City has perpetual stewardship and enforcement responsibility to ensure that the properties are managed consistently with the terms of the easements.



Swift Farm Conservation Easement adjacent to Fossil Creek Reservoir Natural Area (City of Fort Collins Natural Areas Department Photo)

Once a conservation easement is placed on a property, the Department begins the task of ongoing monitoring of the perpetual easement to ensure that the deed restrictions placed on the property are honored. Monitoring also ensures that the land use on the property is consistent with the conservation values described in the easement deed and that any violations are corrected. Staff conducts annual site visits to each easement property, takes photos of the property, and files reports.

In 2011 the Colorado Department of Regulatory Agencies began administering regulatory oversight of conservation easements in Colorado to comply with a series of laws passed by the Colorado legislature. This oversight included a certification process for holders of conservation easements, tax credit caps and rules, and reporting regulations. The Department was certified as a qualified entity to hold conservation easements in 2011 and annually seeks recertification.



Wire Draw Ranch Conservation Easement adjacent to Soapstone Prairie Natural Area (City of Fort Collins Natural Areas Department Photo)

Other Land Conservation Strategies

Other conservation mechanisms include leases, intergovernmental cooperation, and partnerships with nonprofit groups.

Leases

The City leases surface rights from two irrigation companies to enhance the wildlife habitat on and surrounding the reservoirs and to provide recreation opportunities. Fossil Creek Reservoir's recreational rights are leased from North Poudre Irrigation Company; recreational rights for Dixon Reservoir (on Pineridge Natural Area) are also leased.

Intergovernmental Cooperation

The City works cooperatively and in partnership with other City departments, Larimer County, and other municipalities on open space conservation. Many of these efforts have resulted in joint purchase of open space and conservation easements by the City and Larimer County and other local municipalities. Additionally, the City has worked with other local governments to develop intergovernmental agreements for *master plans* of future land uses in areas of Larimer County near the participating municipalities to help guide growth, as well as to protect natural resources and agricultural land.

Multipurpose Lands

Within the City's Growth Management Area, the Department continues to seek out properties that provide opportunities for partnerships with the Parks and/or Stormwater departments. Red Fox Meadows Natural Area is a current example of "multipurpose land" that serves as both a neighborhood natural area and an important stormwater detention site. The Department will work to connect open lands with protected corridors, which could serve as wildlife, trail, or drainage corridors and sometimes as all three. Multipurpose lands may meet two or more of the following objectives: increased local flood protection, prevention of stormwater pollution, improved water quality in streams and groundwater, enhanced wildlife habitat/corridors, and increased recreational (e.g., trail connections) and educational opportunities.

Partnerships with Government and Nonprofit Conservation Organizations

The City has a strong track record of successful collaborations in land conservation with both government and nonprofit organizations in all three major focus areas (see Table 3), including Larimer County, City of Loveland, and The Nature Conservancy. The City will continue to look for new and innovative conservation strategies and partnerships to conserve sustainable ecosystems and working farms, including efforts to analyze the challenges, opportunities, and possible gaps in their collective land conservation, stewardship, and outdoor recreation programs and portfolios. Working together will encourage positive changes for biodiversity and natural habitats and agricultural land conservation.

Private Land Conservation

As the first municipality in the country to be designated as an Urban Wildlife Sanctuary (1987), the City of Fort Collins has long valued the role of nature within our urban environment. While the Natural Areas Policy Plan (City of Fort Collins 1992) placed a strong emphasis on the acquisition and stewardship of public lands, the plan also highlighted the many opportunities to partner with private landowners to achieve the Natural Areas Department's mission.

The Department has been involved in developing and refining a number of tools to ensure natural resources are protected on private lands. These tools have included development regulations, the Certified Natural Areas Program, and specific subarea plans such as the Fossil Creek Reservoir Area Plan.

Development Regulations

Initially established in 1997, the Land Use Code contains an entire section dedicated to the protection of natural habitats and features. A senior environmental planner in the Planning Services Department now administers this code section

from the initial conceptual design submittal through post-construction monitoring to ensure resources are protected as designed.

The Land Use Code requires that every site be analyzed by an environmental professional prior to the submittal of a development proposal. The regulations also require that resources be protected (or mitigated if impacted) and that protected resources be buffered from the developed portion of the site to ensure they are not only physically protected but also functionally protected.

Since these regulations were adopted in 1997, over 30 natural habitats and features have been protected through the regulatory process, with approximately 250 acres of resources and buffer zones provided.

Certified Natural Areas

In 1994, Natural Areas Department established the Certified Natural Areas Program for private landowners and non-City public landowners to encourage the protection of lands with existing natural areas values as well as lands that could be restored or enhanced to provide those values. Land certified as a natural area is managed by the landowner so that native animal and plant communities are enhanced, restored, and



Fossil Creek Meadows Certified Natural Area (City of Fort Collins Natural Areas Department Photo)

protected. City staff provides assistance in the planning of this management. The Natural Areas Department provides monetary assistance in implementation of management plans through the Natural Areas Enhancement Fund (see page 77). Landowners can feel proud that they are contributing to the Fort Collins community's goal of resource protection. Not only are they providing higher-quality habitat for the wildlife that the landowners enjoy seeing, but they also are contributing to the protection and enhancement of the quality of life for all of Fort Collins citizens. As of 2013, 56 sites and a total of 505 acres have been certified by the City as a natural area.

Area Plans

In City Plan, the comprehensive plan for the City of Fort Collins, specific area plans are developed to focus on a particular subarea of the community. Each area plan builds on City-wide vision and policies, while establishing a more specific level of detail and focus within a subarea. Plans are established or revisited when there are emerging issues that could affect development patterns. The Department is involved in these area plans to a greater or lesser extent given the need to protect resource values.

One of the key area plans that helped preserve local natural areas values was the Fossil Creek Reservoir Area Plan, jointly adopted by the City of Fort Collins and Larimer County in 1998. The Fossil Creek Reservoir ecosystem is unique and provides habitat for over 180 species of birds, including winter roost sites for bald eagles and has been recognized as an Important Birding Area by the Audubon Society. Since adoption of the area plan, the City and Larimer County have dedicated more than \$12 million for land protection along the reservoir's shores to protect wildlife habitat and develop an outstanding regional bird watching area through public land ownership, leasing and managing reservoir recreational rights, and conservation easements on neighboring working farms.

At far less cost, the City also used development regulations to protect the ¼-mile buffer (established via the area plan) around Fossil Creek Reservoir. In 2014, one of the last remaining large parcels of land to be developed within the Fossil Creek Reservoir Area Plan, Kechter Farm, was approved and included over 120 acres of land managed for wildlife protection and enhancement. These efforts to implement buffer regulations paid off when bald eagles successfully nested on the reservoir in 2014 for the first time in at least three decades.

Current Planning Department Efforts

While private land conservation tools have served Fort Collins well over the past 20 years, the city's development patterns are shifting from greenfield (i.e., land that has never been used for development, such as agricultural land) to infill and redevelopment. As these patterns shift, private land conservation priorities are also shifting from protecting individual natural resources to ensuring that natural systems in developed or informal natural areas are conserved and that everyone in our community has access to nature.



*Bald eagles at Fossil Creek Reservoir Natural Area
Photo by Dawn Wilson)*

To ensure that nature is protected within the urban fabric of our community, the following efforts, led by the Planning Services Department, are currently

under way to ensure our private lands are contributing to this overall conservation goal:

- ***Development Regulations.*** City Planning staff will continue to implement the Land Use Code standards for protecting natural resources on private lands. To ensure compliance with these requirements and that the resources are adequately buffered from the development, Planning Services staff is crafting guidelines to illustrate how to protect and enhance the site's ecological value through proper plant selection, minimizing construction impacts, and ongoing maintenance requirements.
- ***Nature in the City.*** Initially contemplated in the 1992 *Natural Areas Policy Plan*, City Planning staff is currently developing a *Nature in the City Strategic Plan* to evaluate and plan for the incorporation of nature into an increasingly urban environment. This strategic plan will further expand upon community conservation efforts by looking at how access to everyday nature can be provided within the urban environment. This strategic plan is scheduled to be completed in the spring of 2015.



*Widow skimmer dragonfly at Cottonwood Hollow
Natural Area (Photo by Dave Leatherman)*



STEWARDSHIP

Arapaho Bend Natural Area (City of Fort Collins Natural Areas Department Photo)

The City's Natural Areas Program has been the major catalyst conserving the finest examples of native ecosystems and valuable wildlife habitats within and near Fort Collins. Partners, such as Larimer County, and willing property owners have helped expand the acreage of habitat conserved beyond the City's Growth Management Area boundary. Collectively, these diverse landscapes connect our community to our natural heritage and are emblematic of our active outdoor lifestyle and our commitment to land conservation. The careful and responsible management or "stewardship" of these lands is entrusted to the Natural Areas Department by the citizens of Fort Collins and Larimer County.

STAFFING

From its small beginnings in 1992 of three Natural Resources Division staff and three Parks maintenance staff, Natural Areas Department staffing has grown along with the acreage and complexity of lands the department manages. Today, it takes a team of 50 professionals to manage the Natural Areas Department and its properties. The Department is divided into eight work groups:

- Department Management (finance, budgeting, strategic planning, policy plan development, landscape level river issues, Land Conservation and Stewardship Board support, clerical support)
- Land Conservation (land, water, and conservation easement acquisitions)
- Education (outreach, community relations, interpretation, Master Naturalist Program supervision; volunteer coordination)
- Resource Management (restoration, weed control, wildlife management, research)
- Land Management (water rights management, post-gravel mining land restoration, cultural resources, agriculture and local food production issues, property leases, energy development and minerals extraction, utility easements and right-of-ways on natural areas, conservation easement stewardship, night sky monitoring)
- Rangers (patrol, visitor contacts, enforcement)
- Public Improvements (recreation amenities, including trails and trail head parking)
- Facility Operations (maintenance of offices, shops, storage buildings, ranger/caretaker residences, and Primrose Studio; recycling; sustainability; pollution prevention)

Stewardship management responsibilities fall across all department work groups. Members of multiple work groups work as a team on planning and implementing various projects throughout the year.

LAND CONSERVATION AND STEWARDSHIP BOARD

The Land Conservation and Stewardship Board advise staff and City Council on matters pertaining to the management and conservation of natural areas. This nine-member citizen board is the community's advocate for natural areas enhancement and conservation within Fort Collins and regionally.

Specifically, the duties and functions of the Land Conservation and Stewardship Board are:

1. To advise City Council regarding policy and budgetary matters pertaining to the Natural Areas Department, including but not limited to the expenditure of Open Space, Yes! and Larimer County Help Preserve Open Space dedicated sales tax revenues.
2. To advise Natural Areas Department staff and the City Council in connection with the proposed acquisition or disposition of land, interests in land, interests in water, and other interests in real property for the Natural Areas Department.
3. To advise Natural Areas Department staff regarding the development of management plans and public improvements for Natural Areas Department properties.
4. Upon request of the City Manager or at the direction of the City Council, to advise City Council regarding any positive or negative impacts that particular plans or projects of the City or of other public or private entities may have on Natural Areas Department properties or properties that may be of interest to the Natural Areas Department. This provision shall not apply to development projects for which applications

have been submitted to the City for approval under the Land Use Code.

5. Upon request of the City Manager or at the direction of the City Council, to advise City Council in connection with the proposed acquisition or disposition of land, interests in land, interests in water and other interests in real property for City programs other than the Natural Areas Department.

POLICIES, PLANS, AND PROCEDURES

Various policies, plans, and procedures guide the Natural Areas Department in its daily operations and management of natural areas. The overarching policies come from the City Council-adopted *City Plan* (see Appendix B). Various other policies, plans, and procedures are established for specific sites or purposes and approved at different levels within City government. Management plans and guidelines are meant to be somewhat flexible given the reality that changes occur during the life of these plans that were not anticipated when initially written. Since the 2004 *Land Conservation and Stewardship Master Plan*, the City of Fort Collins Natural Areas Department has created more than 35 documents to help guide its daily operations (Table 4).



Poudre River Projects Open House, June 2013 (City of Fort Collins Natural Areas Department Photo)

Table 4. Natural Areas Policies, Plans, and Procedures (2004–2014)

Document Category	Document Name
Resolutions (Adopted by City Council)	<ul style="list-style-type: none"> • Natural Areas and Open Lands Easement Policy (2012) • Council Involvement in Acquisitions for the Natural Areas Program (2005)
Regulations (Adopted by City Council)	<ul style="list-style-type: none"> • Naming of City Properties and Facilities Ordinance (2011) • Revisions to Natural Areas Regulations Ordinances (City Code; 2004–2012)
Policies and Procedures (Adopted by City Manager)	<ul style="list-style-type: none"> • Use Policy for Primrose Studio at Reservoir Ridge Natural Area (2012) • Conservation Easement Amendment Policy and Procedure (2011) • Conservation Easement Monitoring and Enforcement Policy and Procedure (2011) • Conservation Easement Phasing Policy and Procedure (2011) • Land Conservation Due Diligence Procedure (2011) • Land Conservation Approval Policy and Procedure (2011)
Policies (Adopted by Service Area Director)	<ul style="list-style-type: none"> • Community Services—Use of Motorized Mobility Devices on Parks and Natural Areas Policy (2012; revised 2014) • Utilities Services—Poudre River Annual Debris and Downed Tree Removal Policy (2011)
Policies and Position Statement (Adopted by Natural Areas Director)	<ul style="list-style-type: none"> • Volunteer Policies and Procedures and Procedures (2013) • Natural Areas Encroachment Policy (2011) • Natural Areas Agriculture Position Statement (2011) • Natural Areas Commercial Use Policy (2010) • Natural Areas and Trail Rangers Policies and Procedures Manual (2008) (also adopted by Police Services)
Management Plans (Adopted by Natural Areas Director)	<ul style="list-style-type: none"> • Cache la Poudre River Natural Areas Management Plan Update (2011) • Soapstone Prairie Natural Area Management Plan (2007) • Foothills Natural Areas Management Plan (2007) • Fossil Creek Reservoir Regional Open Space Habitat Improvement Plan (2006) • Bobcat Ridge Natural Area Management Plan (2005) • Fossil Creek Natural Areas Management Plan (2005) • Resource Management and Implementation Plan for Fossil Creek Reservoir Regional Open Space (2003)
Management Guidelines (Adopted by Natural Areas Director)	<ul style="list-style-type: none"> • Wildlife Management Guidelines (2007) • Vegetation Management Guidelines (2007)
Guidelines	<ul style="list-style-type: none"> • User Guidelines for Gateway Natural Area Large Group/Event Permit (2011) • Policy Regarding Public Use of City of Fort Collins Natural Areas Photos (2006) • Natural Areas Permit Conditions (2002) • Natural Areas Department Identity Standards and Guidelines (2013)
Plans and Manuals	<ul style="list-style-type: none"> • Nix Emergency Action Plan (2014) • General Resource Protection Standards for Easements or Rights of Way (2013) • Emergency Preparedness Plan for Fairport Dam, Robert Benson Lake (Pelican Marsh Natural Area) (2012) • Fire Management Plan (2012) • Vegetation Management Field Guide (2011) • Bobcat Ridge Operations Manual (2011) • Gateway Natural Area Operations and Maintenance Manual (2011) • Natural Areas and Trail Rangers Field Training Officer Handbook (2010) • Natural Areas Sign Manual (2005)

Over the next ten years, new policies, plans, and procedures will undoubtedly be developed as the need arises and brought forward for adoption at the appropriate level. *Master Plan* Priorities (Chapter 5) include stewardship policy and procedural needs identified at this time.

MANAGEMENT ZONING SYSTEM

In 2011, the Natural Areas Department developed a new system of management zoning to more effectively manage natural resource protection and human use within natural areas along the Poudre River (City of Fort Collins 2011b). This system will also be used for other natural areas as new management plans are developed or updated.

The Management Zoning System consists of five zones (0 to 4) ranging from areas closed to public use to “focal areas” prescribed for intensive public use. A modifier is added to the zoning designation to describe whether on-trail-only or off-trail use will be permitted:

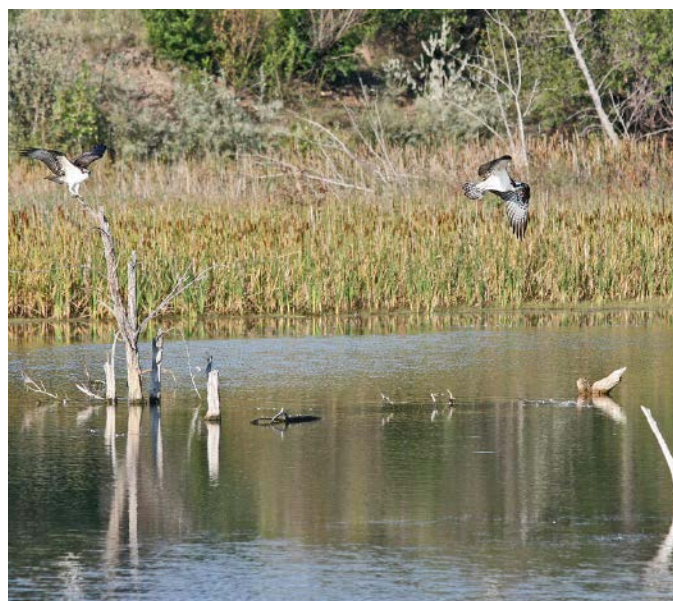
TRAIL MODIFIERS (REGULATORY ZONING):

- A – On-trail only
- B – Off-trail use allowed
- C – Closed, no trails available (Zone 1)

MANAGEMENT ZONES:

- Zone 0 – Closed Natural Area: The entire natural area is not open for public access. The natural area is either not intended for public use or is not yet open due to lack of public amenities (e.g., trails, parking lots), which require construction prior to opening.
- Zone 1 – Closed Zones: Portions of a natural area that are not open to the public due to one or more reasons specified below. In closed zones, trails and other public amenities either do not exist or are intended for maintenance purposes only. All Zone 1 – Closed Zones are modified as “C – no trails available.” Reasons for closures may include:

- Areas closed for *conservation* or wildlife refuge
 - Areas where no *formal access* is provided
 - Areas closed due to *public safety* concerns
 - Areas under *long-term restoration* (typically 10 years or more)
 - Areas closed due to the presence of *cultural artifacts*
 - Areas closed on *leased land* because public access is not allowed by the terms of the lease
- Zone 2 – Resource Protection Zones: Portions of a natural area where conservation and resource protection are the highest priorities. Visitor access is generally limited to on-trail or trailside activities. Public amenities are limited or nonexistent. Temporary or seasonal closures may be enacted for resource protection, restoration, or other reasons.
 - Zone 3 – Natural Experience Zones: Portions of a natural area that are intended to provide visitors with a place to connect with nature and enjoy site appropriate recreation. Off-trail use is generally allowed and public amenities may exist, though, not to the scale or frequency of a focal area. Temporary or seasonal closures may be enacted for resource protection, restoration, or other reasons.



Osprey at Riverbend Ponds Natural Area (Photo by Jack Hicks)

- Zone 4 – Focal Recreation Zones: Portions of a natural area that provide intense and directed recreation. These are developed areas intended to provide defined recreation or access to recreation. Focal areas generally include parking lots, picnic areas, boating or fishing access points, designated rock climbing areas, etc. Temporary or seasonal closures may be enacted for resource protection, restoration, or other reasons.

EDUCATION

Natural areas are treasured by the community and individuals for many reasons, including education, recreation, scientific, economic, cultural, ecological, and spiritual values. The mission of the Education Work Group is to increase citizens' awareness of natural areas, promote understanding of natural systems, and foster each individual's realization of the importance and meaning natural places add to our lives.

The goals of the Education Work Group are to:

- Increase recognition, awareness, and support of natural areas, natural areas values, and the Natural Areas Department's vision and mission.
- Provide a diversity of meaningful experiences for residents of every age, toddler to seniors, to facilitate their connections to nature.
- Directly reach a portion of the Fort Collins community (current goal is 8%–10% annually) while ensuring participant demographics match the demographics of the community.
- The Education Work Group strives to meet these goals through community programs, school programs, special events, media, community involvement, and service learning through volunteer opportunities. The programs are regularly evaluated to determine the most effective way to reach the public.

MASTER NATURALISTS

The volunteer Master Naturalist Program began in 1994 and has become the mainstay of the Natural Areas Education Program. Each certified Master Naturalist completes over 50 hours of hands-on training focused on local natural history and public speaking. In 2013, 164 Master Naturalists and their volunteer assistants helped the Natural Areas Department reach out to the community, donating thousands of hours. Because of their dedication, the Department is able to provide nearly 300 educational activities and events each year, currently reaching approximately 11,000 people annually.



Master Naturalist at McMurry Natural Area (City of Fort Collins Natural Areas Department Photo)

COMMUNITY PROGRAMS

The Natural Areas Department arranges community programs on a variety of topics each year. Programs are offered through the *Tracks & Trails* publication, or listed in monthly press releases and the natural areas electronic newsletter. Community programs can also be requested by groups for a mutually agreed upon topic or date.



Master Naturalist at Wade the River 2013 (City of Fort Collins Natural Areas Department Photo)

SCHOOL PROGRAMS AND SPECIAL EVENTS

Field trips to natural areas for students, grades pre K-12, are available free of charge to local schools. Lessons are taught by Master Naturalist volunteers and staff using unique, standards-based, interactive activities developed by the Natural Areas Department. Limited transportation funding is available by request. School field trips are offered in the spring and fall.

The Natural Areas Department sponsors events and participates in local festivals by providing a staffed booth with interactive activities. Special events include the NoCo Nature Festival, Wade the River, Picnic on the Poudre, Cinco de Mayo, and National Get Outdoors Day celebrations. These are an effective way to reach new audiences and efficiently reach a large number of people. The Department attends or sponsors an average of two events a month.

MEDIA

The Natural Areas Department uses a comprehensive communications strategy to support community access and enjoyment of natural areas:

- Interpretive features are installed on the most visited natural areas. Currently, 23 sites contain interpretive signage. Signage (free-standing or on kiosks) has been installed on 13 of these sites since 2004. These products explain the natural features of the natural areas, increase visitor enjoyment, and contribute to visitor management.

- The Department funded a lobby visitor center and interactive exhibits at the Fort Collins Museum of Discovery, which opened in 2012. The highlight of the free natural areas visitor center is the live black-footed ferret display, which focuses on the values of the native shortgrass prairie. An interactive map and brochures help to orient the public to the wealth of natural areas available for their use in the community. Master Naturalist volunteers staff the exhibit at peak times.
- Technology is part of connecting people to natural areas, so the Department has an extensive website and employs social media as important communication strategies.
- Printed materials, such as maps and brochures, complement online resources and provide material that is accessible for field experiences. Maps and brochures are provided at most trailhead kiosks. The Natural Areas Map is the most popular brochure; it is printed and updated as needed. New in 2010 was the popular *Tracks & Trails*, the Department's guide to free education-sponsored activities, May–October. Site brochures are provided for the most visited sites such as Soapstone Prairie, Bobcat Ridge, Gateway, and Coyote Ridge. An annual report is produced to report on the Departments revenues, expenditures, and accomplishments. The School Program Guide is created annually to promote free student field trips sponsored by the Department. Other publications highlight wildlife, native plants, current projects, trails, and cultural resources.
- Communications and marketing focus on sharing information about Natural Areas Department events, activities, and public input opportunities. These include a monthly e-newsletter (available by free subscription), social media postings, targeted emails, newspaper columns, paid advertising, direct mail, and press releases.

