

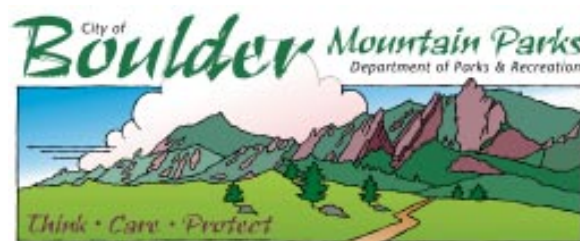
# Charting the Vision

*Integration and Balance in the  
Boulder Mountain Parks*



## Boulder Mountain Parks

Resource Protection and Visitor Use Plan



Adopted by the  
Parks and Recreation Advisory Board  
10/25/99

# *Acknowledgements*

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This management plan would not have been possible without the foresight and dedication of the citizens of Boulder, who have worked to preserve this remarkable landscape for over one hundred years. On behalf of all of the species who survive and live here, and on behalf of all the humans who love this place, we thank you. We particularly appreciate the citizens who gave their time and knowledge to this effort through their involvement in the surveys, open houses, and park management forums.

We also acknowledge the tremendous commitment and professionalism of the Mountain Parks staff, both past and present, who have built programs to protect the unique values of this place for future generations. We honor our place in the Department of Parks and Recreation, without whose constant support the Mountain Parks could not have flourished. All of the current staff and many former staff have contributed to the development of this plan.

Chris Dropinski, Director of Parks and Recreation

Ann Wichmann, Manager of Mountain Parks

Joe Mantione, Resource Planning and Environmental Education Outreach Coordinator

Jeanne Scholl, Resource Protection and Visitor Services Coordinator

Dick Lyman, Resource Operations and Maintenance Coordinator

Resource Planning and Environmental Education Outreach Staff Members:

Ann Armstrong, Eric Butler, Lisa Dierauf, Michelle Ehret, Dave Sutherland

Resource Protection and Visitor Services Staff Members:

Steve Armstead, Matt Claussen, Rick Hatfield, Maria Mayer, Burton Stoner, Lynne Sullivan

Resource Operations and Maintenance Staff Members:

Clay Kark-French, Colin Morrison, Brad Skowronski, Steve Taylor

Administrative Staff:

Bob Dellapina, Jack Hamill

We thank the consultants and friends of the park who over the years have contributed their best thoughts at the right moment to enrich our philosophies and our directions.

Carol Adams, Dave Armstrong, Tim Hogan, Steve Jones, and Marty Zeller have made significant, ongoing contributions; many other friends of the park, past employees, Parks and Recreation Advisory Board Members, and researchers have endowed the park with their knowledge and care. We hope this document reflects all of their cumulative wisdom.

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## *EXECUTIVE SUMMARY*

The Boulder Mountain Parks Resource Protection and Visitor Use plan is very timely. Continued growth pressures along the Front Range mandate a strong—and implementable—vision for protecting and enhancing the Mountain Parks lands and people’s experience of them.

The opportunity today is to create a management plan that will allow natural resource lands to survive and thrive as the metropolitan area develops further. It will also enhance the user’s experience of the Mountain Parks and increase the opportunities and effectiveness of environmental education. This plan integrates environmental education, recreation, habitat conservation, and resource protection.

The public has had a lot to say about how the plan was developed. Public input will continue, because the adaptive management approach inherent in this plan requires ongoing dialogue with the community in order to succeed.

### **Vision**

This vision statement responds to the mission for Mountain Parks and the objectives identified in the public meetings: to manage lands to maintain natural values and accommodate compatible visitor usage while engaging the community in stewardship of natural resources.

The Boulder Mountain Parks is a special, defining natural resource where mountain meets plain, forming the spectacular backdrop for the City of Boulder. The Mountain Parks is maintained and enhanced as a community resource both for nature and for people through actions taken to protect and ensure that natural values and functions are sustained. Through careful balance and integration of activities, this special place is enjoyed by citizens for a variety of compatible recreational and educational pursuits. Boulder Mountain Parks will continue to be a source of inspiration, natural wonder, renewal, and educational benefit for the community. Increasingly, by engaging people in caring for these natural assets, managing the park will become a shared community responsibility and opportunity.