COMMUNITY INVOLVEMENT

Everyone in the community is invited to participate in developing the plans and policies of the Natural Areas Department through frequently offered feedback and input opportunities, and by communicating concerns, ideas, and compliments to staff at any time. The Education Work Group is responsible for planning and coordinating community involvement processes in collaboration with staff leading the plan/policy effort.

PARTNERSHIPS

The Natural Areas Department is involved in the Fort Collins community and regional environmental education efforts through partnerships and collaborations. Education staff works with relevant professional associations at the state and national level, related organizations and agencies, and other City departments on mutually beneficial work and projects.

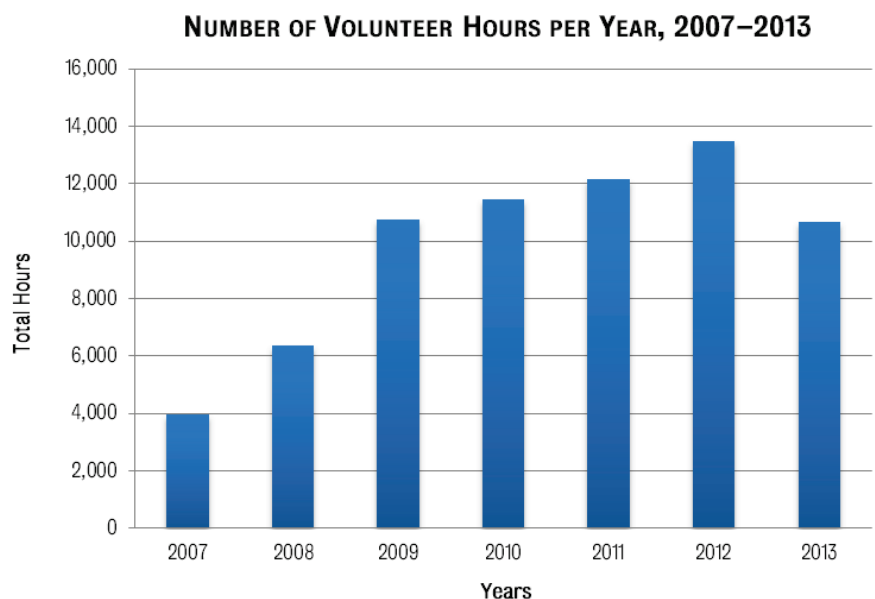
BALANCING FUTURE NEEDS

Currently, most educational activities and events are filled to capacity. While the education staff is now able to meet the current goal of reaching 8%–10% of the community, with population growth this may become more difficult to achieve. Several approaches could be considered to address this issue including decreasing the level of service, increasing volunteer recruitment and volunteer management capacity, increasing staff, increasing funding, or revisiting the model of volunteers providing most of the Department's education offerings in order to provide more reliable staffing.

Keeping up with a changing media landscape and technology is an issue for all professionals involved in education. While many new communications strategies have been introduced in the last 10 years, the older methods are still necessary, making communications a more complex endeavor. The Department will continue to seek out new opportunities for using technology to connect people to the natural world.

VOLUNTEER COORDINATION

Citizens support natural areas in many ways from voting for ballot measures that fund the conservation of these special lands to volunteering to participate in stewardship activities. In 2011, a seasonal educator was hired to introduce service learning into volunteering. Service learning volunteer events include an educational component taught by education staff or another professional in the natural areas field. Through these efforts to provide more volunteer opportunities, the Department now receives more than 10,000 hours of volunteer support each year (Figure 9).



*Figure 9. Number of Volunteer Hours per Year, 2007–2013
(Note: The drop in 2013 resulted from 6 weeks of program cancellations due to the September flood event).*



Volunteers planting shrubs on Kingfisher Point Natural Area next to Nix Farm Facility (City of Fort Collins Natural Areas Department Photo)

Volunteer opportunities for residents to get more deeply involved in natural areas vary from a single half-day project to projects spanning over a year or more. Short-term projects of a half or full day typically are service-learning stewardship projects, such as trail building/maintenance, plantings, weed pulling, and site cleanups. Over 1,000 people participated in service-learning projects in 2013.

Volunteer projects with a longer time commitment include Master Naturalists, Master Naturalist Assistants, Volunteer Ranger Assistants, Adopt-a-Trail, Adopt-a-Natural Area, and Citizen Scientists. Although the Master Naturalists and the Adopt-a-Natural Area Program were in existence since the mid-1990s, the other volunteer programs have been established in just the last 10 years. The Master Naturalist Assistant Program was established in 2009 to help educate and inspire stewardship by assisting the Certified Master Naturalists in community and school programs. The Volunteer Ranger Assistants Program was established jointly with Larimer County in 2007. The 143 Ranger Assistants greet visitors, promote outdoor safety, and monitor natural areas, logging over 2,200 hours in 2013 alone. Adopt-a-Trail volunteers, established in 2012, are groups that commit to trail maintenance three times a year or more. Since

2008, Citizen Scientists have collected data about natural areas, including occurrence of plants and wildlife (e.g., monitoring motion-activated wildlife cameras at Bobcat Ridge Natural Area).

RESEARCH

The Natural Areas Department has both supported and benefited from many research projects conducted on natural areas even before the program was established in 1992. Natural areas provide an excellent opportunity for scientists to conduct local research across a variety of disciplines and conditions including habitat types, land uses, and the urban to rural spectrum.

Research conducted on natural areas include (1) projects initiated internally or collaboratively to help the Natural Areas Department manage resources or (2) research proposed by others through Special Use Permits to allow external organizations access to ecosystems on City natural areas and access to species specific to their research needs.



Checking wildlife cameras at Bobcat Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)

Natural areas serve as valuable resources for local scientists and managers. On average, 27 Special Use Permits are now approved each year to allow access and use of Fort Collins natural areas for research. Additionally, each year the Natural Areas Department initiates, or is collaboratively involved with, a handful of research projects directly tied to immediate management questions. For example, archaeological research efforts are underway on Soapstone Prairie Natural Area, which includes the Lindenmeier Site, a National Historic Site that is the largest Paleo-Indian Folsom-era campsite known in the world.

Research studies that have taken place on City natural areas have addressed various components of local ecosystems that demonstrate value, use, application, and relevance of natural area-based research to contemporary ecosystem management issues (Table 5). Projects may be very narrow or local in scope, or even help to answer population- or landscape-level questions. Research has included innovative methods for restoration, integrated pest management, disease management, and other resource management topics valuable for future management of natural areas.

Table 5. Examples of Special-Permit Research Projects on City Natural Areas over the Last Four Years.

Research Category	Examples
Plants	Rare plant mapping, vegetation recovery following fire and urban disturbances, population and demography studies, floristic inventories
Insects	Rare insects, grasshopper research, collections and species lists, disease vectors (West Nile virus, plague)
Fishes and Amphibians	Boreal chorus frog interactions with greenback cutthroat trout, citizen science amphibian survey
Wildlife	Predator prey relationships with prairie dogs (raptors and potential for ferret reintroduction), mountain lion and bear behavior and movement patterns in the urban Front Range, breeding bird studies, wildlife movement on fragmented sites, bat research, wildlife behavior research, mark and recapture study on deer
Atmosphere and Skies	Night-sky light pollution, weather-monitoring stations
Restoration and Integrated Pest Management	Innovative restoration methods under challenging conditions (prairie dog colonies, weeds), efficacy of riparian exclosures
Disease management	Oral plague vaccine research for prairie dogs, chronic wasting disease prevalence and movement research for deer
Recreational Impacts	Noise impacts on prairie dogs, wildlife camera studies observing wildlife movement with recreational activity and urban development.
Archaeology	Survey and documentation of archeological sites on natural areas
Cache la Poudre River	Modeling future river conditions
Educational Research	Long term datasets collected by middle and high school students, groundwater wells and watershed education, undergraduate term projects (wildlife cameras, various mini research projects), habitat evaluations, testing and teaching protocols for large scale public agency research (such as wetland inventories)

FUTURE RESEARCH NEEDS

Natural Areas Department staff has identified a number of research topics that would aid in stewardship of natural areas over the next 10 years (Table 6). This working list will help direct local researchers, both student and professional, toward meeting some of the needs for site surveys and management. The Department will continue to provide opportunities for children, students, and the community to become involved in natural areas research and management.



Black-tailed prairie dogs on Cathy Fromme Prairie Natural Area (Photo by Steve Nelson)

Table 6. Selected List of Research Topics to Help Stewardship of Natural Areas over the Next Ten Years

Research Category	Research Topic
Monitoring	<ul style="list-style-type: none">• Climate change• Night skies (continue)
Site Inventories	<ul style="list-style-type: none">• Invertebrates, including aquatic insects and crustaceans• Herptiles• Mammals (large and small)• Fish (especially small streams and ponds)
Management Techniques	<ul style="list-style-type: none">• River woody debris management• Urban prairie dog management/conservation• Growing native plant species in greenhouses• Relationship between soil disturbance, native plant establishment, and mycorrhizal fungi• Other integrated pest management methods besides herbicide treatments to control cheatgrass, annual ryegrass, bindweed, and Japanese brome.• Methods to eliminate smooth brome while causing the least amount of disturbance• Connections between wildlife populations and vegetation species and structure (creating a link between what works and what doesn't so that restoration efforts are more successful)
Values	<ul style="list-style-type: none">• Ecosystem goods and service values• Ecological value of really small sites for wildlife species—what can you reasonably attract with little effort (Nature in the City)
Recreational Use	<ul style="list-style-type: none">• Creel survey at Pond Sites (and River) in cooperation with Colorado Parks and Wildlife

RESOURCE MANAGEMENT

The Resource Management Program focuses on stewardship of native plant communities and the wildlife those habitats support. Activities over the last ten years have included managing nonnative and invasive plants, restoring native plant communities (primarily grasslands), rehabilitating

river stream banks, and conducting sustainable wildlife management. Resource Management staff oversees the implementation of projects that meet natural resource objectives outlined in site-specific natural areas management plans.

As the City's inventory of natural areas has increased, so too has the human population of Fort Collins and the Front Range. With more people and development, land stewardship has become more complex in response to the challenges of habitat fragmentation, increased recreational needs, threats to habitat integrity from nonnative plants and animals, increased demands for water, and the reality of a changing climate.

Although resource management in an urban environment poses many challenges, opportunities abound as well. With careful thought, planning and adaptive approaches to management our natural areas can provide a visitor experience that even for a brief period, transcends the hustle and bustle of life in the city. The aspiration to provide visitors with high quality experiences and habitat opportunities for wildlife beyond the typical generalist urban species has been termed "wilderness in the city" by the Natural Areas Department.

Wilderness, when used in the federal land management context has specific meaning centered in the concept that lands exist "untrammeled or unchanged by man, where man himself is a visitor who does not remain" (1964 Wilderness Act). The aspiration of the Department, however, is to create a very high-quality experience in nature even though it occurs within an urban environment.

The Department will seek to return landscape level natural disturbances, such a fire, grazing, and expansion of riparian areas where appropriate given public safety and urban infrastructure needs. Where opportunities exist, staff will design restoration projects to provide habitat for native species that may be uncommon to this area, but are known to thrive here if certain habitat elements exist. High quality habitat and the associated experience, or feeling, of being in a "wild" environment dovetails with the Department's objectives to restore ecologic function, and to provide exceptional educational and recreation experiences.

WEED MANAGEMENT

Local natural areas typically host nonnative plant communities due to historic land uses such as poor farming practices, livestock overgrazing, gravel mining, and poor land management practices. Those land uses had the unintended consequences of creating soils deficient in nutrients and organic matter and creating conditions conducive to weed species.

For much of the past ten years Resource Management staff has worked to control nonnative and invasive plant species under a typical integrated weed management paradigm. Significant accomplishments during this time include the near elimination of Russian olive (*Elaeagnus angustifolia*) and salt-cedar (*Tamarix chinensis*) within Poudre River natural areas, and the substantial reduction in acreage of problematic weeds such as leafy spurge (*Euphorbia esula*), Canada thistle (*Cirsium arvense*), Dalmatian toadflax (*Linaria dalmatica ssp. dalmatica*), purple loosestrife (*Lythrum salicaria*), field bindweed (*Convolvulus arvensis*), kochia (*Bassia scoparia*), and cheatgrass (*Bromus tectorum*) throughout the natural areas system. Likewise major gains have been made to reduce residual agricultural grasses, including crested wheatgrass (*Agropyron cristatum*) and cereal ryegrass (*Secale cereale*).

Weed management actions are based on the integrated pest management (IPM) philosophy: a combination of chemical, mechanical, cultural, and biological treatments. Herbicides are selected for use based on lowest environmental toxicity, selectivity to the target species, and effectiveness. By using the most effective chemical in combination with other treatments, the Natural Areas Department is seeing improved control lasting multiple years and promoting a competitive advantage for native plants.

More recently, management actions have focused on promoting the health of native vegetation in contrast to a sole focus on management against

nonnative vegetation. The evolution of this approach has manifested in a grassland health-based approach, which includes the use of fire through controlled burns to invigorate native vegetation and the control of prairie dogs to promote sustainable native grasslands.

VEGETATION MONITORING

Staff monitors vegetation management to improve long-term success and determine best methods. Repeat ground photography (“photo points”) and weed mapping provide extremely useful data on the effectiveness of various treatments through time.

In 2005, the Natural Areas Department developed the Resource Management Information System (RMIS), which is a GIS-based planning and tracking software that records management and monitoring activities on a management unit (geographic) basis. This system permits the easy retrieval of management actions that affect the vegetation on properties in the natural areas system. RMIS can generate summary data for year-end reporting and other data inquiries, as needed.

A key contribution to resource management has been the implementation of a system-wide rare plant survey on City natural areas. Only ten rare plant species were known to occur throughout

the natural areas system in 2004. Over the last ten years, using a GIS model to focus rare plant surveys and a dedicated corps of volunteers, Resource Management staff located 26 additional species of plants rare to Colorado and, in some cases, even globally rare. City of Fort Collins natural areas are the only known locations in Colorado for some of these rare plant species. Knowledge of rare plant occurrence on natural areas is critical to management planning and stewardship.

ECOLOGICAL RESTORATION

In addition to significant efforts at managing weeds, Resource Management is taking a proactive approach to restoring degraded lands back to native plant communities. Restoration efforts have been initiated and are progressing well in degraded grasslands of southwest Fort Collins on lands previously in winter wheat. A more challenging grassland restoration has been the restoration of lime waste pits along the Poudre River that began in 2003. Few thought that these severely degraded lands would ever support native vegetation, but today wildlife thrive in a native grassland mix established on both sides of Timberline Road south of the Poudre River.

Several natural areas, under joint ownership and management with Stormwater Utility, have undergone extensive wetland restoration as part of flood protection and water quality improvement projects. With funding support primarily provided by Stormwater Utility, the Natural Areas Department staff provides expertise throughout the planning and implementation process. The largest project, to date, has been the Canal Importation and Ponds Outfall Project that included a major portion of the Red Fox Meadows Natural Area. Between 2008 and 2011, the Department and Stormwater Utility restored over 26 acres of this natural area to wetlands and native upland vegetation through an award-winning project that improved water quality, reduced neighborhood flooding, and enhanced wildlife habitat.



Prescribed burn at Bobcat Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)



Removal of the Josh Ames Ditch diversion structure at North Shields Ponds Natural Area (City of Fort Collins Natural Areas Department Photo)

The major focus of restoration for the Natural Areas Department since 2011 has been the floodplains and cottonwood forests of the Poudre River Corridor. In 2011 the first phase of the McMurry Ponds Restoration Project was accomplished on the west pond where four acres of new wetland habitat were created and three acres of new floodplain cottonwood habitat were initiated. Likewise in 2013, a major effort began at North Shields Ponds Natural Area where five acres of new wetland habitat were created in an old gravel pond and eight acres of new floodplain cottonwood habitat were created. Perhaps the greatest accomplishment was the removal of the Josh Ames Ditch diversion structure at North Shields Ponds Natural Area. The structure, no longer needed for water diversion, was essentially a small dam in the Poudre River that prohibited fish passage.

Over the past ten years, a total of 867 acres of natural areas within the local focus areas of Fort Collins has been restored to a composition of greater than 75% native plant species. One important component of these restoration efforts is the annual monitoring and adaptive management necessary to ensure that the goals of each restoration effort are met. Over

the next decade, the Department will continue to focus on restoration in the Poudre River corridor in addition to completing the large grassland restoration projects on the southwest side of the city on Coyote Ridge Natural Area.

WILDLIFE MANAGEMENT

For decades, conserving land that supports black-tailed prairie dogs has been a conservation priority. However, prairie dog management can be very controversial. Unlike the natural expansion, movement, and contraction of prairie dog colonies throughout the Great Plains of the 1800s and prior, colonies within the Fort Collins region are restricted from this natural movement due to conflicts with urban development and agriculture. The lack of movement possibilities outside of the conserved natural area produces a situation where intensive prairie dog grazing degrades the health of the grassland to a point where topsoil becomes exposed and can be easily eroded by frequent wind events and vegetation composition becomes dominated by undesirable nonnative plants. Cyclical periods of drought exacerbate these conditions.

In the past decade, the Natural Areas Department has experimented with a suite of management efforts ranging from a “hands-off”/no-lethal-control approach to significant lethal control. Adoption of the *Wildlife Management Guidelines* in 2007 created a hybrid approach that seeks to balance the conservation of prairie dog colonies with maintaining grassland structure beneficial to a variety of grassland wildlife species. This approach manages colony acreages below system “maximums” observed from 2004 to 2006 toward overall improvement of grassland health. Looking forward, the Department will continue to carefully monitor and manage prairie dog colonies while exploring innovative techniques that promote prairie dog communities in harmony with grassland health.



Great horned owls on Cottonwood Hollow Natural Area (Photo by Aran Meyer)

Other wildlife management efforts in the past ten years have included the routine monitoring and protection of raptors and the initiation of breeding bird surveys along the Poudre River corridor and foothill properties. The information gathered from these surveys guide restoration, recreation, and management operations on natural areas. Over the next decade, the Department anticipates examining how beavers could be managed harmoniously within the urban environment. Similarly, the department is seeking to promote healthy aquatic wildlife (including sport and native fisheries) in partnership with Colorado Parks and Wildlife.

To date, wildlife management has not included harvesting of game animals. As regional properties are added into the natural areas portfolio, opportunities may exist to add hunting as both a recreation and wildlife management tool. As an example, pronghorn hunting for wildlife management and recreation will be considered for Soapstone Prairie Natural Area in the next ten years. As with any hunting program, the Department will work closely with Colorado Parks and Wildlife to establish season and harvest objectives. Implementation of a hunting program must minimize or avoid conflicts with other recreation users, be controlled in terms of location

and number of permits issued, and be offered to the public through a random draw or similar selection approach.

WILDLIFE REINTRODUCTIONS

The Natural Areas Department is working with several federal and state agencies to reintroduce rare and endangered wildlife species to natural areas through cooperative species conservation projects.

American Bison

The Natural Areas Department is pursuing the reintroduction of the American bison to Soapstone Prairie Natural Area in support of a larger effort to conserve the plains bison as a wildlife species. Staff is working with Colorado State University and the U.S. Department of Agriculture Animal and Plant Health Inspection Service, and others to bring bison with a genetic background of the Yellowstone herd to Soapstone Prairie Natural Area.

Black-Footed Ferrets

The City has submitted an allocation request to release black-footed ferrets onto Soapstone Prairie Natural Area and the adjacent Meadow Springs Ranch (owned and managed by Utilities for the deposition of dry bio-solids). The *Soapstone Prairie Natural Area Management Plan* (City of Fort Collins 2007b) identified the black-tailed



Black-footed ferret (Photo Courtesy of U.S. Fish and Wildlife Service)

prairie dog community as a conservation priority within the shortgrass prairie system. In May 2014, Colorado Governor John Hickenlooper signed HB14-1267 authorizing city and counties to have the ability to reintroduce experimental populations of black-footed ferrets to their property.

Rare Native Fishes

The Natural Areas Department is working with Colorado Parks and Wildlife (CPW) to reintroduce and monitor the status of rare fishes on several sites. Within Soapstone Prairie Natural Area and Meadow Springs Ranch, the Department is working to manage native northern redbelly dace (*Phoxinus eos*) and brassy minnow (*Hybognathus hankinsoni*) populations, state endangered and state threatened species, respectfully. The Department is also partnering with CPW and the Colorado Water Conservation Board to protect water flow in four stream stretches on these two sites to support rare native fish and amphibians, including the northern leopard frog (a state species of special concern).

The Natural Areas Department is also working with CPW to create habitat for native rare fishes within Fort Collins at a recently acquired gravel mining pit west of Arapaho Bend between Strauss Cabin and Ziegler roads. The pit is a typical sand and gravel lake constructed with steep sides and supporting little to no wetland or shallow water habitat. The restoration project will convert the 22-acre deepwater lake to a mix of shallow wetlands and deeper, open water. Once complete, the site will serve as a refugium for several species of rare native fishes within the Cache la Poudre watershed.

URBAN CHALLENGES OF RESOURCE MANAGEMENT

Urban natural areas in Fort Collins pose many challenges for ongoing resource management and restoration. Among the challenges is the predominance of highly successful weedy species, limited ability to use fire or grazing to manage



Assessing prevalence of weeds on Cathy Fromme Prairie Natural Area (City of Fort Collins Natural Areas Department Photo)

larger grasslands, inadequate nonlethal methods for controlling prairie dogs, threats from invasive tree insect pests, and obtaining funding to cover the high costs of river and floodplain restoration.

Nonnative, invasive grasses pose a particular problem for Resource Management, especially in areas where control is difficult due to terrain or habitat (e.g., the understory of cottonwood forests; steep foothills mountain mahogany shrublands). The threat of invasive grass species in all of our natural areas cannot be ignored. Species such as cheatgrass (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), smooth brome (*Bromus inermis*), jointed goatgrass (*Aegilops cylindrica*), quackgrass (*Elymus repens*), exotic strains of reed canary grass (*Phalaris arundinacea*), and cereal rye (*Secale cereale*) are among the many grasses that continue to establish on sites. These grasses are more difficult to control than typical weeds because of their resistance to herbicides, extensive root systems, and hardiness. Invasive grasses also pose more of a wildfire threat compared to broadleaf weeds.

Periodic burning, mowing, or grazing of restored grasslands is necessary to mimic natural disturbance regimes that maintain native grasslands. Prescribed burns and livestock grazing on smaller properties within Fort Collins can be operationally difficult in the urban environment. Unfortunately, prairie dogs, a native grazer, can cause considerable damage to native grasslands in

an urban context where natural colony movement and expansion cannot take place due to land use and ownership limitations.

Since the mid-2000s the mountain pine bark beetle (*Dendroctonus ponderosae*) outbreak has moved from the west onto the foothills of the northern Front Range. At Soapstone Prairie Natural Area, resource managers have aggressively treated a relict stand of ponderosa pine on the west edge of the property that is home to trees that date back to the early 1500s. Protecting this small stand preserved a unique plant community and the local climate history locked within the trees' annual rings. At this time, the Natural Areas Department does not have any plans to treat larger stands of ponderosa pines, such as those on the City's foothills natural areas.

Much of the subcanopy of the cottonwood forests along the Poudre River and its drainages are in green ash trees. The invasive emerald ash borer (*Agrilus planipennis*) is expected to be present in the Fort Collins area within the next few years. Its arrival is likely to greatly reduce the amount of subcanopy trees in the cottonwood forests and modify the existing floristic composition of the Poudre River and other stream drainages in the city. The high cost annual chemical treatment necessary to save green ashes has secondary and nontarget impacts that likely are significant enough to outweigh the value of saving the trees. Therefore, staff will focus efforts on planning for re-vegetation or replacement of ash's ecological niche rather than treatment of extant stands.

River and floodplain restoration, while highly desirable by many in the community for ecological, social, and economical reasons, can be expensive. For example, the 2013–2014 project to restore the Poudre River floodplain and remove the Josh Ames Ditch diversion dam on North Shields Ponds Natural Area cost nearly \$1 million dollars.

CACHE LA POUDRE RIVER AND OTHER AQUATIC SYSTEMS

The Fort Collins community recognized the need to protect the Cache la Poudre River long before the existence of the Natural Areas Department. In fact, threats to this valuable resource, primarily from expanding development, helped drive the adoption of the City's *Natural Areas Policy Plan* in 1992. Along with the Poudre River and its tributary streams, open water habitat such as ponds and lakes, as well as the wetlands throughout Fort Collins play a critical role in supporting the broad spectrum of wildlife that inhabit our natural areas in this semiarid region. The river and other aquatic systems also provide excellent recreation and educational opportunities highly valued by the Fort Collins community such as fishing, experiential and environmental education, transportation corridors, wildlife viewing, and places for families and children to explore.



Poudre River spring flooding, 2011, on Kingfisher Point Natural Area (City of Fort Collins Natural Areas Department Photo)

MANAGING A HEALTHY RIVER SYSTEM

The City of Fort Collins is situated along more than ten miles of the Cache la Poudre River, and through efforts by the Natural Areas Department and other City departments such as Parks, Stormwater, and Water Utility, the City has conserved more than 60% of the floodplain. Natural areas adjacent to the Poudre River help protect and conserve unique natural features. However, the long-term ecological

function and scenic beauty of these conserved properties require a multifaceted management approach. The Natural Areas Department will continue to play numerous roles in managing for a healthy river system.

Land Acquisition

Recognized as critical for natural areas conservation, the Poudre River Corridor will continue to be a high priority for land acquisitions. Over the last ten years, the Natural Areas Department has acquired nearly 200 acres along the river, adding acreage to North Shields Ponds, Magpie Meander, Kingfisher Point, Running Deer, and Arapaho Bend natural areas.

Site Management and Habitat Restoration

In 2011, the Natural Areas Department completed the *Cache la Poudre River Natural Areas Management Plan Update* (City of Fort Collins 2011b). This comprehensive plan documented our understanding of the physical, ecological, and human dimensions pertinent to management of Poudre River natural areas. It also included a refined set of management goals for each site. Ongoing stewardship of these floodplain properties is a high priority for the Department. Successes include efforts to eliminate nonnative Russian olives, protection of native cottonwood trees with a sandy paint that deters beavers, restoration of grasslands within the floodplain, cataloging of rare aquatic plants, establishing a management zoning system, and developing trail systems, fishing piers, and other public amenities that help direct visitor use away from more sensitive habitats in need of protection.

Restoration in the Poudre River Corridor over the last ten years has included reconnecting the river to its floodplain by lowering river banks, cleaning up and revegetating banks, expanding shallow water and emergent habitats along ponds, and creating a diversity of underwater habitats to support sport and native fishes. Collectively, these restoration efforts improve and extend quality habitats to provide a valued urban refuge for the benefit of both wildlife and people.



Mink plunging into the Poudre River (Photo by Norm Keally)

Collaboration with City Departments

The Natural Areas Department is collaboratively engaged in several City projects to enhance overall visitor experience, safety, and access to the river. Effective collaboration with Stormwater, Water Resources, Parks and Recreation, and Planning has been imperative to the success of complex projects such as the stormwater improvements at Riverbend Ponds (L-Path; 2006-07), river restoration at Woodward Inc. (2013–2014), and the development of the *Poudre River Downtown Master Plan* (2014). The Department is engaged in many smaller, but equally important, dialogs on projects such as the ongoing management of wood debris in the floodplain, and balancing community safety (flood prevention) with ecological values.

Water Rights and Instream Flows

The Natural Areas Department owns a small water-rights portfolio acquired during the purchase of properties in and around Fort Collins. Over the last ten years, acquisition efforts were focused on conserving natural lands, riparian areas, and agricultural properties, and not water rights. However, the Department has now begun to focus more effort on the purchase of water rights and managing water rights to improve stream health and habitat restoration. The Department continues to pursue opportunities to conserve environmental flows (i.e., flows necessary to sustain an ecologically functioning river system) and will work to pursue partnerships, as needed, to accomplish this goal.

The Natural Areas Department collaborates with other City departments, irrigation companies, and conservation organizations in efforts to provide instream flows to support aquatic habitat through the urban stretch of Fort Collins. One approach underway is to identify and define an instream flow segment and to quantify the flows necessary to both protect and enhance the natural environment. From this information, the Natural Areas Department can better understand the timing, duration, and volume of flows needed to sustain a healthy river. However, the Department's relatively small water portfolio will be a limiting factor in providing adequate environmental flows.

The Department is actively working to expand water-sharing opportunities and is in the process of completing a Poudre River Operations Study. The purpose of this study is to better understand (1) the administration of water rights, particularly in relation to river flow through the urban reach; (2) the low-flow and "dry up" locations; and (3) extreme short-term fluctuations in water levels. This information will help to identify water sharing and management opportunities that will lead to environmental benefits for the river. This study will also help to identify locations where measuring devices and bypass structures will aid in the distribution of water for the health of the river and will aid in fish passage at diversion structures.

This water sharing approach does not change ownership of water or permanently encumber the water in any way; it simply encourages willing parties to enter into agreements to utilize agriculture or municipal water in ways to provide ecological benefits to rivers and streams while not injuring other water users.

In addition, the Natural Areas Department currently owns and manages several wetlands and ponds and continues to expand ownership of this important habitat type. Acquisition of wetlands and ponds may create augmentation requirements to replace

out of priority depletions caused by evaporative loss from exposed groundwater. The Department is currently developing an augmentation plan for several wetlands and ponds owned as of the date of this document. As the Department continues to acquire new wetlands and ponds, there will be a need to secure additional water to meet the additional augmentation requirements. Meeting these needs may also involve the appropriation of new water rights and/or appropriative rights of exchange, develop water storage, and construct various facilities related to water management. The Department plans to use all of the tools available under Colorado water law to acquire, develop, and manage water rights and water resources to meet its goals and objectives.

The Natural Areas Department plans to use its current and future water portfolio in conjunction with the water sharing approach to build strong conservation partnerships with other City departments, irrigation companies, agriculture interests, and conservation organizations and to focus on collaborative projects designed to:

- Protect and enhance stream flows through agreements that provide multiple use and benefits of water, avoid injury or conflicts with other users, and avoid the costly need to permanently encumber water rights;
- Enhance permanently conserved lands and habitats adjacent to rivers and streams;
- Emphasize concepts and recommendations identified in Colorado's Statewide Water Supply Initiative (State of Colorado 2011) and appropriate Basin Roundtables;
- Provide funding to offset transaction costs in terms of conveyance loss or similar costs to the project; and
- Provide funding for the design and construction of bypass structures (for both water and aquatic species) and measuring devices necessary for water administration as it relates to the water sharing agreements.

TRIBUTARIES

The main tributaries that drain into the Poudre River through Fort Collins include Spring Creek, Fossil Creek, Boxelder Creek, Cooper Slough, and Dry Creek. These urban tributaries run across a diverse set of land uses and ownership such as Fort Collins Utilities, Natural Areas, and Parks and Recreation departments and many private parcels, including open lands managed by homeowners' associations. Thus, the Natural Areas Department has limited direct influence on the overall tributary system. In spite of that constraint, the Department's goal is to support stream projects that help sustain local aquatic life, restore native vegetation, and improve connections to the Poudre River.

The Stormwater Utility has begun a long-term Stream Rehabilitation Program to restore urban creeks within Fort Collins. The Natural Areas Department is engaged in a supportive role and the planning process has identified some exciting projects and opportunities. Key objectives include restoring reaches with dangerous and unsustainable erosion resulting from unnatural flow patterns, increasing connectivity of aquatic habitats, and improving stream habitat through grade control and revegetation.

Several regional natural areas include streams with extremely important conservation values. For example, the federally threatened Preble's meadow jumping mouse (*Zapus hudsonius preblei*) occurs in habitat along an intermittent foothills stream on Bobcat Ridge Natural Area. On Soapstone Prairie Natural Area, prairie streams support rare native fishes and amphibians. Closer to the heart of Fort Collins, 15 rare plants occur in riparian areas along streams within the Fort Collins Growth Management Area.

PONDS AND WETLANDS

In the urban reach through Fort Collins, the Poudre River and its associated tributaries is a highly



Butterfly Woods Natural Area (City of Fort Collins Natural Areas Department Photo)

altered stream system with few side channels, floodplain wetlands, or oxbows remaining. One of the most significant changes to the floodplain that has occurred over the last 50 years or more has been the establishment of many ponds as the consequence of past sand and gravel mining operations. Ponds range from those resembling natural wetlands and side channels to ponds that are steep sided and uniform depths. The Department also owns Robert Benson Reservoir at Pelican Marsh Natural Area and leases the recreation rights to Dixon and Fossil Creek reservoirs.

Future management objectives for some of the ponds will focus on creating shallow water conditions to mimic much of the floodplain wetland functions lost due to development. Wildlife management, in partnership with Colorado Parks and Wildlife, will focus on native fish reintroduction, native amphibian management, and creating a functional self-sustaining wetland system.

Many of the deeper ponds function as excellent sport fisheries and will continue to be managed to provide recreational opportunities for the public. A portion of the shorelines may be managed to create shallow wetlands, while still providing fishing access. Fisheries management (including

stocking) will be in partnership with Colorado Parks and Wildlife.

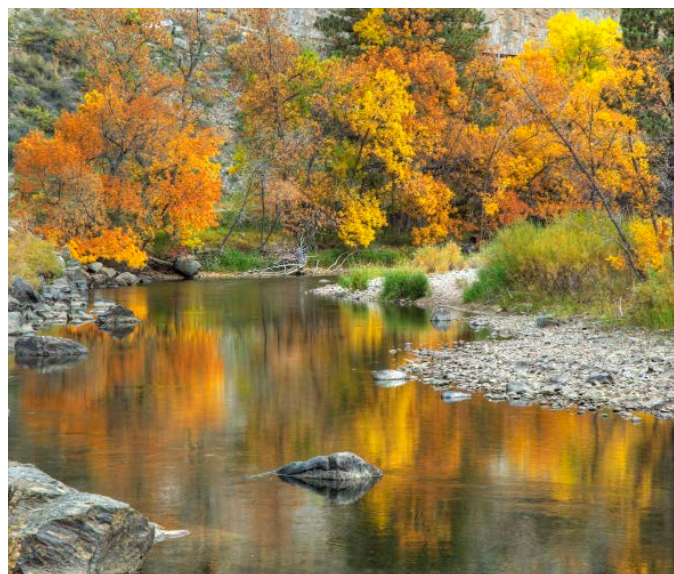
The least common but still very important categories of aquatic system are wetlands not dependent on the river or its tributaries. Examples include seeps, bogs, salt flats, and marshes. On the edges of the Poudre floodplain, a handful of seeps exist on steep hillsides where groundwater surfaces. Often these seeps host unique native plant communities, provide year-round habitat for amphibians, and provide a winter water supply for birds and other wildlife. Fens, salt flats, wet meadows, and marshes are found on some natural areas. Management approaches to protect these unique habitats may include limiting public access and protection during cleanup and improvement projects.

AN INTEGRATED WATERSHED APPROACH

Attention to the Poudre River has grown recently under pressures of future water depletions and recent extreme climactic events, including the forest fires of 2012 and the floods of 2013. Regional outreach and collaborations will be necessary to achieve the City's overarching objective of a sustainable and healthy river through Fort Collins. In particular, it will be important to cultivate awareness of the influence of inputs to the urban river from the upper watershed as well as landscape scale issues such forestry and ex-urban development.

An integrated watershed perspective will help the community understand and manage the Poudre River ecosystem and associated ecological values. To that end, the Natural Areas Department is building a long-term effort to work with partners to address the challenges presented by continued development pressures on the river, coupled with the potential for more frequent extreme climate-driven events in the coming years.

The Department will continue to engage in collaborative initiatives that build partnerships



Gateway Natural Area (Photo by Richard Ernst)

and influence positive outcomes that collectively benefit the river on a landscape scale. Some possible tangible actions that could help maintain a healthy upper watershed include targeted fee acquisitions or conservation easements at key locations, use of best management procedures (BMPs) on stream segments through City properties, support of key studies contributing to understanding the health of the urban reach, and participation in regional collaborative communication platforms such as the Poudre River Forum hosted by Colorado Water Institute in February 2014.

On the landscape scale, and using science as a guide, the Natural Areas Department initiated the Ecosystem Response Model (ERM) study in 2012 to help expand our understanding of the drivers, threats to, and anticipated conditions of, indicator biota within the Cache la Poudre River System. The ERM for the Fort Collins reach of the river uses a multidisciplinary approach to evaluate the river system. The model will foster a more informed dialog with a broad audience of stakeholders as to the current and anticipated use and condition of the Poudre River. Moreover, it will inform management and investment decisions. Built by a team of expert river scientists, the ERM is based on a wealth of accumulated knowledge of river science combined with local data. The model is based on the overarching theory that flows are the master variable of the

ecosystem. Additionally, the project incorporated the interaction of other important variables such as the physical setting, aquatic life, and riverside vegetation to provide a better understanding of this ever-changing river ecosystem.

Preliminary results of the ERM indicate that the Cache la Poudre River system in Fort Collins has been changing for some time. Current flows, which reflect existing withdrawals for municipal and agricultural uses, are approaching the low end of flow thresholds that are needed for scouring of algae, aquatic habitat, and channel maintenance. The modeling process has also shed light on other factors critical for the City to pay attention to, such as the poor functionality of hardened (e.g., riprap, concrete structures) riparian habitats, water quality concerns related to contemporary land uses, and the lack of aquatic habitat connectivity (Ecological Response Model 2014).

RANGER AND VISITOR SERVICES

The natural areas rangers are charged with providing a safe, peaceful, and enjoyable environment for all natural area visitors and trail users while ensuring the protection of natural and cultural resources. Rangers are responsible for patrolling all natural areas and trails. Two seasonal gate attendants help provide visitor services at Gateway and Soapstone Prairie natural areas.

Over the last ten years, natural areas rangers have experienced a significant evolution and increased professionalization of duties. Focus has moved from primarily enforcement work to a full suite of visitor engagement, resource protection, and regional natural area management. During this time, ranger staff has adapted to emerging needs within the expanding natural areas system to include emergency medical care, wildland fire support, and on-site ranger-managed regional sites at Bobcat Ridge and Gateway. However, natural areas patrol and visitor engagement remains the programs' primary responsibility.



Ranger assisting visitor on Kingfisher Point Natural Area (Photo by Kristin Powell)

PATROL AND VISITOR ENGAGEMENT

Natural areas rangers provide dawn-to-dusk coverage seven days a week. Patrol activities include enforcement of City Municipal Code, providing visitor education, and protecting natural and cultural resources. In 2008, the City's *Natural Areas and Trail Rangers Policies and Procedures Manual* was adopted by Police Services and the Natural Areas Department to outline the scope of the ranger's duties and set protocols for visitor safety and resource protection. The City's *Natural Areas and Trail Rangers Field Training Officer Handbook* (adopted in 2010) outlines standardized training for all newly assigned rangers in the practical application of learned information and provides clear standards for rating and evaluation.

Typically, the Natural Areas Department rangers cite 800–1,000 municipal code violations per year. Through the years, the rangers' enforcement efforts have resulted in a significant reduction in the numbers of animals off leash in the natural areas system. In part, this may have resulted from a two-year period (2004–2005) when a zero-tolerance policy for animals off leash was enacted. This effort seems to have turned the tide in gaining compliance for the leash ordinance in natural areas. A recent observation/trail count survey to support the 2013 *Paved Recreational Trail Master Plan* showed that 95% of dogs (965 observed) on paved trails were leashed.



Ranger on patrol at Bobcat Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)

Rangers are on the front-line of natural areas customer service. Daily interactions, including friendly and educational contacts, phone inquiries, agency assists, and more are accomplished by rangers. Rangers logged over 6,800 visitor contacts in 2013 and recognize that understanding customer's needs is critical to providing outstanding service. Rangers handled over 800 phone inquiries in 2013 from natural area users via the on-duty ranger phone line, affording visitors the opportunity to speak with a live person in real time. Rangers use smartphones to promptly update trail conditions on the webpage. Quick Response codes on closed trail signs and kiosks allow visitors to tap into the current status on conditions.

Ongoing challenges to patrol activities are primarily related to alcohol possession and illegal camping in natural areas. Illegal camping is dominated by Fort Collins' homeless population who utilize natural areas, parks, and road underpasses to camp overnight in the absence of, or in spite of, available charitable services. Data collected over a five-year period (2009–2013) show an increasing trend of illegal homeless camping. In 2009, 6% of all natural areas, parks, and trails violations cited by rangers were for illegal camping. In 2010 and 2011, camping violations increased to 9%. In 2012, violations increased to 16%, and in 2013

nearly one-quarter (22%) of all violations cited by rangers were for illegal, homeless camping. Moreover, illegal possession and consumption of alcohol by homeless comprised almost 50% of all ranger-issued alcohol violations from 2009–2013. Looking forward, Fort Collins' effort to eliminate homelessness by 2020 may require a significant commitment from Natural Areas staff to support a holistic community response to a growing homeless population.

As part of the rangers' effort to engage the Fort Collins community and provide stewardship opportunities for the public, a Volunteer Ranger Assistant Program, in partnership with Larimer County Department of Natural Resources, was created in 2007. In 2013, over 130 trained citizens participated in monitoring natural areas and working with ranger staff to ensure visitors remain safe and enjoy the natural area experience, logging over 2,500 service hours and making nearly 4,000 contacts with the recreating public.

RANGER STEWARDSHIP EFFORTS

In addition to ongoing patrol responsibilities and enforcement of the City's Municipal Code on natural areas, Rangers have embarked on a number of significant projects that support the day-to-day operations of the natural areas system. In 2005, Ranger staff completed a project to identify, formalize, and sign every legal trail entrance into natural area properties. Similarly another effort was undertaken to inventory, mark, and record all gates and administrative access points in the natural areas system. In the mid-2000s, Ranger staff began marking property boundaries of natural areas. This effort was followed in 2010 with the creation of a property boundary encroachment policy and monitoring effort designed to correct property encroachments occurring on nearly one-third of natural area boundaries shared with neighborhoods. Violations continue to decline, from the high of 100 in 2011 to only 18 in 2013, indicating that neighbors of natural areas understand that encroaching on



Volunteer Ranger Assistant at Gateway Natural Area (City of Fort Collins Natural Areas Department Photo)

City property is illegal. The project ensures the proper stewardship of property boundaries while promoting neighbor awareness.

In 2012, rangers participated in the Park Planning and Development Department's project to develop a long-range plan for the paved recreational trail system. The Paved Recreational Trail *Master Plan*, adopted by City Council in 2013, covers paved trails managed by Parks and Recreation and Streets departments, many of which provide access to, or through, natural areas.

RANGER MANAGEMENT OF REGIONAL PROPERTIES

The City's first regional natural area, Bobcat Ridge, opened in 2006. During the management planning for this 2,000-acre site near Masonville, it became apparent that a resident ranger would be needed to provide on-site security, visitor assistance beyond normal working hours, and day-to-day maintenance. Thus, a full-time ranger was assigned and housed at Bobcat Ridge.

Likewise, in 2007 when Gateway Park was transferred from the City's Parks Department to the Natural Areas Department, a full-time resident ranger was hired to provide site security, operations, maintenance, and to collect fees. Gateway Natural Area was established by the Parks Department as

a fee-based site due to its remoteness and need for on-site staff, and remains the only fee-based natural area due to the higher level of park-like maintenance needed for the site. The Gateway Natural Area ranger is also responsible for patrol and management of the Picnic Rock Natural Area at the entrance of the Poudre Canyon.

The opening of Soapstone Prairie Natural Area in 2009 marked the creation of the first seasonal Visitor Services staff who operates the entrance gate during peak visitation days to orient visitors, provide educational materials, and be the "eyes and ears" of the Rangers staff at this remote natural area. The site does not house a resident ranger; however, a ranch manager resides on the site year-round. The manager is employed by the grazing association that leases land for cattle grazing on Soapstone Prairie Natural Area.

RECREATION

The Natural Areas Department recognizes the enthusiastic culture and affinity that citizens have for spending time in nature. Recreation in natural areas provides wellness opportunities, improves quality of life, and provides settings for visitor experiences ranging from urban to semi-primitive. Activities in natural areas include walking, hiking, jogging, horseback riding, fishing, non-motorized boating, photography, artwork, wildlife viewing, and relaxing, among others.

The numerous positive impacts outdoor recreation has on an individual's physical, mental, and social health are widely documented. According to the 2011 Fort Collins Resident Survey Report, 70% of respondents believed that natural areas contribute to a "great extent" to the communities overall wellness, while 79% of respondents believed natural areas contribute to the recreational opportunities available to the community to a "great extent." In a study conducted by Kay-Linn Enterprises (2013), Northern Front Range survey respondents strongly agreed that trails (1) promote

a high quality of life and healthy lifestyle (95.7%), (2) are central to recreation (83.4%), and (3) connect people with nature (85.7%).

Although the Natural Areas Department's primary land acquisition focus has been the protection of the natural habitats and features for their conservation values, these acquisitions have subsequently created diverse public recreational opportunities. Over the last ten years, the Department has opened a dozen new natural areas to the public, including Bobcat Ridge and Soapstone Prairie—both with an extensive trail system. Of the 43 natural areas managed by the Department, 40 currently are open for some type of recreation. Eventually, all 43 sites will be opened.

Overarching recreation goals are to:

- Provide diverse opportunities for enjoyable public use of sites, while minimizing user conflicts and disturbance to sensitive wildlife and plant communities
- Provide a variety of nature-based recreation opportunities, while enhancing user experience and enjoyment
- Provide access to visitors of all ages and abilities
- Recognize that City natural areas are an important bridge to provide a connection to solitude and peacefulness in an outdoor setting
- Provide recreation infrastructure that is modest, adequate, safe, and accessible
- Place trails to avoid or minimize impacts to sensitive habitat, to increase trail sustainability, and to reduce maintenance and need for weather-related trail closures

Providing public recreation has been a key element in the success of the Natural Areas Department over the last 20 years. In just the last ten years, the Natural Areas Trail System has doubled to over 100 miles and acres open to the public have

tripled to 35,000 acres. Adding regional properties to the already impressive portfolio has allowed the Department to expand recreational experiences even more for visitors.

TYPES OF RECREATION OFFERED

Walking, hiking, running, and biking on natural surface trails or pavement are the most common outdoor activities of Larimer County residents surveyed in the 2013 *Our Lands – Our Future* survey (Larimer County 2013); these activities are also the most frequently available on City natural areas (Figure 10).

Within the City's natural areas, the visitor experience may range from solitude and quiet reflection to moderately high visitor encounters with high energy physical challenges. Natural areas support a wide range of recreation, including walking, hiking, trail running, wildlife viewing, on-leash dog walking, off-trail exploration, biking, horseback riding, nonmotorized boating, fishing, picnicking, sledding, rock climbing. Most of the City's natural areas are at least partially accessible to people with disabilities via the Parks or Natural Areas paved trail system and designated parking areas.

The Natural Areas Department will be pursuing offering limited hunting of pronghorn on Soapstone Prairie Natural Area in cooperation with the Colorado Parks and Wildlife (CPW) over the next ten years. CPW has indicated a need to harvest pronghorn in the Soapstone area when animal densities reach thresholds that cause increased disease issues, impacts to habitat, and surrounding landowner agricultural damage.

The Department does not foresee pursuing backcountry camping over the next ten years due to the limited number of people it would serve, abundance of other regional opportunities, and the high cost of this service. Dogs off-leash areas are also not being considered because of their incompatibility with the Department's conservation

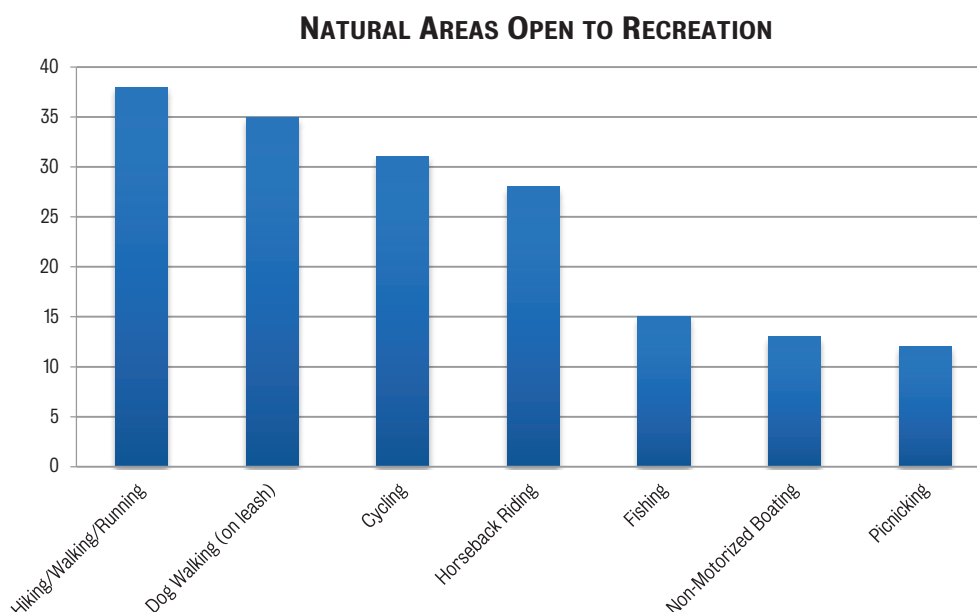


Figure 10. Number of Natural Areas Open to Specific Recreation Types



*Birdwatching at Cottonwood Hollow Natural Area
(Photo by Sue Kenney)*

mission. Parks does provide three off-leash dog-parks in Fort Collins. A larger, off-leash area may also be compatible with the City's Parks System.

Properties managed by the Department for recreation can be categorized as urban, foothills, or regional properties. These varying property types offer the public a diverse selection of aesthetic experiences and recreation opportunities depending on the location.

Urban

Most urban natural areas are located along the Cache la Poudre River and its tributaries. Currently, 18 natural areas are open to the public along the Poudre River offering a wide range of land- and water-based recreation. More than 30 of the urban natural areas can be accessed via 36 miles of paved trails managed by Parks, including the 10.1-mile Poudre Trail, 6.9-mile Spring Creek Trail, 5.9-mile Fossil Creek Trail, 3.9-mile Power Trail, and the 3.5-mile Mason Trail.

Foothills

Natural areas within the 3,800 acres of protected local foothills habitat support over 20 miles of natural surface trails in ecosystems dominated by ponderosa pine forests, foothill shrublands, and native grasslands. These properties consist of Coyote Ridge, Pineridge, Maxwell, and Reservoir Ridge natural areas. Year after year, the foothills natural areas are consistently some of the most actively used areas by recreationalists, especially hikers, mountain bikers, and equestrians. The popular 9.6-mile Foothills Trail offers great trail connectivity along the western foothills as it crosses City, county, state, and federal lands. This



Reservoir Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)

trail currently links together Pineridge, Maxwell, and Reservoir Ridge natural areas, and connects to the Fossil Creek and Spring Creek bike trails at Spring Canyon Community Park.

Regional

Regional natural areas offer the public some of the most diverse landscape topography, wildlife viewing, and recreational opportunities. The four regional natural areas are Bobcat Ridge, Gateway, Picnic Rock, and Soapstone Prairie.

Bobcat Ridge Natural Area, located just outside the town of Masonville, offers recreationalists over 2,600 acres of diverse topography for all visitor groups' capability levels, from expert mountain biking terrain to accessible trails for people with disabilities. This property's scenic trails take visitors along grassy flat valley floors, over rolling terrain, up through rocky drainages, to scenic mountain vista views. The historic structures and features throughout the property also offer users an educational aspect to their experience as they tour the property's rich pioneering, ranching, and American Indian cultural influences.

Gateway Natural Area is located in the Cache la Poudre Canyon at the confluence of the Cache la Poudre River and its North Fork Tributary. This 170-acre natural area is located adjacent to thousands of acres of land and water managed

by the City of Greeley (Seaman Reservoir), U.S. Forest Service (Roosevelt National Forest), and State Land Board (leased by Colorado Parks and Wildlife). Gateway has continuously proven to be popular for recreationalists due to its river access, boat launch (i.e., kayaks, canoes, tubes, rafts), picnic shelters, natural playground, and natural surface trails, among others.

Picnic Rock Natural Area is located downstream from Gateway in a beautiful section of the Poudre Canyon. The site has been a very popular picnic, wading, and tubing area for families and students for many years. The Natural Areas Department took over management of the site in 2007. The site presents various management challenges that will need to be addressed in the future. The City owns very little land (1.5 acres) in the area heavily frequented by visitors. Most of the surrounding land is owned by Colorado Parks and Wildlife (CPW) and the City operates under the terms of Memorandum of Understanding with CPW. The City is able to provide minimal services to the site (trash pick-up, bathroom cleaning, etc.); however, the City's jurisdiction is very limited.

Soapstone Prairie Natural Area, located on the Colorado/Wyoming border, offers recreationalists over 20,000 acres of unique trails, wildlife viewing, and interpretive features that focus on world-renowned cultural resources. This area offers over 40 miles of natural surface trails open to hiking, mountain biking, and equestrians, that wrap around rolling prairie terrain, with



Poudre River fisherman (Photo by Norm Keally)

wide open vistas and mountain views, and trail connectivity options that lead to Big Hole Open Space (City of Cheyenne) and Red Mountain Open Space (Larimer County).

VISITATION SUMMARIES

To assess current visitor use and for future recreation planning, the Natural Areas Department collected data from on-site visitor counts and surveys in 2006 and 2010. The Fort Collins Resident Survey (National Research Center 2011) and the *Our Lands – Our Future* survey (Larimer County 2013) also help to identify visitor satisfaction and expectation of future recreation needs.

General findings from these surveys indicated:

- Nearly 47,000 unique visitors enter City natural areas annually with high repeat visitations resulting in over 2 million annual visits
- The annual number of visits per year per natural areas visitor ranges from 20 to 80
- 60% of visitors arrive by car
- 26% of visitors arrive by bike
- 75% of those surveyed spend 1–2 hours in a natural area per visit
- Hiking/walking and biking are the most popular activities pursued in natural areas

In relation to the experience of visitors, 93% of visitors reported that crowding is slight or not at all (National Research Center 2011). Crowding was not perceived as a negative impact in 90% of responses and of the remaining percentage of those who reported a negative experience in a natural area within the last year the incident was related to dogs or other animals.

To decrease negative experiences of overcrowding, which also can result in resource degradation, Natural Areas Department staff use professional experience, input from other land management agencies with similar resources, research into



Soapstone Prairie Natural Area (Photo by Norm Keally)

accessibility from neighborhoods and commuters, and design standards to create visitor use limits on natural areas properties so that site visitor use capacity (sometimes referred to as carrying capacity) is not exceeded. New recreational features, such as trails, are designed to minimize impacts to natural resources and to be more sustainable over time.

Managing recreation over the next ten years will continue to involve adapting to increased visitor use due to expected increase in human populations (Colorado Conservation Trust 2012) and balancing natural resources protection with increased recreational demands. Opportunities for additional land acquisition over the next ten years are unknown at this time; however, the Natural Areas Department will continue to expand its portfolio of properties to provide more trails and recreation.

PUBLIC IMPROVEMENTS

Public improvements are the built recreational amenities that enhance visitor use of a natural area. They serve two important functions: (1) help the public to more safely use and enjoy natural areas and (2) help protect natural resource values. Natural areas accommodate visitors through trails, parking lots, restrooms, kiosks, benches, signage, and observation structures. The need for public improvements varies from site to site and not all of these improvements are needed at each site open to the public. Fencing may be needed regardless of whether a site is open to the public or not.

Although all 43 natural areas will eventually be open to the public, not all areas within a particular natural area are accessible to the public. Public improvements have potential impacts on wildlife and native plant communities. Natural Areas Department staff evaluates potential impacts from trails, parking lots, and other public improvements during planning, design, and construction phases. Trails and other public improvements may be restricted or even absent in a particular area of a site to protect sensitive wildlife species, rare plant communities, archeological resources, historical structures, or fragile geologic features. Public improvements are planned in accordance with individual site management plans, site restoration plans, or determined among natural areas work groups for smaller projects.

Trails

Trails on natural areas provide directed routes for recreation, reducing the impact to other portions of the sites and, thus, the overall impacts to wildlife populations and native plant communities. Proper trail placement helps avoid or minimize impacts to sensitive habitats and features, while increasing trail sustainability and reducing maintenance and need for weather-related trail closures. The Natural Areas Department provides “natural surface” trails comprised primarily of native material found on the site. Sometimes, gravel, recycled asphalt, dirt, or crusher fines are imported into the site to provide

a more sustainable surface. Wooden (or recycled plastic lumber) footbridges and boardwalks are built where necessary to alleviate drainage issues. Over 100 miles of natural surface trails have been built on City natural areas and an additional 3.5 miles of concrete trails in areas where use levels or accessibility needs are greater.

Parks and Recreation designs, constructs, and maintains the concrete trails that form the Fort Collins Paved Trail System; eight miles of the paved trails run through natural areas. The paved trail system is accessible to persons in wheelchairs. Funding for the paved trails comes from the Parks and Recreation Department, the Natural Areas Department, the Conservation Trust Fund, and Great Outdoors Colorado grants.

Parking Lots

Parking lots at natural areas are primarily constructed for the convenience of the public, but they also help to reduce site impacts. Parking lots are designed to meet the specific needs of each site and to minimize the physical and visual impact to the site. Currently, the Natural Areas Department maintains 29 parking lots, varying in size from five-car to 50-car lots. Only a few of the urban lots are paved (asphalt). Most lots are gravel for permeability of water and to blend-in with the natural landscape.

Amenities at the newer parking lots typically include vault toilets, informational kiosks, bike racks, and concrete handicapped spaces. Some smaller, older lots do not have all these amenities. Vault toilets cannot be constructed in the 100-year floodplain, which has restricted their installation on some sites along the Poudre River.

Kiosks help orient the visitor to the site, provide educational information, provide a place to post City notices related to natural areas, display regulatory information, and provide additional information as needed.



Reservoir Ridge Natural Area (Photo by Crystal Strouse)



Magpie Meander Natural Area (City of Fort Collins Natural Areas Department Photo)

Picnic Tables and Benches

Over the last ten years, picnic amenities have increased within the natural areas system. As of 2014, ten natural areas have picnic shelters and/or picnic tables. Only one site—Gateway Natural Area—has shelters that can be reserved, with a fee, for site-compatible events.

Benches provide a comfortable viewing and resting spot for visitors and help to limit off-trail impacts. Older benches, constructed from lumber or recycled plastic lumber, are being gradually replaced by stone benches. The stone benches last longer and are more resistant to graffiti.

Fishing and Wildlife Observation Structures

Fishing and wildlife observation structures help to reduce impacts to natural areas by providing a convenient, practical place to fish or watch wildlife. These structures often provide access for site visitors who are less mobile, including those who use wheelchairs. Fishing piers are especially useful in reducing bank erosion around popular fishing ponds. Restoration work on old gravel ponds along the Poudre River provide good opportunities for the creation of gravel fishing “pods” along the bank.

Signage

Signs on natural areas identify sites, mark boundaries, inform the public of restricted use and regulations,

mark trails, and provide user safety information. Staff is conscious of the need to limit signage because it can be a source of “visual pollution,” impacting the users’ experience in nature.

Fencing

Fencing the perimeter of natural areas is often needed to prevent illegal access by vehicles, people, and/or livestock from adjacent properties.

Barbed-wire and electric fencing is prohibited within the city limits. Barbed-, electric-, and smooth-wire fencing can be potentially hazardous to wildlife when poorly designed and/or located, particularly raptors that can be severely injured or killed when their wings hit the wire upon swooping down or up when hunting prey under the fence. Fort Collins is within a major migratory and wintering corridor for bald eagles, ferruginous hawks, and other raptors. Whenever feasible, wire fencing is removed and replaced with wood fencing where illegal access problems create a need for fencing.

Previously, the signature fencing style in natural areas was the buck-and-rail style, popular for its “western” look. However, over the last ten years, the Natural Areas Department has shifted toward using single-rail fencing, which is less obtrusive on the landscape. Single-rail fences are now used as the standard parking lot fence.

Maintenance

Ongoing maintenance of public improvements is essential for preserving wildlife habitat and native plant communities, as well as providing site visitors a high-quality, safe outdoor experience. Although some maintenance activities increase when sites are opened to the public (e.g., cleaning restrooms, regrading parking lots, and trail maintenance), other activities (e.g., site cleanup, fence repair) remain the same. Vandalism repair, such as graffiti removal, can occur on sites open or closed to the public, but is more prevalent when public improvement structures and interpretive features are present.



Trail improvement on Reservoir Ridge Natural Area (Photo by Todd Juhasz)

With over 100 miles of trail, keeping up with trail maintenance can be difficult. Volunteers help crews maintain the trails from spring through fall. In addition, Public Improvements Crews now include a dedicated seasonal trails crew for the summer months. In 2013, the Natural Areas Department actively maintained or improved 25% of the trail system. About 80% of the trails were in good condition by the end of the year and only 1% in poor condition. Our goal during the next ten years is to continue to improve maintenance so that 85% of the trails are in good condition and 0% in poor condition at the end of each year.

Whether trails, parking lots, kiosks, fences, or another type of public improvement, repairs can be quite unexpected due to a weather event or vandalism. A major weather event, such as flooding that occurred in September 2013, puts additional and unexpected strains on material and labor budgets for the Public Improvements Work Group. With global climate change, extreme weather events will likely increase and could impact the Natural Areas Department's ability to accommodate the public's desire for well-maintained recreational amenities.

Future Improvements

While most new improvements over the next ten years will be associated with future acquisitions, the Department does have plans for improving

access on several existing natural areas. New parking lots and associated amenities are expected to be built at:

- Arapaho Bend (replaces smaller lot)
- North Shields Bridge (new lot to provide parking for river access)
- Kingfisher Point (north side of the Poudre River, will include a natural surface trail)
- Eagle View (will include a natural surface trail)

In addition, concrete trails constructed by Park Planning and Development in the next few years are expected to be built on:

- Redtail Grove (west to Fossil Creek Drive)
- Arapaho Bend (east to I-25; north to Horsetooth)
- Fossil Creek Wetlands (south of Trilby and west of railroad tracks)
- Hazaleus (south to Trilby)
- Colina Mariposa (Trilby to Long View Farm Open Space)

CULTURAL RESOURCES

Northern Colorado has a rich history of human occupation and use of the landscape. As such, many properties conserved by the Natural Areas Department contain evidence of Paleo-Indian artifacts, remnants of pioneer homesteading, historic buildings from ranching and farming operations, and remnants of significant industries from the early 1900s.

The Natural Areas Department's primary mission is to conserve natural resource values. However, the Department recognizes the value of cultural and historic resources and the connection between people and landscapes. As such, the Department strives to protect these nonreplaceable resources for future generations to learn from and enjoy. Furthermore, the Department will continue to focus education and outreach efforts around the

human connection to landscapes and the critical connection between healthy natural systems and healthy communities.

ARCHAEOLOGICAL RESOURCES

Archaeological resources are found throughout the natural areas system and are generally described as material remains of human activities that are at least 100 years of age and capable of providing understandings of past human behavior and cultural adaptation. Generally, remains are physical evidence of human habitation, use, or activity.

Survey efforts have revealed archaeological sites on many of the City natural areas, both urban and regional. The best known site is the Lindenmeier Site, a National Historic Landmark located within Soapstone Prairie Natural Area. The Lindenmeier Site is the largest Folsom-era campsite known in the world. All sites, from single points or tools to larger campsites, are protected by city code and state law. Removal of artifacts is unlawful unless done so under permit by the Colorado State Historical Society and by a qualified professional.

When archaeological artifacts are discovered, the Natural Areas Department's preferred approach is to leave the item in place. The Department consults with Colorado State University and the Fort Collins Museum of Discovery to document the site and make the final determination if the artifact is to remain in place. In general, known sites will not be excavated unless damage to the site is expected to occur from a planned activity. If approached with requests for excavations, the Natural Areas Department will consult with the Fort Collins Museum of Discovery and other professional archaeologists to understand the merits of the requests. As a natural resource conservation organization, the continued conservation and interpretation of cultural resources is the primary focus of management efforts and can often be done so without any additional excavation. Surveys are

required when surface disturbance will occur and excavation may be necessary to remove artifacts. In all cases, artifacts removed from City property will be housed at the Fort Collins Museum of Discovery.

Public interest in archaeological resources is high and few opportunities exist for the public to volunteer or participate in resource survey efforts. The Department will continue to partner with Colorado State University's Center for Mountain to Plains Archaeology to identify outreach and volunteer opportunities. Possible projects include:

- Volunteer participation in site surveys.
- Volunteer participation in excavations.
- Establishment of a "permanent" excavation at a select site and use for public education. The project would be in partnership with other entities and protected with a building or similar structure to prevent access.



Lindenmeier Site on Soapstone Prairie Natural Area (City of Fort Collins Natural Areas Department Photo)

HISTORIC RESOURCES

Historic resources on natural areas are generally structures and buildings related to farming, ranching, or industry. The City's Historic Preservation Department is consulted on a regular basis for newly acquired sites with buildings.



Great Western Sugar Company Beet Effluent Bridge on Kingfisher Point Natural Area (City of Fort Collins Natural Areas Department Photo)

The office is also contacted when any potentially significant structure is encountered during site maintenance activities.

The Department will focus its historic restoration efforts on a few select building sites and features that provide an opportunity for public access and education and that represent significant historic value to the City. Sites to date include the Nix Farm Facility and Bobcat Ridge Natural Area. Both sites represent well-preserved and fairly complete farm and ranch facilities.

Future sites for restoration activities may include F.E. Warren Ranch headquarters on Soapstone Prairie Natural Area. The Great Western Sugar Beet Factory Flume on Kingfisher Point, currently being considered for National Register of Historic Places designation, may possibly also have a future reuse as a pedestrian bridge if the design can adequately preserve the historic character of the structure. The “A” on the hillside of Maxwell Natural Area, another National Register historic feature, is maintained by Colorado State University as stipulated in the easement established before City ownership of the land. Additional sites will be considered based on criteria and funding. Typically, funding for these efforts will use outside sources, such as State Historic Grant funds, in combination with Natural Areas Department dollars.

More commonly, historic structures found on natural areas properties are well beyond repair or represent a modest opportunity for restoration and outreach. However, management activities will include a survey and inventory of the site to record the historic value. The site will be managed to avoid impacts associated with maintenance activities and public use, but over time, features will eventually degrade and blend into the landscape. An example of this includes the remains of the brick factory operations, which date from the early 1900s to late 1940s, on Redtail Grove and Cathy Fromme Prairie natural areas. Another example is the Strauss Cabin located within Arapaho Bend Natural Area. However, interpretation for both sites is planned for the future.

On occasion, a historic structure will be reused for another purpose such as the White Pine Fire Lookout cab on Running Deer Natural Area. The fire lookout tower was in service until 1967 on West White Pine Mountain, about 35 miles west of Fort Collins. In 1978, the U.S. Forest Service had the fire lookout cab moved by helicopter to Lee Martinez Park in Fort Collins. In the mid-1990s, it was moved to Colorado State University’s Environmental Learning Center, and finally, in 2011 it was moved again to Running Deer Natural Area where Natural Areas Department staff and volunteers refurbished the cab for use as a viewing



White Pine Fire Lookout Cab on Running Deer Natural Area (City of Fort Collins Natural Areas Department Photo)

structure. While quite a bit of historic integrity was lost when the cab was moved off the original site, interpretation of the structure's history provides a visitor amenity on Running Deer Natural Area.

ART IN PUBLIC PLACES

Since 1995, the Natural Areas Department has been required to incorporate art into capital construction projects over \$250,000 on natural areas. The Department has also been the recipient of art projects required for adjacent capital road improvements. The City of Fort Collins has successfully worked with artists to incorporate natural and cultural history into natural areas facilities. Art can be an asset to a natural area in a variety of ways, including providing unique opportunities for site interpretation and reducing future maintenance costs of structures.



Art-in-Public Places Artist Joe McGrane's "Ghost Kitchen" on Reservoir Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)

Currently, a dozen art-in-public places projects are located on natural areas and four projects grace the Nix Farm and Primrose Studio facilities. Art can help to "soften" concrete structures on our natural areas and can help prevent graffiti. Graffiti artists seem to respect other artists, as evidence of the widespread utility box art within Fort Collins. Modern art is particularly useful in interpretation or simply highlighting the cultural history of a natural area. For example, both historic and

prehistoric people are showcased through several of the art pieces incorporated into structures for modern recreational and educational use on Soapstone Prairie Natural Area.

AGRICULTURE

The protection of agricultural land became more of a priority for the Natural Areas Department in the City's 2004 *Land Conservation and Stewardship Master Plan*. Agricultural lands worth conserving were identified in all three focus areas: local, community separators, and regional. In 2011, the Natural Areas Department adopted an *Agriculture Position and Policy Statement*. The intent of this document was to clarify the value of agriculture to the Department; to articulate the role of the Department in acquiring, operating, and maintaining valued agricultural lands; and to define policies with respect to appropriate agricultural production and uses on natural areas managed by the Department. In the past few years, the City as a whole has started looking at more ways to support urban agriculture and local food production for sustainability and human health.

Agricultural production on appropriate natural areas can be a beneficial use for the community when conducted in a sustainable manner. Agriculture can benefit the community when utilized as a vegetation management tool (e.g.,



Cattle on Soapstone Prairie Natural Area (Photo by Zoë Whyman)

grazing, haying) as well as a land use (e.g., traditional farm, urban farm, pasture). As a management tool, agricultural practices can help managers achieve desired resource goals such as controlling invasive plants or helping manage habitat for grassland wildlife species. As a land use, agriculture serves to provide a local food base, contributes to the local economy, helps minimize urban sprawl, and provides a community connection to the rural culture. In addition, agriculture is an important historical land use and is an integral component to the local history of Fort Collins and Larimer County. Preservation and interpretation of this important and declining land use is a benefit to the community from a historical context. Whether as a land management tool or a land use, agriculture can provide both ecological benefits and community benefits.

Operation and Maintenance of Agricultural Lands

Several options for operation of properties that have agricultural values and that are owned in fee simple by the Natural Areas Department may be used independently or in conjunction with each other:

Restore Land in Agricultural Crop Production to Native Vegetation Communities

Enhancing lands with existing or potential natural features typically involves restoring these lands to native vegetation, which may then benefit from agricultural practices (e.g., grazing or haying).

Prescription Grazing

Prescriptive grazing techniques can be used to mimic natural ecological processes. Situated on the western edge of the shortgrass prairie and deep within the rain-shadow effects of the Rocky Mountains, the open lands around Fort Collins are dominated by grassland ecosystems that have evolved with a diversity of native grazing animals. Native grazers now generally exist in numbers too few to provide the same ecological benefits. As such, managed grazing systems using

domestic livestock are often used in an attempt to mimic the natural ecological process. However, poorly managed grazing does have the potential to cause significant negative effects, including vegetation loss or vegetation community change; soil compaction and erosion; riparian area overuse and degradation, including bank destabilization and woody vegetation loss; and destruction of biological soil crusts. Thus, it is extremely important to properly manage grazing.

Mowing and Haying

Mowing and haying grasslands mimic the grazing process, thus removing plant biomass and stimulating grassland vigor. This plant material often needs to be removed by raking and burning so that litter does not accumulate. Although these techniques cannot provide all of the ecological benefits associated with carefully managed grazing, mowing and haying can replicate some of the aspects of vegetation removal and may be more logistically feasible than grazing on some properties.

Partner with a Third Party to Perform Agricultural Activities

The Natural Areas Department recognizes the potential benefits from agricultural practices and uses, but it is not the Department's intent to solely bear the financial burden of agricultural infrastructure (specialized farm equipment, livestock costs, etc.). The Department can, under certain circumstances, benefit financially and/or provide ecological benefits from partnering with third-party producers (lessees) to provide food and/or fiber for the community. These partnerships can also accomplish social goals such as local employment. Examples include haying or grazing as a vegetation management tool, growing local produce that benefits the local food bank, or other mutually beneficial activities. In all partnerships, the Department will ensure that agricultural activities incorporate best management practices and demonstrate ecologically centered agricultural practices.

ENERGY DEVELOPMENT AND MINERALS EXTRACTION

The Natural Areas Department owns and manages roughly 35,000 acres in Larimer County. In addition, the Department is responsible for the stewardship on another 17,000 acres of conservation easements. All of the properties are subject to impacts from a variety of energy development including oil and gas exploration, wind and solar development and associated electric transmission lines, and sand and gravel mining. While gravel mining has occurred on natural areas since the beginning of the program, renewable energy development and oil and gas exploration and production are relatively new issues that have emerged in the last ten years. They are likely to continue into the foreseeable future.

RENEWABLE ENERGY

The Natural Areas Department supports the exploration and development of renewable energy such as wind and solar generation. However, impacts on natural and cultural resources can and do occur from commercial-scale development. Current policy is to not allow commercial-scale wind or solar development to occur within properties owned fee simple. Additionally, the Department will continue to work to provide siting and other recommendations for wind farms that occur within viewsheds of conserved lands.



Wind turbines on Ponnequin Wind Farm in Colorado (Photo courtesy of National Renewable Energy)

The Natural Areas Department does typically allow small-scale energy development on lands protected with conservation easements. The intent is to allow renewable energy to be developed for meeting the needs of the conserved property, not for commercial venture. Natural Areas Department staff works with the owners of the property to locate the infrastructure to avoid or minimize impacts on natural resource values.

MINERAL RIGHTS AND DEVELOPMENT

The majority of lands owned by the Natural Areas Department are considered “split estate,” meaning that the surface estate is owned by the City and underlying minerals are owned by separate entities. Current state law allows mineral owners access to their mineral estate. How access is granted is a negotiated agreement between the surface owner and mineral owner.

In 2010, the City was approached by mineral owners interested in developing the mineral estate underlying portions of Soapstone Prairie Natural Area. In response, the City worked with the mineral owners to better understand and address this possibility and ultimately these efforts lead to the Mountains to Plains Energy by Design (EBD) planning process between the City; Larimer County; The Nature Conservancy; and the Colorado State Land Board, which is the owner of a significant mineral estate underlying Soapstone Prairie (The Nature Conservancy 2013).

Essentially, the EBD process is designed to bring together all of the parties-in-interest, including surface owners, mineral rights owners and lessees, and local experts and stakeholders in order to develop a common understanding of natural, cultural, scenic, agricultural, and recreational resources. Once those resources have been carefully identified and understood, the participants design an approach to minerals exploration and production activities intended to direct surface activities away from critical

resources (such as wetlands, rare species, nesting bird habitat, viewshed corridors, and cultural sites). Additionally, the approach entails a “no net loss” strategy that requires the mining companies to protect habitat of equal value or restore habitat to equal value. This can be accomplished through on-site or off-site mitigation (including land and water conservation).

If energy development is to occur within City natural areas or other conserved properties, a process similar to EBD will occur to understand how to best avoid, minimize, and mitigate impacts on natural, cultural, scenic, and recreational values of the site.

The Natural Areas Department does own the mineral estate underlying some properties. Requests for leasing the minerals for development will be denied in most cases. However, the Department may use the opportunity to explore pooling agreements to access the mineral estate from inevitable off-site development to generate income. Second, the Department will work to leverage the value of the mineral estate to avoid, minimize, and mitigate resource impacts from the off-site development.

Soapstone Prairie Natural Area represents a unique situation where the Department is working with the State Land Board to lease the State’s underlying mineral estate. The intent is to keep the minerals in a nondevelopment status for a period of time. However, given the checkerboard pattern of mineral ownership, it is conceivable that an adjoining private mineral owner will desire to develop their mineral estate underlying an adjacent section. The Department will use the EBD approach and work with all interested parties toward an outcome that avoids or minimizes impacts to the highest resource values, and mitigates the impacts using a “no net loss” strategy.

UTILITY EASEMENTS AND RIGHTS-OF-WAY

As with any property, when land is acquired by the Natural Areas Department all of the easements granted by former landowners “run with the land,” or are conveyed with the property to the next landowner. These easements include utility easements and road rights-of way. Properly managing existing and new easements and rights-of-way is an ongoing and important component of protecting important resources on natural areas.

In 2001, the *City of Fort Collins Natural Areas and Open Lands Easement Policy* was adopted to establish the practices and procedures used to grant requests for utility easements or rights-of-way on City natural areas and other open lands managed by the Natural Areas Department. This policy served as the guidance document for negotiating and granting easements and rights-of-way until 2013, when an update to the policy was adopted by City Council to include more contemporary issues and evolve a compensation model to include impacts to ecosystems by construction projects.



Powerline on Kingfisher Point Natural Area (City of Fort Collins Natural Areas Department Photo)

The policy applies to requests for new easements or rights-of-way and to projects within existing easements, as appropriate, which provide for a wide variety of purposes, including streets, water,

sewer, drainage, flood control, electric power, wind generation, solar generation, pipelines, oil and gas and minerals exploration, and telecommunications facilities. The policy applies to projects of the City and to those proposed by other public entities, such as special Utility Districts, and private parties. The policy does not apply to trails, parking lots, interpretive features, or other facilities that are proposed as part of the management of public natural areas.

APPLICABILITY

The Natural Areas Department administers existing and new requests for easements or rights-of-way on owned and/or managed properties, as well properties where the City holds a conservation easement. Because these lands were acquired by the City for the specific purpose of protecting natural areas and other conserved lands, the general policy regarding easements and rights-of-way on natural areas properties is that any application should be considered in that context and approval should only be given if impacts are minimized or eliminated, and the project cannot reasonably be relocated to another property (City of Fort Collins 2012).

ALTERNATIVES AND REGULATORY CONSISTENCY

Applicants for easements or rights-of-way are typically required to conduct an alternative route analysis to seek out other alignments besides crossing a natural area, and must demonstrate why it is not economically or structurally feasibly to do so. A summary of the alternative analysis is presented to the Land Conservation and Stewardship Board and City Council as part of the approval process.

Additionally, applicants must show that their project is consistent with applicable regulatory guidance, *City Plan Fort Collins* (City of Fort Collins 2011a), site-specific natural areas

management plans, and the *Natural Areas Master Plan*. Applicants must also show that they have coordinated with other utility providers with infrastructure in the area to ensure that they do not object or want to partner on a project to minimize construction impacts. Finally, applicants must adhere to the rights of existing easements or rights-of-way on the property.

RESOURCE PROTECTION, COMPENSATION, AND MITIGATION

Applicants are required to adhere to a comprehensive list of Resource Protection Standards to help ensure that the project will be completed in a high-quality manner and ensure that impacts to wildlife, vegetation, water courses, and other sensitive natural systems are kept to a minimum.

The City is compensated for the value of the easement or right-of-way across the property, typically in cash compensation, but in-kind compensation can be mutually advantageous as well. The applicant is billed for the City staff time spent working on their request, and a mitigation value is also calculated to offset impacts of the project to natural systems, which can also be in cash or in-kind.

Mitigation requirements are calculated using a model created for the Trust for Public Land that valued different types of land cover types based on the natural goods and services they provide to the ecosystem (Sargent-Michaud 2010). For example, wetlands are excellent at filtering pollutants in stormwater, which saves the costs of treating that water in a treatment plant. In this model, a per acre value is placed on each major land cover type. Staff calculate the impact to the respective land cover types for the period of time before the system is completely restored, typically ten years. The applicant must then create an on- or off-site mitigation plan (at staff's discretion) to help offset project impacts. Restoration of the affected land to its original condition is also required for release of the project.



Surveying in monitoring wells at site along the river (Photo by Dave Myers)

REVIEW PROCESS

Applicants requesting an easement on a City-owned natural area or conserved land are required to arrange for a public meeting at which information regarding the proposed easement and related project will be provided, and at which questions regarding the easement and related project will be taken. The Land Conservation and Stewardship Board then review the easement proposal and makes a recommendation in its advisory role to the City Council. Finally, since an easement or right-of-way conveys a property right, Council must approve the easement by ordinance.

Once a utility easement or right-of-way is approved, Natural Areas Department staff monitor the construction, restoration, and mitigation of the project and work with the easement or right-of-way holder to ensure that all project requirements and restrictions are adhered to before a release of the project is approved. The Natural Areas Department will continue to use GIS technology to map easements and rights-of-way on its properties, try to vacate abandoned easements and rights-of-way, and work with existing easement and right-of-way owners to update agreements when opportunities arise to include more contemporary easement language and resource protection standards.

PRIVATE LAND MANAGEMENT ASSISTANCE

Although Natural Areas Department staff are always willing to provide any landowner information or advice on protecting and enhancing land for natural areas values, the two primary means of assisting private landowners are through conservation easements or the Certified Natural Area Program.

CONSERVATION EASEMENT STEWARDSHIP

A perennial issue that arises in the ongoing stewardship of conservation easement properties is that of landowners being willing, but unable, to enhance the conservation values of the site. For example, while not required by the conservation easement deed, replacing an existing stretch of 5-strand barbed wire fencing with wildlife friendly fencing would allow better movement of wildlife through an important travel corridor. The landowner may be willing to make the change, but might not be able to afford efforts like this not directly tied to the economic viability of their operation. In the past, Department staff would recommend the changes but not be able to partner on making improvements.

Recognizing that the Natural Areas Department has a vested and perpetual interest in the best management of these easement properties, moving forward the Department will consider establishing a competitive grant process to work more proactively with landowners on enhancement projects. Such projects could include wildlife friendly fencing, native grass and shrub plantings, and noxious weed management resources. These grants, funded by the Department, would provide the landowner with cost sharing, planning resources, facilitation of other grant funding sources, and other resources needed to complete the enhancement project.



Conservation Easement and Certified Natural Area in southwest Fort Collins (City of Fort Collins Natural Areas Department Photo)

NATURAL AREAS ENHANCEMENT FUND

The Natural Areas Department encourages site management practices that focus on protecting, restoring, and enhancing native animal and plant communities on private lands certified by the City as a natural area. City staff provides assistance in the planning of site management through the certification process. The Natural Areas Enhancement Fund was created to provide monetary assistance in the implementation of management plans on private properties. Typically, five to nine applicants receive funding from the \$15,000 available each year to plant native plants, restore native grasslands, or remove exotic shrubs. Since its inception in 1994, the Fund has provided over \$262,000 for enhancement of 65 sites. Thirty-two homeowner associations, five neighborhood groups, seven private landowners, eleven schools from elementary to college, and two businesses have been among the recipients over the last 19 years.

FACILITY OPERATIONS

The Natural Areas Facility Operations staff is responsible for the maintenance of buildings that support the Department's staff and programs. Natural Areas Department building needs are met through natural areas dedicated tax revenues and are not funded by the City's General Funds through

the Facility Operations Service Area. In the past ten years, the number of facilities increased from one to six, primarily due to the expansion of the Department's conservation efforts to include regional properties.

NIX FARM

The historic Nix Farm has been the Natural Areas Department's main facility since 2002. The renovated 1920s-era home provides offices and meeting space, while the early 1900s-era barn and loafing sheds provide room for equipment and materials storage. The maintenance shop, constructed in 2002, provides crew work space and secure equipment, tool, and vehicle storage. Also on the property is small late-1800s-era house, currently used for educational materials storage and has not been remodeled yet.

Nix Farm Facility provides a central location for Natural Areas Department staff and operations, conveniently located near major roads that provide efficient access to local natural areas. The Nix complex is adjacent to over 1,000 acres of protected natural areas along the Poudre River. Designated as a local Historic District by the Fort Collins Landmark Preservation Commission in 2001, both the historic barn and small house have received State of Colorado Historic Preservation Funds to stabilize and protect the structures.

Unfortunately, the renovated historic home was not large enough to accommodate offices for all Natural Areas Department staff, even in 2002. Thus, a second office building at Nix Farm was constructed in early 2014. Management staff from 215 North Mason moved to the new building, as well as Education staff from the overcrowded historic Nix Farm house. Natural Areas Department may need to add another office building at some time in the future. However, enlarging the shop and improvements to the interior of the small house are higher priorities for the next ten years.

PRIMROSE STUDIO

In 2001, the late Rob and Dorothy Udall, advocates for conservation and social work, donated their home, art studio, and about 26 acres of surrounding land to the Natural Areas Department. The Udall's wish was that the land be conserved as part of the adjacent Reservoir Ridge Natural Area and that the studio be available for groups to use, in particular nonprofit groups.

The remodeled Primrose Studio opened for public rental in November 2007. The studio's unique design is inspired by the spectacular setting and Dorothy Udall's art, some of which is displayed at Primrose Studio. Artist Barb McKee of Surface Strategies, Inc., painted images of native grasses from Dorothy's compositions on the face of several doors and cabinets as part of the City's Art in Public Places Program.



Primrose Studio (City of Fort Collins Natural Areas Department Photo)

A building attendant for the Primrose Studio rents the Udall's former home on the property. The attendant orients each rental group and is available should an issue arise during the rental. Over the last five years, the studio has been rented for up to 140 days per year with May and August being the most heavily rented months. Nonprofit and government rates are reduced by half compared to private groups. Other than routine maintenance and minor improvements, no extensive new improvements or additions are expected to be needed over the next ten years for either the studio or building attendant's residence.

GATEWAY ON-SITE RANGER

Gateway Natural Area is owned by the City of Fort Collins Water Utility, which still manages Poudre River Canyon land surrounding the site for water resources. The historic water treatment building on the site dates back to 1903 when the facility first opened. The site was opened for public recreational use in the late 1930s but then closed by the late 1970s. The City of Fort Collins Parks and Recreation Department opened the Gateway Mountain Park site again to the public in 2002. In 2007, the Natural Areas Department took over management of Gateway Mountain Park and renamed it Gateway Natural Area.

Two homes on the property, built in the 1970s, were retained for on-site ranger use. One is rented to the ranger as a residence, and the other is used for the ranger office and shop. In the last few years, a room in the office building has also been rented to a seasonal employee who helps the ranger manage the site. Although the Gateway Facility buildings have required routine maintenance and minor improvements (e.g., energy conservation features) over the last six years, no extensive new improvements or additions are expected to be needed over the next ten years. The Water Utility owns and manages the historic water treatment building, which is not open to the public.

BOBCAT RIDGE ON-SITE RANGER

In 2003, the Natural Areas Department purchased the first parcel of Bobcat Ridge Natural Area, which now encompasses 2,600 acres west of Masonville. The site was opened to the public in 2006. Shortly after opening, the Department began remodeling the historic (late 1890s) portion of the ranch home into a ranger office and removed the late-1940s addition to accommodate the addition of a ranger residence. A new garage and small attached shop was also built. A 1940s calving shed, hay pole barn, and corrals were retained for their historic value. No extensive new improvements or additions are expected over the next ten years.

Four historic structures to the east of the ranch house are being restored with funds provided by the History Colorado – Colorado Historic Fund and the D.R. Pulliam Family Charitable Trust (former owners of the property). Restoration of the 1888 chicken house and pioneer barn was completed in 2013. Restoration of the cinder block turkey house and metal equipment shed will take place in 2014. Only the equipment shed is currently being used for storage.

FOSSIL CREEK RESERVOIR FACILITY

Fossil Creek Reservoir Regional Open Space was opened to the public in 2004 by the Larimer County Department of Natural Resources. The site, jointly acquired and developed by the Natural Areas Department and Larimer County, includes a small building with public restrooms, ranger offices, and a single-bay maintenance garage. In 2010, the City started managing the site, in accordance with the terms of an interagency agreement that provided for transfer once the site was incorporated into the City of Fort Collins Growth Management Area. In 2014, the site was renamed Fossil Creek Reservoir Natural Area and joined with over 930 acres of adjacent parcels managed by the City. However, Larimer County Department of Natural Resources rangers continue to occupy the office and use the garage in exchange for site patrol and light maintenance. Repairs and any improvements to the facility are the responsibility of the Natural Areas Department. Larimer County rangers will move out of the facility once their new ranger office facility is built, possibly within the next ten years. At that time, the best use for the office and garage may be for a satellite City Ranger Office or perhaps a small education center.



Fossil Creek Reservoir Facility (City of Fort Collins Natural Areas Department Photo)

SOAPSTONE PRAIRIE FACILITY

The Soapstone Prairie Facility consists of an older 1960s-era cabin in usable condition for a field office and a newer (2012) pole barn garage/maintenance shop. These two buildings support the Natural Areas technician and seasonal staff assigned to the 22,000-plus acres of Soapstone Prairie from March through November each year. No additional structures are expected to be added to the facility over the next ten years; however, solar power may be added to the garage, which currently relies on a gas generator. A 1960s-era house and several older outbuildings exist on the eastern boundary of the property and are currently used to house a ranch manager employed by the current grazing tenant.

ENVIRONMENTAL SUSTAINABILITY

The Natural Areas Department is committed to environmental sustainability through pollution prevention practices, recycling, waste management, energy and water conservation, and the implementation of best management practices. Protection of natural habitats and features is at the core of the Natural Areas Department mission; however, improving all aspects of environmental performance is a core value of the City organization. Although the Department currently has no certified environmental management system in place, pollution prevention practices, along with environmental management processes and standards have been established.

The Department's commitment to reducing its negative impacts on the environment is bolstered by the City of Fort Collins overarching position on sustainability. In 2004, City staff developed the visionary Action Plan for Sustainability (City of Fort Collins 2004a). This plan provides recommended policy, goals, and targets for advancing sustainability within City operations with a unified, cross-departmental approach.

The following policy statement was developed from the Action Plan:

The City of Fort Collins will serve as a community leader in sustainability by conducting daily operations and through balanced stewardship of human, financial, and environmental resources for present and future generations.

The Natural Areas Department will continue to embrace the City's overall environmental policies by reducing our operational environmental impacts.

POLLUTION PREVENTION

Since 2009, the Natural Areas Department has performed annual pollution prevention (P2) assessments at the Nix Farm Facility and every few years at Bobcat Ridge, Primrose Studio, Gateway, Fossil Creek, and Soapstone facilities. The P2 assessments are intended to identify potential pollution mitigation improvements, risks, and mitigation actions. The systematic inspections require a continual improvement approach to pollution prevention, including, but not limited to pesticide usage, recycling, inventory control, housekeeping, and training. P2 assessments have continually led to improvements with fuel storage, chemical management, and recycling efforts. Every year new opportunities are identified and implemented. These assessments are meant to review facility and field processes and determine if any of those processes require additional management or if there are additional opportunities for improvement.

WASTE MANAGEMENT AND RECYCLING

The Natural Areas Department strongly emphasizes the practice of recycling and waste management. As the City of Fort Collins moves toward reducing its overall waste, the Department continues to be an early adopter of efforts to recycle office materials (cardboard, paper, electronics, green waste, plastics, and organics), as well as metal

and harder-to-recycle materials such as pesticide containers.

In 2013, the Natural Areas Department recycled the following:

- 27,588 pounds of metal
- 64 cubic yards of comingled papers, plastics, and cardboard
- 107 signs and 52 pieces of Telespar signposts
- 139.6 tons of old concrete and pavers
- 832.5 cubic yards of organic material (branches, grass, chipped trees, tree stumps)
- Additional items such herbicide containers and electronics, batteries, furniture, and tires abandoned on natural areas

ENERGY CONSERVATION

In 2012, the Natural Areas Department installed solar panels atop the Nix Farm Shop building in an ongoing effort to reduce the carbon emissions associated with coal-derived power. The solar panels have resulted in a 25% reduction in electrical use from the power grid.



Installation of solar panels on Nix Farm Maintenance Shop (City of Fort Collins Natural Areas Department Photo)

The Natural Areas Department has tracked fuel consumption since 2011. The Department is committed to reducing its fuel use through an informal program of communicating fuel use (a

year-to-date comparison), the presentation of fuel reduction driving techniques, and an emphasis on making responsible vehicle choices. For example, predefined routes are used in order to reduce fuel use associated with refuse collection and restroom cleaning on natural areas.

WATER CONSERVATION

The Natural Areas Department has long been a proponent of water-wise landscaping, using native plant materials to reduce the requirements for irrigation on natural areas and at facilities. Rain sensors were installed at Nix Farm, Bobcat Ridge, and Fossil Creek Reservoir to reduce the quantity of water used for landscape irrigation, resulting in an annual water reduction of 25%–50% per site.

BEST MANAGEMENT PRACTICES

The Natural Areas Department pursues the implementation of additional best management practices that act to reduce the impact of operations on the environment.

PESTICIDE USE

Natural areas field technician training for use of pesticides exceeds state and federal standards. Additionally, the Natural Areas Department conducts an annual review of the pesticide-related toxicity literature to reevaluate the risk associated with applications and to seek out effective, less toxic pesticides.

The Department recognizes the risks associated with the application of herbicides for weed control; thus, it uses an integrated pest management approach that emphasizes competitive plantings, prescribed fire, and biological controls, where appropriate. Staff tries to mitigate neighbor conflicts with prairie dogs through public education; early intervention; and, when necessary, the use of rodenticides that cause the least possible environmental impact.



Native prickly poppy on Pineridge Natural Area (Photo by Zoë Whyman)

NEW BUILDING CONSTRUCTION

The Natural Areas Department has just completed a new office building at the Nix Farm Facility, adjacent to the existing office building and operations shop. The building was constructed to meet Leadership in Energy and Environmental Design (LEED) Gold Standards; however, the building was not actually certified, partly because its size is under the City's 5,000-square-foot threshold. The building is heated and cooled by heat pumps using geothermal energy from four 500-foot-deep geothermal wells; the building envelope is extremely air tight and well insulated; windows are designed for passive solar heat gain in the winter and shading in the summer; and photovoltaic solar panels provide a portion of the electrical needs for the building. Solar tubes have been installed on the second floor to use natural lighting throughout the year.

FUTURE ENVIRONMENTAL MANAGEMENT

While the full benefits of implementing a formal environmental management system are understood by the Natural Areas Department, the current operations of the Department do not require implementation of a certified system at this time. Certain standards of certified systems, such as the new LEED-standard building, might be adopted or used as examples for future building improvements.

LOOKING FORWARD TO THE NEXT DECADE AND BEYOND

Over the last ten years, the Natural Areas Department has tripled the acreage of conserved land, substantially increased education and volunteer efforts, tackled monumental river and grassland restoration projects, plunged into efforts to improve river health, expanded ranger and visitor services to meet community needs, opened up a dozen new natural areas to the public, doubled the miles of natural surface trails, protected regional and even globally important cultural resources, raised the awareness of the need to protect local agricultural lands, stepped up environmental sustainability efforts, and greatly improved numerous other aspects of land stewardship for the City's natural areas.

Looking ahead, while the Department will continue to make land conservation a high priority, a greater amount of revenues now needs to be placed on land stewardship simply because there is so much more land to care for. At this time, the Department spends about 60% of its overall revenues on stewardship activities and 40% on land and water conservation.

As from the beginning of the Natural Areas Program over 20 years ago, the Cache la Poudre River will remain a high priority for the Department, with more emphasis on protecting and restoring the ecological functions to help ensure that this working river continues to provide outstanding wildlife habitat, recreational opportunities, and flood protection for the Fort Collins community.

While the Natural Areas Department, along with other Front Range conservation agencies, will likely face some major challenges over the next decade and beyond, the Department looks forward to the many outstanding opportunities to advance conservation for the Fort Collins community.

PARTNERSHIP OPPORTUNITIES

The tremendous progress toward conservation and stewardship of natural areas in Fort Collins could not have been made without the support of the community and numerous partners within and outside of City government, as noted throughout this *Master Plan*. Moving forward, these partnerships will continue to be extremely important over the next ten years to meet future Department priorities. A few examples of key opportunities include:

FUNDING

- Partner with other City departments, government agencies, nonprofit organizations, and private individuals and companies to leverage financial resources.
- Seek grants from agencies such as Great Outdoors Colorado, Colorado Parks and Wildlife, the Natural Resources Conservation Agency, History Colorado, Colorado Water Conservation Board, among others to supplement revenues.

STEWARDSHIP

- Implement habitat management activities in partnership with fee owners of conserved lands and/or other public lands to increase regional biological diversity and species richness.
- Collaborate with other City departments, water users, and nonprofit organizations on broad watershed issues to help protect and improve water quality, water quantity, and overall health of the Poudre River ecosystem.

RESEARCH

- Pursue opportunities with college students and professionals to conduct research on important topics, including climate change, site inventories, management techniques, ecological values, and recreational use, which will benefit future management of natural areas.

PRIORITIES

The Natural Areas Department looks forward to the next ten years with enthusiasm for continuing land conservation and stewardship efforts to meet the needs of the Fort Collins community. Priorities emerging out of this *Master Plan* portray the dedication to not only natural resource protection, but efforts to restore ecosystem functions, enhance recreational experiences, expand community outreach, and maintain visitor safety. Agriculture lands, cultural resources, and environmental sustainability are recognized as valuable components of the natural areas system.

Continuing the Natural Areas Success Story

The Natural Areas Department will continue to:

- Aspire to its vision: Through the work of the Natural Areas Department, a diverse system of conserved and restored lands will connect community members to nature. These conserved lands will protect nature and contribute to the health and wellbeing of our community.
- Stick to its core mission: The mission of the Natural Areas Department is to conserve and enhance lands with natural resource, agricultural, and scenic values, while providing meaningful education and appropriate recreation opportunities.

The natural Areas Department will act to:

- Conserve land, water, wildlife corridors, and trail connections.
- Restore habitat.
- Provide visitor and recreation services.
- Provide education, interpretation, and volunteer opportunities.
- Contribute to the character and culture of our City.

In all, the Department has established 36 priorities for the next ten years:

LAND AND WATER CONSERVATION

A fundamental guiding principle of this *Master Plan* is to maintain the Department's core focus on biologically significant lands, or lands that have the potential to contribute to biological integrity and richness. An additional principle is to acquire water in order to enhance and sustain habitat; to link it to appropriate lands (such as productive farmland); and, to satisfy water rights

administrative obligations. Based on these principles and the focus areas and in order of priority the Department will conserve:

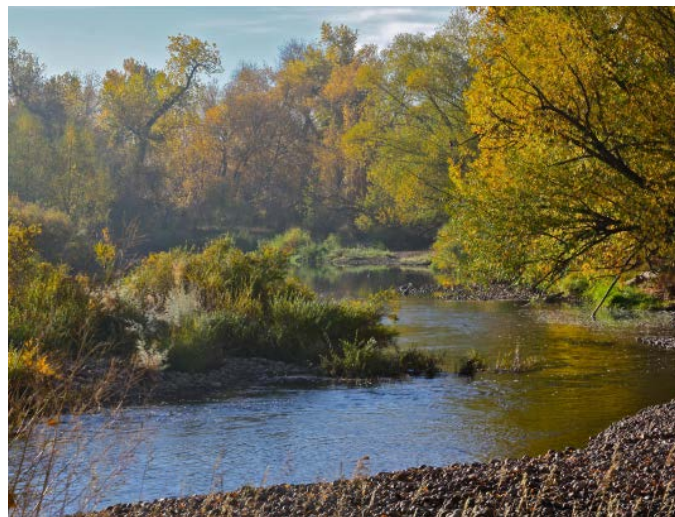
- Lands within the local focus areas particularly the Poudre River, the Bellvue area, and adjoining foothills.
- Agricultural land in the Wellington Separator.
- Regional lands as opportunities and funding permit.



Reservoir Ridge Natural Area (Photo by Norm Keally)

THE CACHE LA POUDE RIVER

- Help convene City departments, water users, and nonprofit organizations on broad watershed issues to further protect and improve water quality, water quantity, and overall health of the Poudre River ecosystem.
- Work to sustain and improve water flows to boost ecologic function of the Poudre and other important streams.
- Implement restoration projects that connect the river to its floodplain, create abundant wildlife habitat, improve aesthetics, and provide recreational opportunities.
- Develop and implement comprehensive water augmentation and water supply plans to address water administration needs for consumptive and non-consumptive water use.



Poudre River (Photo by Norm Keally)

EDUCATION, OUTREACH, AND VOLUNTEER COORDINATION

- Use diverse and creative strategies to connect people to nature.
- Ensure offerings engage and reflect the demographics and diversity of the entire community.
- Meet the community's expectation to give back to the places they love by expanding opportunities for service learning and other volunteer involvement.



Gateway Natural Play Area (Photo by Jen Shanahan)



Snapping turtle on Cottonwood Hollow Natural Area (Photo by Norm Keally)

RESOURCE MANAGEMENT

- Substantially complete grassland restoration in southwest Fort Collins and foothills natural areas.
- Reintroduce endangered or threatened native wildlife into suitable landscapes including the black-footed ferret and bison to Soapstone Prairie Natural Area.
- Aspire to create “Wilderness in the City” – places that feel wild and remote and exceed traditional expectations for urban natural areas.



Anheuser-Busch volunteers planting shrubs on Kingfisher Point Natural Area (City of Fort Collins Natural Areas Department Photo)

RANGER AND VISITOR SERVICES

- Maintain high quality customer service, as measured by Citizen Survey reports.
- Conduct daily patrols of natural areas and trails to provide visitor safety, assistance and education while protecting natural and cultural resource values.
- Collaborate with Social Sustainability Department and Police Services to resolve homeless issues.
- Monitor visitor use and capacity and seek out techniques to resolve multiuse conflicts.

RECREATION, PUBLIC IMPROVEMENTS, FACILITIES

- Construct improvements to open sites in the natural areas network not yet open to the public.
- In collaboration with other agencies and departments, improve access to the Poudre River by completing at least three new parking lots and associated trail connections.
- Use innovative design and management techniques to adapt to changing environmental and recreational conditions while not exceeding visitor use carrying capacity of each site.
- Maintain a natural surface trail system that supports a variety of recreational experiences, while minimizing user conflicts and negative impacts on conservation values. Improve trail sustainability and connectivity.
- Expand the spectrum of recreational opportunities compatible with the Natural Areas Department mission, such as sport and family-friendly fishing, areas for solitude, off-trail nature exploration, natural play areas for children, and limited hunting opportunities.
- Proactively maintain all staff facilities to reduce future repair costs, expand Nix Farm Facility shop and remodel small historic house to meet anticipated operational needs, and make energy and safety improvements to all facilities.



Bobcat Ridge Natural Area (City of Fort Collins Natural Areas Department Photo)

CULTURAL RESOURCES

- Use primarily non-departmental resources, including grants, to conserve and restore cultural resources.
- Develop policies to guide the Department in funding and managing cultural resources.
- Pursue state or federal historic designation for noteworthy structures, such as the Warren Ranch buildings on Soapstone Prairie Natural Area.



Soapstone Prairie Natural Area (Photo by Norm Keally)

LOCAL AGRICULTURE

- Conserve working agricultural lands with prime soils and water, including lands that can be used for local food production typically through conservation easement acquisitions.
- Pursue both resource conservation and agricultural activities on conserved working farms and ranches.
- Utilize appropriate agriculture-based management activities such as haying and grazing as a tool to aid in restoration and to help replace lost or impacted ecological processes.

MANAGEMENT PLANNING AND IMPLEMENTATION, ENVIRONMENTAL SUSTAINABILITY

- Prepare or update management plans and agreements for all natural area sites.
- Document mineral ownership and develop a minerals extraction policy that helps to avoid, minimize, or mitigate negative impacts on natural areas from energy development. Investigate opportunities for mineral purchase or lease arrangements that benefit the Department's conservation mission.
- Influence Utility Easements and Rights-of-Way projects on natural areas to minimize impacts and maximize mitigation efforts to achieve Department goals. Update agreements and vacate abandoned rights-of way to contemporary standards.
- Support the City's Planning Department's efforts to protect natural resources through the development review process.
- Support the City Planning Department's Nature in the City effort, a long-range planning program to ensure all residents have access to nature close to where they live and work.
- Manage the perpetual stewardship responsibilities for City-held conservation easements using best management practices (BMPs) and establish an enhancement grant program for conservation easement landowners.
- Expand internal Facility Operations Pollution Prevention Team and set targets for ongoing environmental sustainability improvements.



Cribari II Conservation Easement (City of Fort Collins Natural Areas Department Photo)

CHALLENGES

Although it is impossible to predict all the challenges that the Natural Areas Department will face over the next decade, the top three challenges that emerge throughout this *Master Plan* are:

1. Financial—if Larimer County’s “Help Preserve Open Space” ¼-cent sales tax would not be extended beyond the 2018 sunset. This sales tax provides approximately one-third of the Department’s revenues. Larimer County officials currently are planning to refer the measure to the ballot in fall of 2014.
2. Visitor Carrying Capacity—if the number of people recreating in natural areas increases to the point of negatively impacting resources and visitor experience beyond acceptable levels. Population estimates for Colorado are projected to nearly double to between 8.6 and 10 million people by 2050 (State of Colorado 2011), with Larimer County having one of the highest populations in the State. Fort Collins alone is projected to add nearly 100,000 people by 2040 (North Front Range Metropolitan Planning Organization 2014).
3. Climate Change—if global climate warming and/or occurrence of extreme weather events continue to increase. A recent study conducted on behalf of Fort Collins found that by 2050 average annual temperatures are likely to increase from about 2.5 to 3.5 degrees Fahrenheit (Rocky Mountain Climate Organization 2014). The impacts of higher heat on natural resources are likely to be profound, including shifts in floral and faunal communities, increased fire events, and alteration in the Cache la Poudre water temperature, flows, and water quality and quantity.

Clearly, Fort Collins’ natural areas will be affected by these regional and global trends of increased human populations and climate change, but with the support of the community, including the voters of Larimer County, the Natural Areas Department will continue to play an important role in meeting these challenges over the next decade and beyond.

“The portion of the planet characterized as urban is on track to triple from 2000 to 2030—that is, we are already almost halfway there. Meanwhile, 17 percent of the 800 or so North American bird species are in decline, and all 20 species on the Audubon Society’s list of ‘common birds in decline’ have lost at least half their population since 1970.”

Richard Conniff

Urban Nature: How to Foster

Biodiversity in World’s Cities

Yale Environment 360, January 6, 2014



*Storm over the Poudre River at North Shields Ponds Natural Area
(Photo by Michael Van Beber)*

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APPENDIX A

2014 CITY COUNCIL RESOLUTION TO ADOPT THE NATURAL AREAS MASTER PLAN (PENDING)

Place holder for now

APPENDIX B

2011 CITY PLAN PRINCIPLES AND POLICIES

The following are excerpts from the “Principles and Policies for Economic Sustainability, Land Conservation, and Stewardship of Natural Areas” section of the *City Plan Fort Collins* (City of Fort Collins Planning Department 2011).

Principle ENV 2

Open lands and natural areas within Fort Collins, the Growth Management Area, and the region will be conserved, preserved, and protected to provide habitat essential to the conservation of plants, animals, and their associated ecosystems, and to benefit the citizens of Fort Collins by providing opportunities for education, scientific research, nature interpretation, fishing, wildlife observation, hiking, and other appropriate recreation activities, and protecting view-sheds.

Policy ENV 2.1 – Maintain System of Open Lands

Maintain a system of publicly-owned open lands to protect the integrity of wildlife habitat and conservation sites, protect corridors between natural areas, conserve outstanding examples of Fort Collins' diverse natural heritage, and provide a broad range of opportunities for educational, interpretive, and recreational programs to meet community needs.

Policy ENV 2.2 – Outreach to the Public

Promote understanding and enjoyment of local and regional open lands through appropriate recreational activities, formal and non-formal education, and interpretive programs.

Policy ENV 2.3 – Partner, Collaborate, and Coordinate on Open Lands

Develop effective local and regional partnerships, and collaborate and coordinate within the City, and with other public and private agencies for the protection and conservation of locally and regionally valued open lands. Also, seek the cooperation and assistance of citizens, businesses, community groups, conservation organizations, and governmental agencies in the development and implementation of programs to protect and conserve local and regional open lands.

Policy ENV 2.4 – Inventory Open Lands

Develop and maintain a data inventory on local and regional open lands to aid the City and the public in decisions about these areas, including management of publicly owned lands.

Policy ENV 2.5 – Provide Land Conservation and Stewardship

Acquire, manage, maintain, and enhance public open lands and natural areas in accordance with the 2004 Land Conservation and Stewardship Master Plan (including the plan's Conservation Focus Areas Map) to ensure the ongoing conservation of plants and animals in need of protection and their associated ecosystems, to support biodiversity, to control the invasion and spread of undesirable non-native plants, to improve aesthetics, and to provide opportunities for appropriate public use.

Policy ENV 2.6 – Manage Conflicts

Manage conflicts between people and public open lands through site design, public information and education, habitat manipulation, and plant and animal population management techniques.

Policy ENV 2.7 – Involve and Inform the Public

Involve citizens in planning the management of public open lands, and collect, maintain, and distribute up-to-date information about publicly owned open lands including maps, reports on the conservation values and current resource conditions, and reports on the management needs of local and regional open lands.

Policy ENV 2.8 – Seek Supplemental Funding Sources

Seek supplemental funding sources to further implement open lands policies and programs including private, State, and Federal grants and donations of money, property, and in-kind services.

Policy ENV 2.9 – Provide Access

Design trail routes in open lands to minimize ecological impacts, while enhancing access and recreation. Determination of type of trail or suitability for access will be made through an analysis of potential ecological impacts and recreation needs. Special attention will be given to environmentally sensitive trail design, location, and construction.

Principle ENV 3

Open lands will benefit the City by providing a well-defined edge, establishing community separators, directing development, and conserving rural character.

Policy ENV 3.1 – Utilize Conservation Tools

Purchase open lands and conservation easements, and use other tools such as development regulations, transfer of development rights, and Growth Management Area planning for the purposes of defining and protecting community edges and establishing community separators.

Policy ENV 3.2 – Plan for Community Separators

Identify strategic open lands that serve as community separators outside the Growth Management Area for either public ownership or other land conservation measures.

Policy ENV 3.3 – Coordinate to Create Community Separators

Actively work with local, regional, State, and Federal agencies, as well as private entities, to acquire open lands and conservation easements to create community separators.

Principle ENV 4

The City will pursue new opportunities to provide multifunctional open lands.

Policy ENV 4.1 – Improve Connectivity

Explore opportunities for land conservation partnerships between Stormwater, Parks and Recreation, Transportation and Natural Areas departments to provide and enhance trail corridors to connect open lands; to enhance wildlife habitat and corridors; and, to improve bicycle and pedestrian access to schools, parks, natural areas, rivers, shopping areas, and neighborhoods.

Policy ENV 4.2 – Enhance and Restore Streams

Explore opportunities for Stormwater, Parks and Recreation, and Natural Areas departments to partner on acquiring and rehabilitating lands to enhance streams.

Policy ENV 4.3 – Improve Water Quality and Detention

Explore opportunities for Stormwater, Parks and Recreation, and Natural Areas departments to partner on acquiring lands to incorporate stormwater systems that improve water quality and contribute to the ecologic functioning of urban watersheds.

Policy ENV 4.4 – Provide Neighborhood Natural Areas

Explore opportunities for Stormwater, Parks and Recreation, and Natural Areas departments to partner on acquiring lands for neighborhood natural areas.

Policy ENV 4.6 – Utilize Corridors

Provide public access, promote wildlife movement, and link neighborhoods, parks, and activity centers, commercial centers, and streets through a network of open lands and trails along streams, drainageways, and irrigation ditch corridors, where compatible with natural habitats, utilizing environmentally sensitive trail design.

Principle ENV 5

To reduce net community energy use for new construction from conventional fossil fuel sources, the City will expand on current efforts and develop new strategies for increased energy efficiency and use of renewable energy.

Policy ENV 5.1 – Demonstrate Leadership in Public Buildings

Serve as a model to the community by building public facilities to a higher energy efficiency standard than applies to other buildings (e.g., Leadership in Energy and Environmental Design (LEED) Gold certification) and by using on-site renewable energy in new buildings and facilities where technically and economically practical.

Principle ENV 24

The City will support a healthy and resilient Cache la Poudre ecosystem and protect, enhance and restore the ecological values of the River

Policy ENV 24.1 – Support Ecological Resilience

Support a healthy river ecosystem that is resilient; i.e., a river ecosystem that has the capacity to persist and adapt over time in the face of natural and human-caused challenges. Protect or enhance opportunities for natural processes to drive ecosystem renewal.

Policy ENV 24.2 – Conserve Natural Features

Conserve and protect important natural areas and natural values within the Poudre River Corridor. This will include acquiring land for public natural areas and conservation easements to protect natural area values on privately owned lands, establishing appropriate cooperative agreements with adjacent landowners, developing and applying development regulations and design standards, and promoting public education and outreach programs and other appropriate techniques.

Policy ENV 24.4 – Restore and Enhance

Restore or enhance degraded or disturbed areas of the Poudre River Corridor to improve natural habitat conditions, biodiversity, and aesthetic and recreational values. Restoration and enhancement projects may be performed cooperatively with adjacent private landowners and volunteer community groups.

Policy ENV 24.5 – Coordinate to Provide Adequate Instream Flows

Work to quantify and provide adequate instream flows to maintain the ecological functionality, and recreational and scenic values of the Cache la Poudre River through Fort Collins.

Principle ENV 25

The City will provide enhanced recreation opportunities within the Poudre River Corridor, with an emphasis on scenic values, heritage education, and interpretation while avoiding or minimizing impacts to environmentally sensitive areas.

Policy ENV 25.1 – Minimize Impacts

Locate and design recreational features within the Poudre River Corridor in a way that avoids or minimizes impacts to natural areas, wildlife habitat, water quality, and other environmental values.

Principle ENV 27

Historic landmarks, cultural landscapes, and scenic and aesthetic qualities will be protected within the Poudre River Corridor.

Policy ENV 27.1 – Protect Historic Landmarks and Cultural Landscapes

Protect historic landmarks and significant cultural landscapes within the Cache la Poudre River National Heritage Area, which extends for 45 miles and includes the lands within the River's 100-year floodplain. Protection of the historic and cultural resources will be accomplished using

land acquisition, local landmark designation, conservation easements, land use policies, and development and design standards.

Policy ENV 27.4 – Restore and Enhance

Restore or enhance degraded or disturbed areas of the Poudre River Corridor to improve ecological conditions, aesthetics, and recreation access. Restoration and enhancement projects may be performed cooperatively with private landowners and volunteer community groups.

Principle ENV 28

The City will encourage learning and community awareness of the Poudre River’s historic, cultural, and natural heritage through education and interpretation.

Policy ENV 28.1 – Support Educational and Environmental Learning Opportunities

Support and provide historical, cultural, and environmental learning opportunities in the Poudre River Corridor. The Cache la Poudre River National Heritage Area was formed to provide for the interpretation of the unique and significant contributions of cultural and historic lands, waterways, and structures to our national heritage. Integrate education with interpretation, which may include interpretive trails and educational facilities as well as outdoor laboratories for lessons on wildlife habitat, gravel extraction and reclamation, floodplain management, rural heritage, farming, pollution prevention, and conservation/reconstruction of historic sites and structures.

Principle ENV 29

The City will collaborate with gravel mining interests to ensure that mining operations are conducted to meet community values and restore ecological function.

Policy ENV 29.1 – Gravel Mined Land Purchases

Evaluate areas along the Poudre River that have been mined for gravel for acquisition for public open lands purposes.

Principle LIV 42

Rural lands and agricultural land uses will be a valuable component of Fort Collins’ economy, culture, and heritage, and be used to create an edge to the community.

Policy LIV 42.1 – Protect Rural Lands

Work with Larimer County to protect rural lands, including agricultural and low intensity residential areas that form part of a community separator. Work with the County on the planning of new residential development adjacent to the Growth Management Area, encouraging clustered development to protect rural lands.

Policy LIV 42.2 – Encourage Agricultural Uses

Encourage sustainable agricultural uses that are compatible with watershed qualities and wildlife habitats.

Policy LIV 42.3 – Collaborate on Rural Lands Development

Develop and maintain effective partnerships with Larimer County, other governmental organizations and jurisdictions, and the private sector for the protection of rural landscapes and the continuance of regional agricultural activities.

Principle SW 2

The City will provide opportunities for residents to lead healthy and active lifestyles.

Policy SW 2.1 – Plan and Maintain Facilities

Provide opportunities for engagement, activity, and recreation through the ongoing maintenance of existing facilities and planning for new recreational and cultural facilities, bicycle lanes, sidewalks, parks, trails, and natural areas in accordance with the Parks and Recreation Policy Plan, Land Conservation and Stewardship Master Plan, and Cultural Plan.

Principle HI 1

Encourage and celebrate volunteerism and philanthropy throughout the community.

Policy HI 1.3 – Welcome and Support Volunteerism in the City Organization

Provide a range of opportunities for citizens to volunteer for and learn about the City of Fort Collins organization (e.g., Citizens Police Academy, City Works 101, Natural Areas, Parks and Recreation, and other opportunities).

APPENDIX C

“OUR LANDS – OUR FUTURE” RESULTS FOR FORT COLLINS

Introduction to “Our Lands – Our Future”

With the recognition that change will inevitably occur and that unprotected open land is a diminishing resource in the urbanizing Front Range, Larimer County and all of its municipalities joined together in 2012 to analyze the challenges, opportunities, and possible gaps in their collective land conservation, stewardship, and outdoor recreation programs and portfolios. All of the local government programs in Larimer County are motivated by a desire for coordinated, science-based planning to conserve land-based resources and meet public recreation needs and desires. The local governments assembled a county-wide Partners Team and Advisory Board consisting of individuals intended to represent the diversity of Larimer County.

The Partners Team and Advisory Board guided a precedent-setting, county-wide study and comprehensive program of public engagement to document the conservation values and outdoor recreational preferences of Larimer County residents, and develop a grassroots vision for the future of the county’s critical landscapes (Larimer County 2013). Between June 2012 and June 2013, over 4,200 citizens offered their feedback through statistically valid surveys, regional events, interactive online geographic information system (GIS) scenarios, participation of all open space advisory boards across the county, and over 45 local presentations.

Public Input Received Apart from “Our Lands – Our Future”

The Our Lands – Our Future study built upon a number of previous and ongoing outreach efforts and partnerships in an effort to continuously understand stakeholders and be responsive to public preferences regarding land conservation, stewardship, and recreation efforts. Numerous quality of life surveys, along with specific land conservation and recreation surveys, have demonstrated that Larimer County and Fort Collins citizens remain enthusiastic about land conservation and passive outdoor recreation, with high program performance ratings in all surveys – a finding that mirrors statewide trends. For example, when asked to rate a list of programs offered by the City of Fort Collins, the most favorable quality ratings in 2012 were often natural areas and open space (94% “very good” or “good”), recreational trails (93%), and parks (93%). While residents felt that less effort and funding is needed for parks and recreation, more effort is needed for environmental protection and land conservation (National Research Center 2012). A separate survey in 2013 asked County residents to list “the top three to five things Larimer County should focus on in the future.” Protection of open spaces was seen as the *single most important concern* (Gilliland 2013).

Survey Methods

Our Lands – Our Future study conducted two surveys through the survey firm RRC Associates of Boulder, Colorado: one in 2012 and a follow-up survey in 2013. The survey program was designed to probe usage characteristics of parks, trails, and other facilities; community values with respect to natural areas; satisfaction with current facilities; the importance of various natural area features; views on natural area and trail management; and communication. This feedback and subsequent analysis were designed to assist the partner agencies in future planning and policy formulation efforts.

Findings were organized around the following subject areas:

About Individuals and Their Household

- Outlines respondent demographics, such as the location of residence and years spent living in Larimer County, and size and makeup of the household.

Use of Natural Areas/Nature-Based Facilities

- Explores the frequency of visits to countywide natural areas, the location of these visits, and reasons that inhibit use of natural areas. This section also provides an in-depth look at the activities commonly participated in by respondents, children in the household, and the household overall.

Values Placed on Natural Areas

- Investigates attitudes regarding conservation/acquisition and recreation. Respondents were asked about funding allocation and preferred sources of funding.

Communication

- Presents results on current and preferred methods of receiving information about natural areas. Respondents' familiarity with natural areas and nature-based opportunities in the county is also examined.

Then and Now

- Compares similarities and differences between respondents' preferences reported in these 2012/2013 surveys and those reported in a similar survey conducted in 2001.

Suggestions and Comments (Open-Ended Responses)

- Respondents had many opportunities to express opinions, including elaborating on "other" items not listed within survey questions, voicing additional comments or suggestions regarding methods to obtain additional funding, commenting on land conservation priorities, and other considerations related to natural areas important to them. Open-ended responses totaled over 153 pages.

The methods and major findings with particular relevance to the Natural Areas Master Plan are summarized below. Fort Collins results (in red) are isolated from all other Larimer County responses (in blue), which include other cities, towns, and unincorporated areas, for questions where more than a 5% difference exists.

2012 Survey Methods

The first survey in 2012 was conducted using three methods: (1) a mail-back survey, (2) an online invitation-only survey to further stimulate response from those residents already within the defined random sample, and (3) an open link online survey for members of the public who were not part of the random sample. A total of 7,500 surveys were mailed to a random sample of Larimer County residents in August 2012, with 7,250 being delivered after subtracting

undeliverable mail. The final sample size for this statistically valid survey was 922, resulting in a response rate of 12.7% and a margin of error of approximately +/-3.4% points.¹ Results from the open link survey generated an additional 1,248 responses.² In total, 2,170 responses were received, of which 1,170 (54%) were Fort Collins residents. Throughout this document, the sample size used for the survey results is approximately 2,170 (both the open-link and invitation survey).

2013 Follow-Up Survey Methods

A follow-up web survey in early 2013 gathered additional information concerning planning and funding for open lands, land conservation, and an assessment of user experiences. Surveys were mailed to participants that provided emails and expressed a willingness to participate. In addition an “open link” version of the survey was again created and publicized at public meetings. The open-link version of the survey provided an opportunity for a broad cross section of County residents to participate in the follow-up survey. It collected 324 responses from the original sample of participants (termed the Invitation respondents) and 344 from the open link respondents. The follow-up survey results present a tool for further examining local opinions and evaluating relative preferences for various options.³ Results from the resampled respondents and open-link respondents are, for the most part, similar, which indicates that there are widely held opinions on most of the topics measured through this survey.

¹ For the total random sample size of 922 margin of error is +/-3.4% calculated for questions at 50% response. Note that the margin of error is different for every single question response on the survey depending on the resultant sample sizes, proportion of responses, and number of answer categories for each question. Comparison of differences in the data between various segments, therefore, should take into consideration these factors. As a general comment, it is sometimes more appropriate to focus attention on the general trends and patterns in the data rather than on the individual questions.

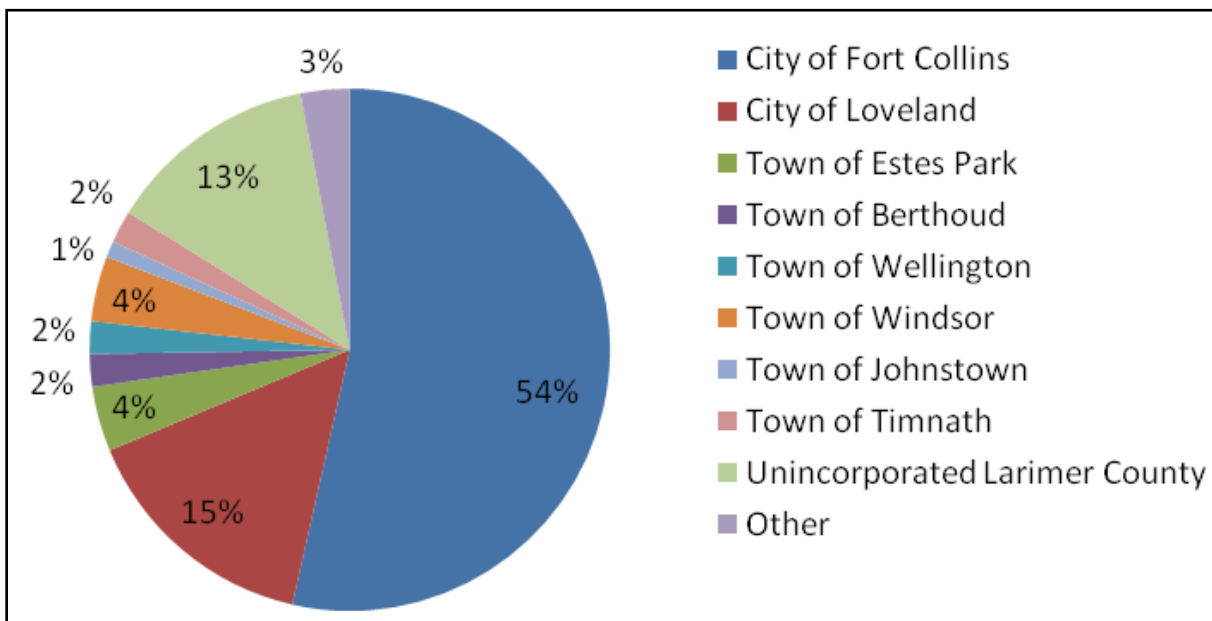
² As responses to the open-link version of the questionnaire are “self-selected” and not a part of the randomly selected sample of residents, results from the open-link questionnaire differed in some cases from the results of the other two methods. However, the results of the questions presented in this section were not significantly affected by the open-link survey responses.

³ Unlike the random sample of respondents to the 2012 survey, the follow-up survey was based on randomly sampled respondents who expressed a willingness to participate in the Our Lands – Our Future study. Therefore, the methods allowed for greater self-selection than the first survey. As a result, the responses should be used with some caution—they were not randomly obtained nor are statistically valid—but offer one more valuable means of understanding public preferences.

Survey Findings

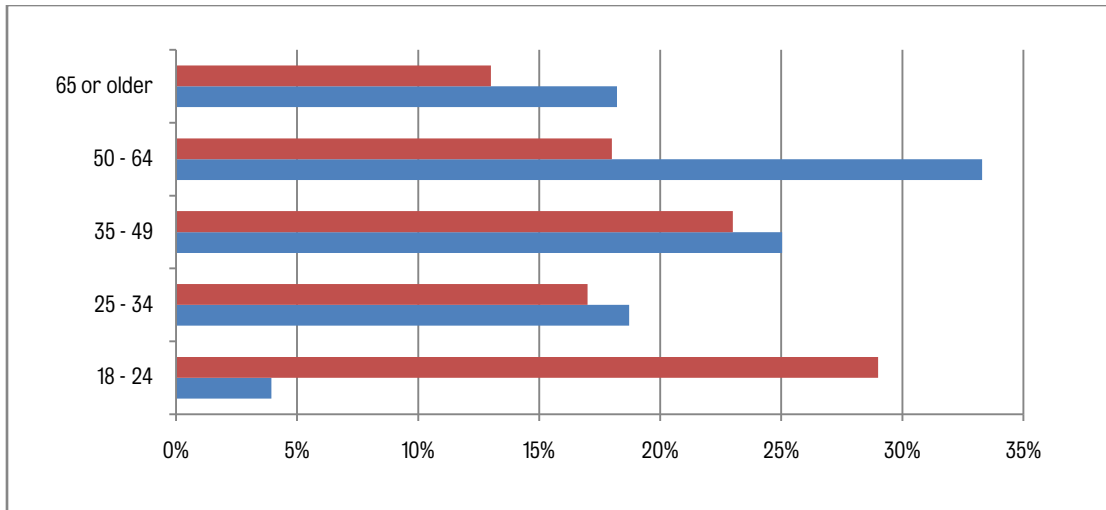
Just over half of the survey respondents resided in Fort Collins (54%), which allowed for a nearly even comparison of survey results between Fort Collins and the rest of Larimer County. While the sample size of Fort Collins residents was similar to that of the rest of the county, the demographics of Fort Collins respondents differed notably. The majority of respondents from Fort Collins were in the age groups of 35–49 or under, with the 18–24 age student group most represented. At the same time, the older age group was also overrepresented, with both City respondents above age 65 (13%) and County respondents (23%) exceeding the census profile for Fort Collins (9%) and Larimer County (13%). This generally reflects the actual demographics in the region, as the median age in Fort Collins is 29, and that of Larimer County as a whole is 35 (U.S. Census Bureau 2010).

Part of the difference in age profiles for Fort Collins compared to the rest of the county can be explained by the large presence of college students in Fort Collins. Twenty percent of Fort Collins respondents were students, compared to only 6% of the other Larimer County respondents. As such, both age and student status should be considered when reviewing the survey results.



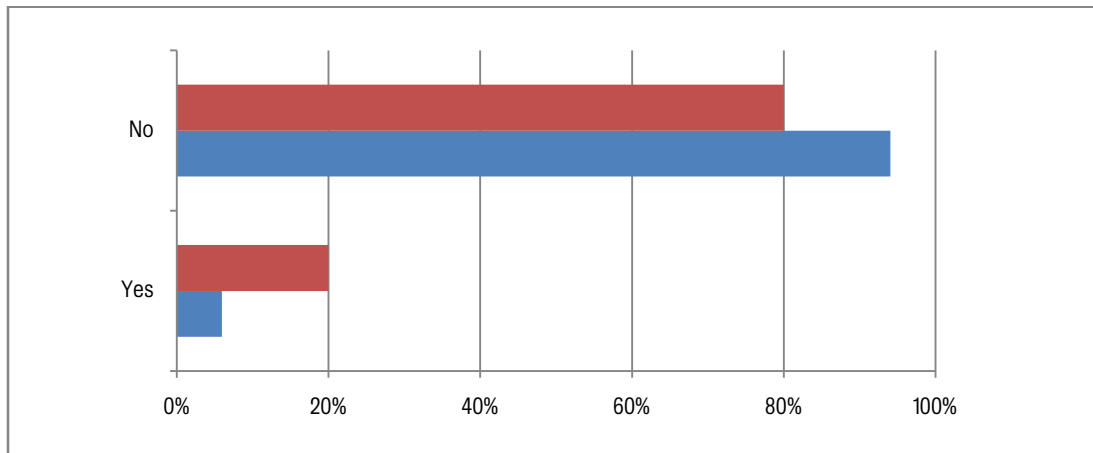
Survey Question:

Which of the following areas best describes the location of your home in the county?



Fort Collins Larimer County

Survey Question:
Age of respondent.



Fort Collins Larimer County

Survey Question:
Are you currently a student?

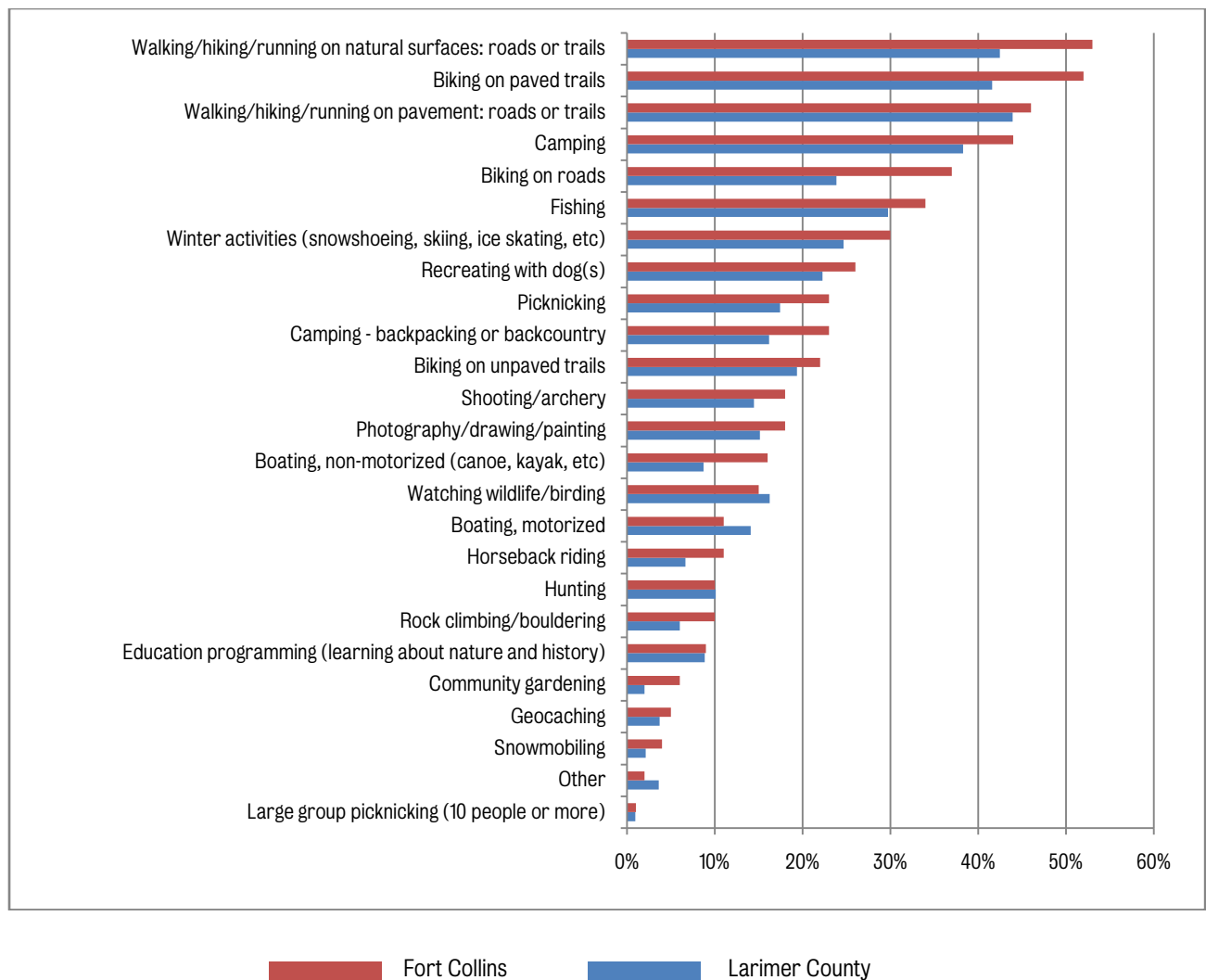
Walking, hiking, running, and biking on either pavement or natural surfaces are the most common activities engaged in by respondents, children in their household, and the household overall for both Fort Collins and the rest of Larimer County. Overall, Fort Collins residents reported greater satisfaction with nearly all activities offered than other county residents, though satisfaction with these activities is generally high for the county as a whole.

Frequent walking, hiking, running, and biking activity emerges in other parts of the survey as well. Respondents plan to increase their participation in these activities within the next year, and would like to see more land or facilities provided for walking/hiking/running on natural surfaces and pavement, and biking on paved trails. Similar to the rest of Larimer County, the top activities Fort Collins residents identified were walking/hiking/running on natural surfaces (53%) and paved surfaces (46%), as well as biking on paved trails (52%). For Fort Collins residents, these activities were closely followed by camping (44%), biking on roads (37%), and fishing (34%). The top ten activities with an anticipated increase in participation were generally similar for both Fort Collins and the rest of the county, though the order of activities varied slightly. On the whole, more Fort Collins residents plan to increase their participation in nearly all activities than other county residents, with the exception of motorized boating and wildlife watching/birding.

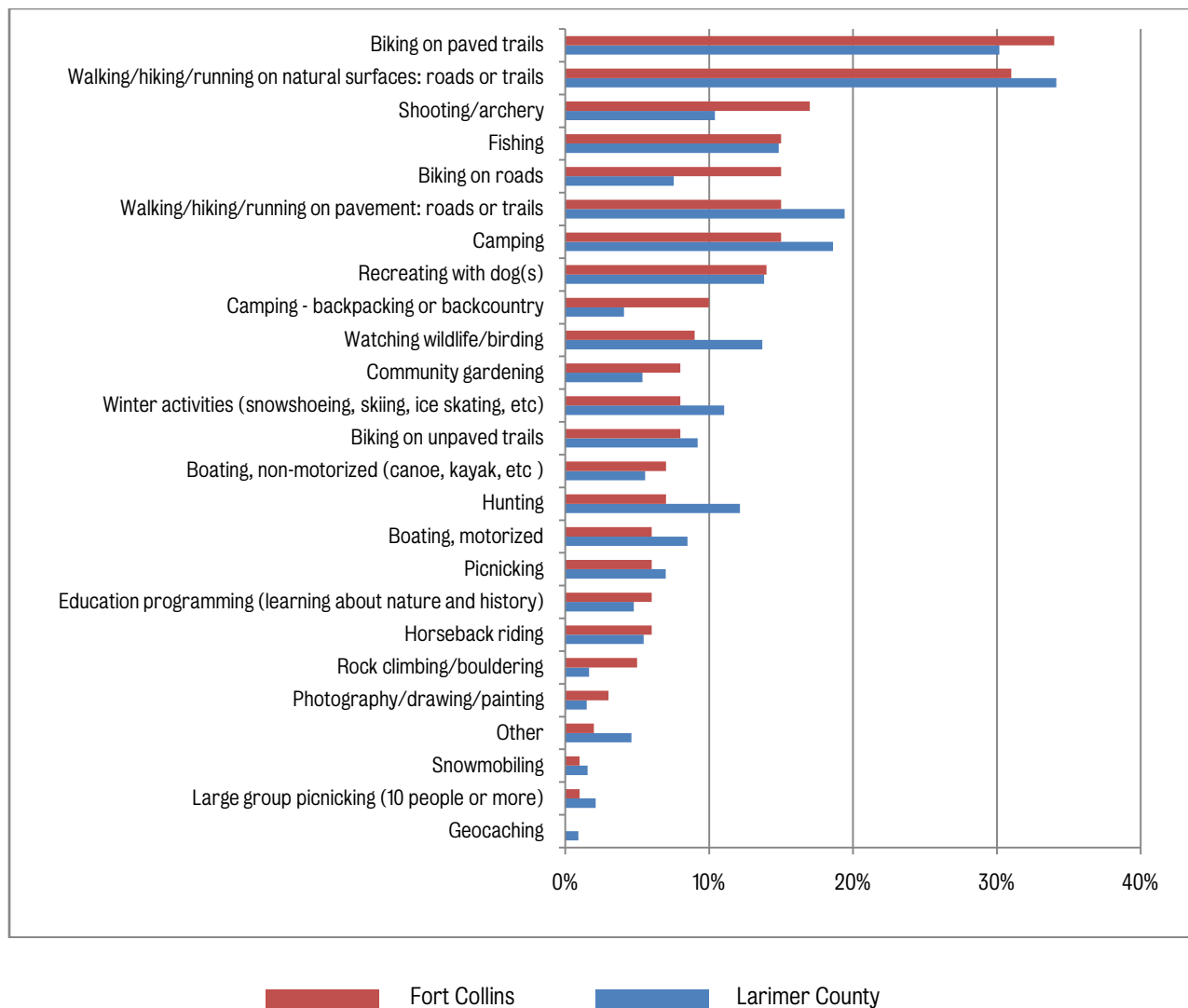
Related to increased activity participation, respondents also identified up to three activities for which they would like to see more land or facilities provided. Seven of the top ten activities differed only slightly between Fort Collins and the rest of Larimer County—walking/hiking/running on both natural and paved surfaces, biking on paved trails, camping, fishing, recreating with dogs, and watching wildlife/birding. In comparing Fort Collins to the greater region, there was greater demand from the city's residents for shooting/archery, road biking, and backpacking/backcountry camping.

From both sets of responses, there is very high demand for new trails (both natural and paved surface), additional on-street bike facilities, and moderate demand for added shooting/archery, fishing, recreating with dogs, and camping opportunities to serve Fort Collins residents, so increasing opportunities to engage in these activities may be worthwhile.

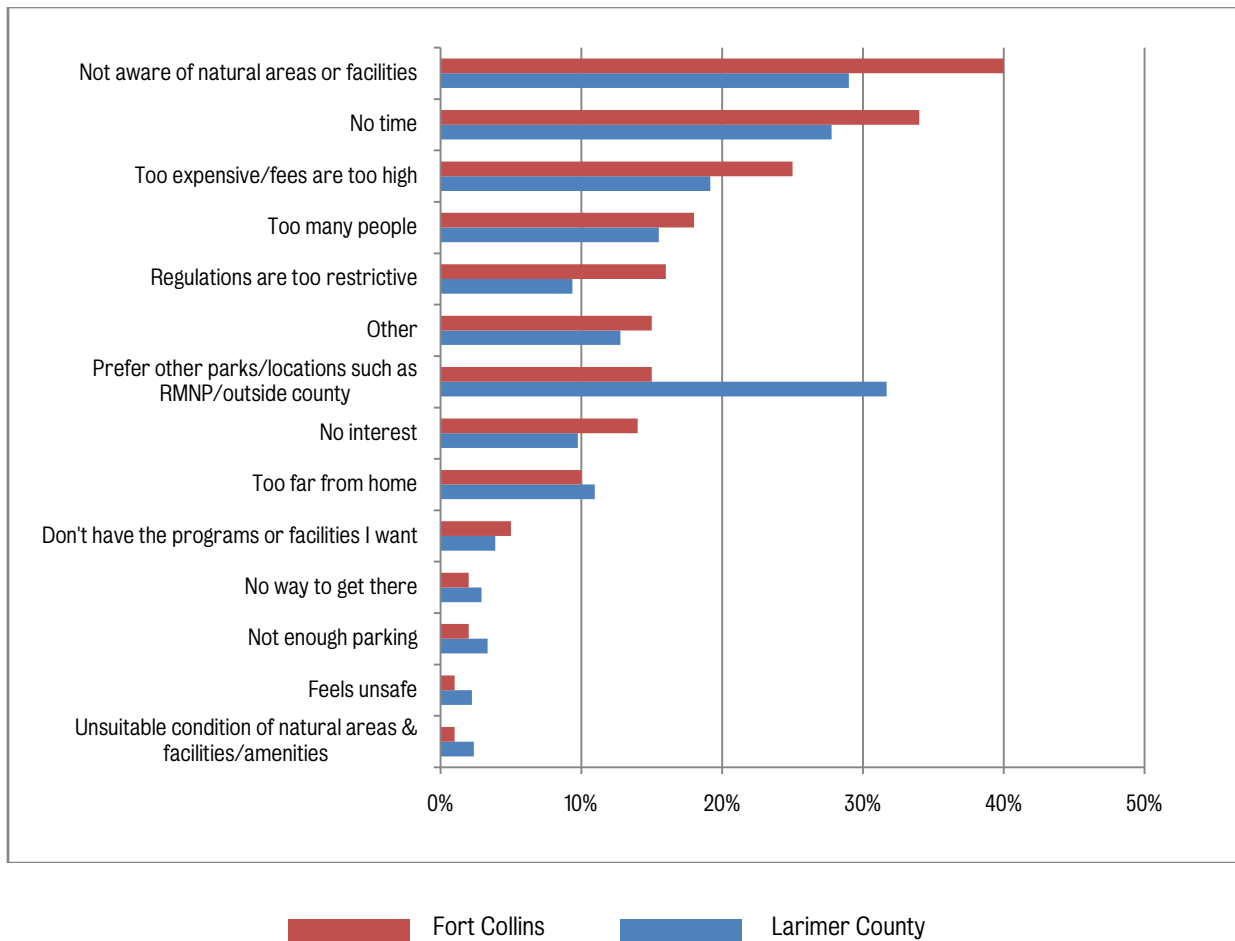
Despite high participation rates and considerable demand for an array of recreational activities, there are still barriers that prevent Fort Collins and Larimer County residents from using natural areas and nature-based facilities to the extent they would prefer. In Fort Collins, a lack of awareness and/or time is most likely to prevent someone from using natural areas or nature-based facilities. Interesting, cost was also a factor despite the fact that no user fees are charged at Fort Collins natural areas, with the exception of Gateway. In the rest of the county, the preference for federal lands or other parks outside the county is a much greater barrier. This indicates that Fort Collins resident would prefer to recreate within Larimer County and closer to home, but are more constrained by time and cost factors than other county residents. The results also suggest a need for more targeted communication efforts regarding the free, nature-based recreation opportunities available in Fort Collins.



Survey Question:
Identify which activities your household plans to increase participation in over the next 12 months.



Survey Question:
For which activities would you most like to see more land or facilities provided?

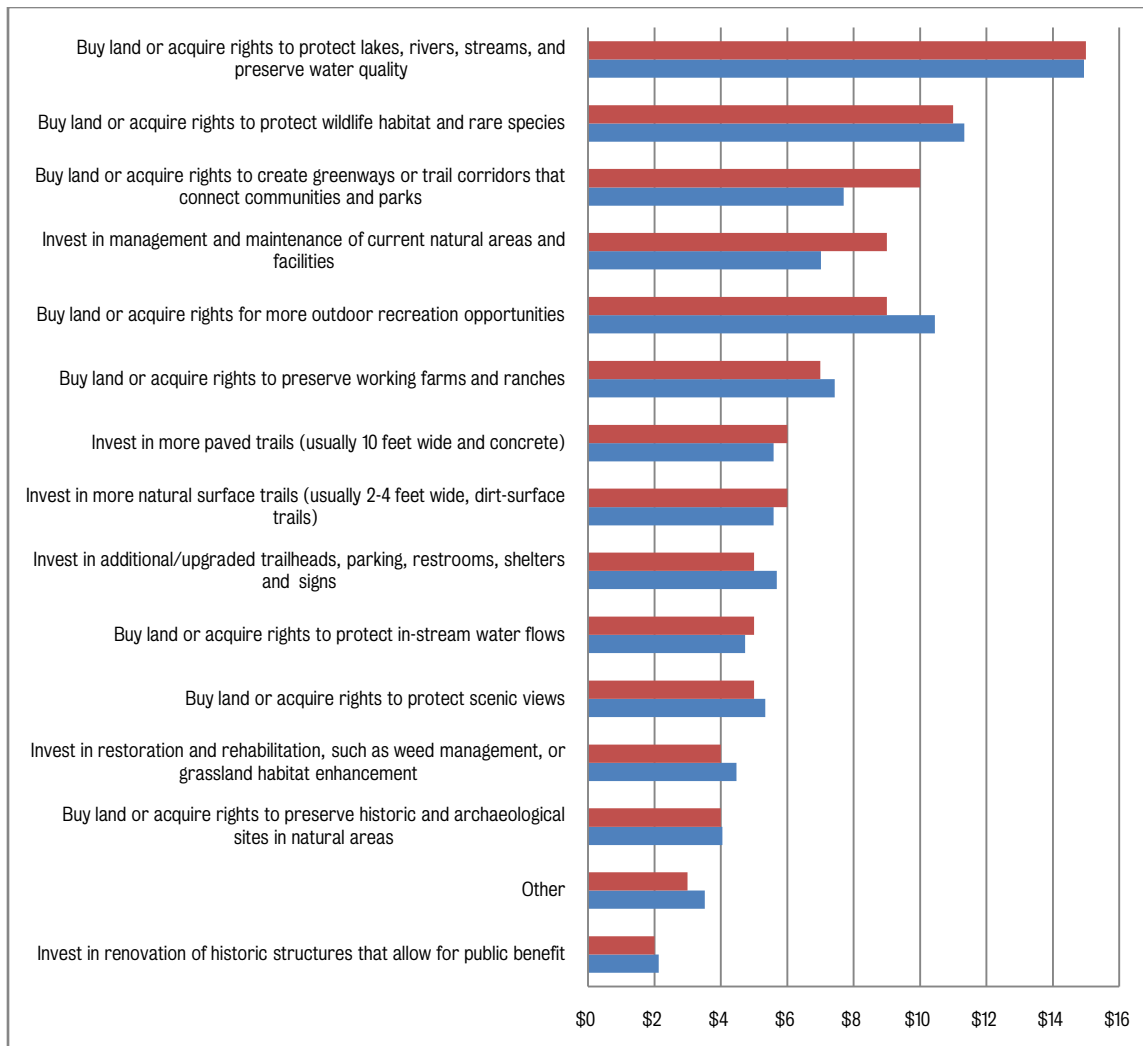


Survey Question:
If you don't use natural areas or nature-based facilities in Larimer County,
what are the reasons?

To elicit feedback on priorities for future expenditures, one survey question asked, “If you had \$100 in public funds to spend on natural areas, agricultural land, and/or construction of nature-based recreation facilities, how would you allocate those funds?” Respondents were given the option of allocating funds toward fifteen categories of “buy” and “invest” expenditures, broken into various types of new land acquisitions (“buying”) and maintenance improvements (“investing”). The responses provide an overall prioritization of investments for both Fort Collins residents and other county residents.

Most respondents demonstrated broad support for a variety of goals related to land conservation/acquisition over investing in current management or infrastructure. Respondents generally favored buying land or acquiring rights over investing in existing lands. However, all categories received some degree of financial support. Fort Collins residents would spend slightly more on management and maintenance of existing natural areas and facilities, as well as buying land or acquiring rights for greenways or trail corridor connections, than other county residents.

For each category/choice, no more than 2% of respondents opted to allocate the full \$100 to that particular choice, and a strong majority of respondents spread the \$100 over a large number of choices. This indicates significant support from respondents for allocating dollars to a broad set of purposes, and in a related question the vast majority of respondents supported the use of public funds for land conservation activities. In general, preferences for allocating public funds were similar for Fort Collins and the rest of the county.



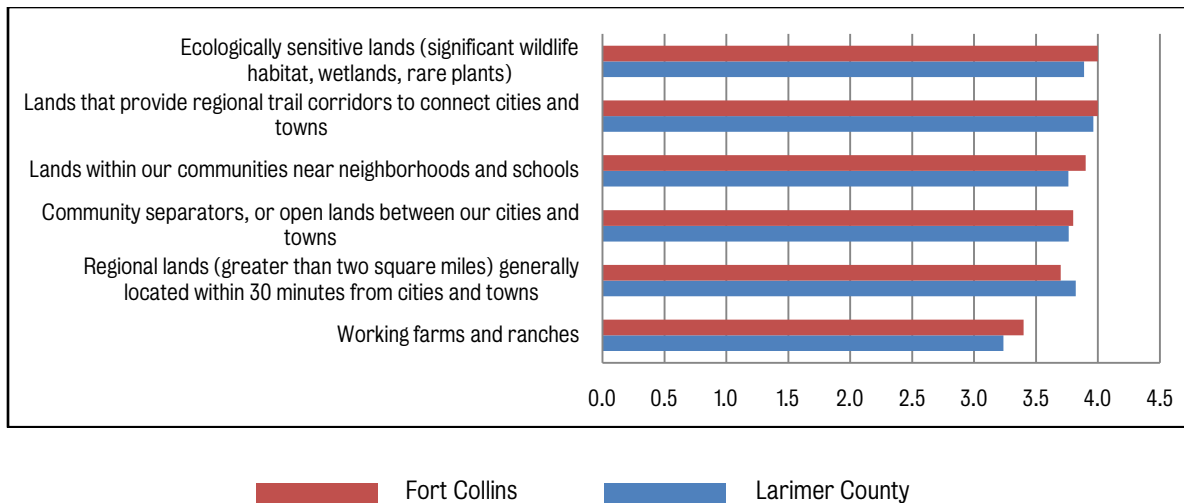
Fort Collins
 Larimer County

Survey Question:
How would you allocate \$100 in public funds?

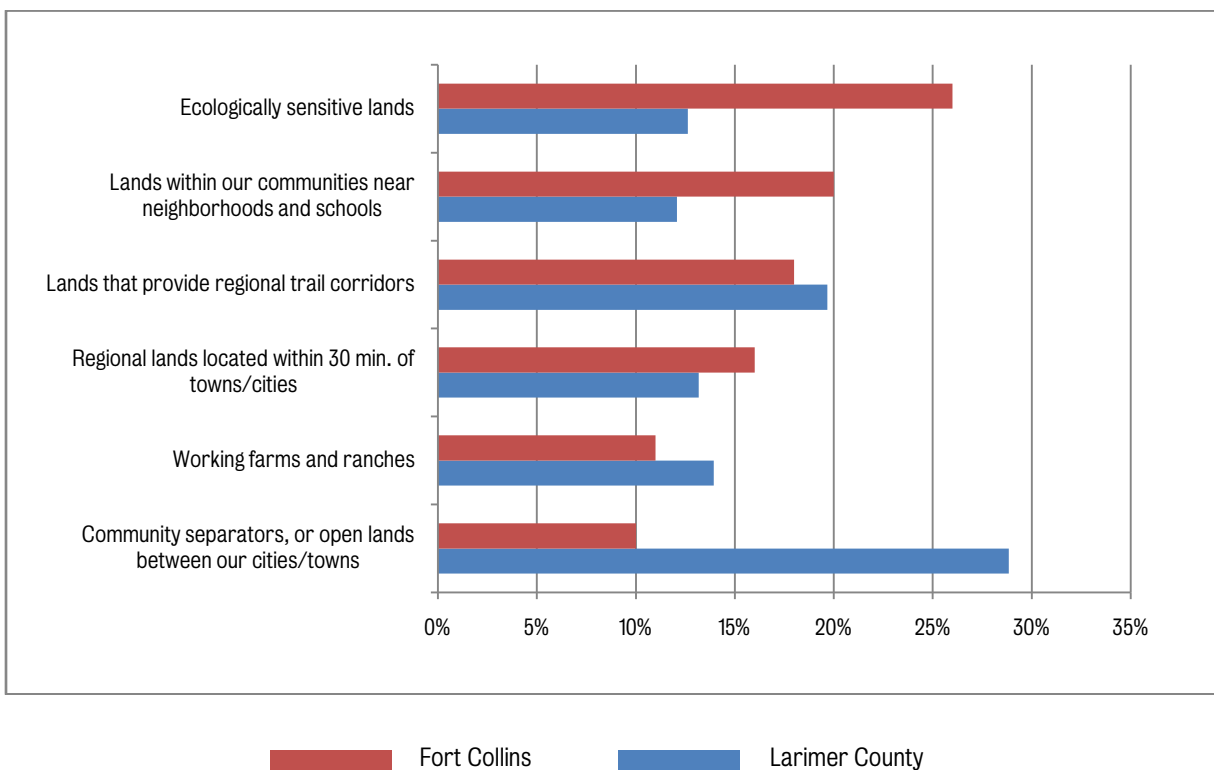
The survey measured community priorities regarding land acquisition and conservation for six different categories of lands found throughout Larimer County. Respondents answered using a 5-point scale: 1 = “Not at all important” and 5 = “Very important.” As shown in the graph, “Ecologically sensitive lands” and “Lands that provide regional trail corridors to connect to cities and towns” were rated as the most important, while working farms and ranches were rated as relatively less important. However, in all categories approximately half of respondents or more called the land preservation choice either a “4” or “5” on the 5 point scale. Also, it should be noted that the statistical margin of error is ± 3.4 percent. In other words, there are relatively slight differences placed on the top five categories of land preservation.

Respondents were asked to consider which of the same categories represented their single most important priority, in order to understand community attitudes in greater detail. Fort Collins residents ranked “ecologically sensitive lands” as the single highest priority (26%), while other Larimer County residents ranked community separators as the single most important priority (29%). Perhaps not surprisingly, Fort Collins residents considered “lands within our communities near neighborhoods and schools” more important, while others in the county considered regional trail corridors a higher priority.

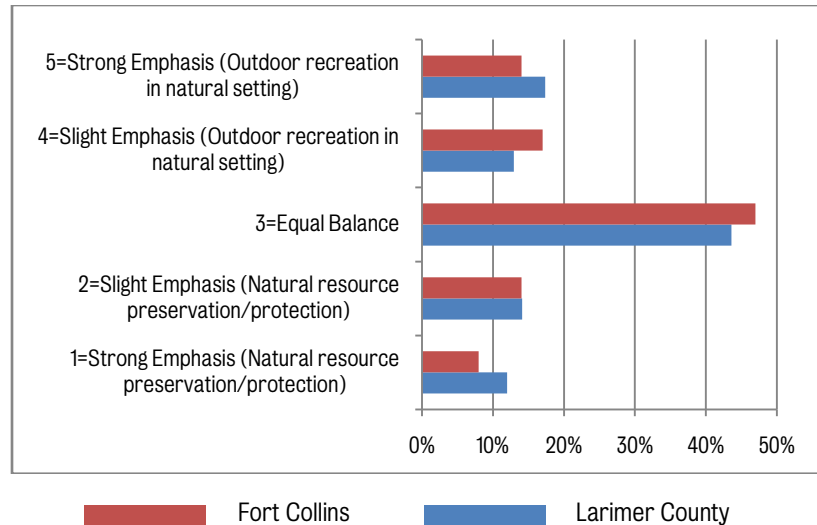
While Fort Collins residents have a strong preference for the protection of ecologically sensitive lands, respondents valued both outdoor recreation and natural resource preservation. In response to a question that asked respondents to place themselves on a scale where “strong emphasis on resource conservation and protection” was at one end, and “strong emphasis on outdoor recreation” was at the other end, more than 40% of respondents from both Fort Collins and the rest of Larimer County favored an equal balance. However, in both cases the responses did not fit a perfect bell curve from one extreme to another, but rather indicated a greater emphasis on outdoor recreation, overall. This is an interesting finding when compared to the results of the previous question, and could reflect a desire for both protection of ecologically sensitive areas and recreational access to those areas.



Survey Question:
How important should each of the following be in prioritizing land acquisition or conservation throughout the county?

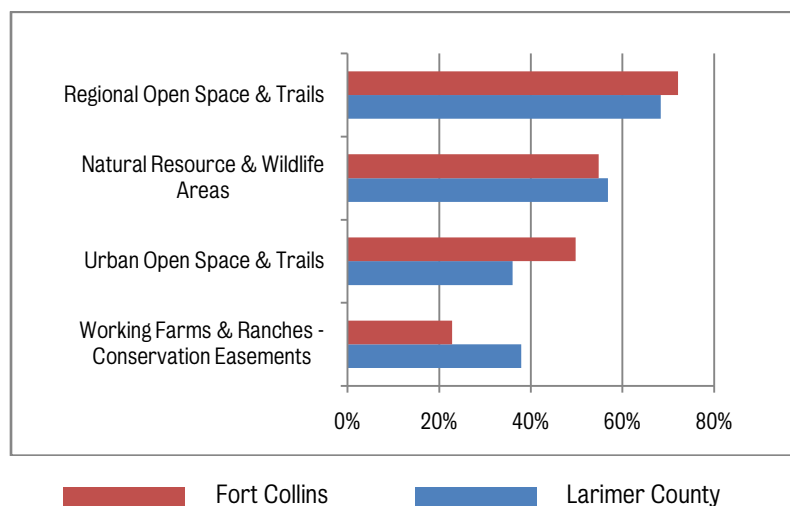


Survey Question:
Which do you consider to be the single most important priority to acquire/conserve?



Survey Question:
Please indicate what emphasis you would like to see
Larimer County and our cities and towns pursue.

In the 2013 follow-up survey, respondents were asked to rank the importance of conserving four types of natural areas and open space. Respondents ranked regional open space and trails as the most important, followed by natural resource and wildlife areas. However, Fort Collins respondents indicated greater support for the conservation of urban open space and trails and less support for conservation easements on working farms and ranches than did other county respondents. These results do not suggest that there is weak support for the lower-rated categories. Rather, the ratings are relative to one another and show that on average certain categories rank higher than others.



Survey Question:
Two most important conserved land types.

In conclusion, the Our Lands – Our Future study and the subsequent 2014 Natural Areas Master Plan are greatly informed by public and stakeholder input. The above survey results are one important perspective on community values, satisfaction levels, needs, and priorities for the Master Plan, and will be combined with feedback from public meetings and other outreach methods. It is clear that protection and proper management of natural areas is strongly supported and one of the most important concern facing Fort Collins’ future as a world-class community.

Appendix C References

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