*Boulder Mountain Parks is the backdrop to the City of Boulder.*

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***“People do not support nature in the abstract. They support what they know and love.”***

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—Public comment from an Open House

## **Mission Statement**

**The mission of the Mountain Parks Division is to ensure the long-term protection of the parks' natural resources and functions while providing appropriate visitor access for education, enjoyment, and low-impact recreational opportunities consistent with resource protection goals.**

The Mountain Parks' mission statement guides both day-to-day and long-term decisions. The mission has a dual focus: first and foremost, to protect the parks' natural and cultural resources, while also accommodating recreational use that is compatible with long-term resource protection.

## **Guiding Principles**

The guiding principles expand upon the mission by establishing key management directions. These principles help guide both short- and long-term management decisions, balancing competing goals and defining strategies.

1. In a world that is increasingly human-dominated, at Boulder Mountain Parks we attempt to balance and integrate the activities of nature and people.
2. We seek to maintain Boulder Mountain Parks as a place of inspiration, natural wonders, spiritual renewal, and educational benefit for the community.
3. Where there are real or potential conflicts between nature and human use in the Boulder Mountain Parks, preference will be given to sustaining nature - both for its intrinsic values and its value as a component of human experience.
4. Managing the Mountain Parks is a shared responsibility. We seek to inform and engage the community in the challenges of setting policy and managing the park.

## **Purpose of the Plan**

According to the most recent estimates, over 1.7 million people visit the Boulder Mountain Parks core area annually. Due to the Mountain Parks' relatively small size, this impact is concentrated and translates to an average of 285 visitors per acre, one of the highest demands placed on a natural area anywhere in the country. In comparison, Rocky Mountain National Park receives approximately 12 visitors per acre, while Yellowstone National Park receives 1.5 per acre.

The exponential population growth of the Boulder Valley in recent years and the pattern of concentrated visitor use are resulting in significant pressures on the Mountain Parks' natural, scenic, and cultural resources. In addition, fragmented land ownership patterns within and surrounding the park have prevented the adoption of adequate management techniques to protect and enhance the area's vital resources.

Cumulatively, these factors foster a growing public awareness of the need to strike a balance between recreational use and resource protection. If a management plan is not adopted, the very health of the ecosystem itself will be at stake. As one Boulder resident put it, “You cannot love what is gone.”

Although it is generally recognized that the Boulder Mountain Parks system is well managed to meet natural and recreational objectives, the decisions managers have made have been based on internal knowledge, intuition, and input from some constituencies. Park management has been very effective at dealing with single-issue decisions, such as mountain biking, dogs, and climbing bolts. However, there has not been an adopted document backed by community support to guide Mountain Parks’ land management decisions. This plan is designed to fill that void by establishing a vision, a set of management strategies, and a set of action projects to meet the plan’s objectives.



*Mountain Parks staff provide extensive environmental education opportunities.*

### **Summary of Public Involvement**

Throughout the past three years, Boulder Mountain Parks staff has conducted public meetings, outreach campaigns, and open house and management forums to solicit public opinion regarding issues, concerns, and needs related to the management of the Boulder Mountain Parks. Beginning in 1996, a stakeholder survey, a visitor impact assessment, and an outreach campaign were initiated to educate citizens about the activities of the park system. The entire staff worked to create information summaries detailing the current status of the Boulder Mountain Parks (see Appendix).

Throughout 1998, public forums (including open houses and management forums) invited commentary on policy questions, budgetary issues, and visitor impact use. Common themes and key findings surfaced from these meetings. Consensus was reached on a number of items, including:

- The need to balance recreational uses and resource protection in order to better integrate natural resources and human communities.
- The need to provide for science-based management of the park to preserve its natural ecosystems and maintain its ecological integrity.
- The need for and importance of education.
- The need to maintain and preserve the quality of visitor experience.



### Public Attitudes and Perceptions: What Do Citizens Say?

Over the past three years, Mountain Parks staff has conducted outreach campaigns, solicited public comment, and held both Open House and park-management Forums. The goals have been to gauge public perception, solicit input on park management issues, and understand the public's vision for the Boulder Mountain Parks into the 21st century. In these gatherings, the citizens of Boulder articulated the following needs and goals:

- ◆ **Balance:** A desire to maintain a balance between recreational use and resource protection.
- ◆ **Integration:** The need to integrate human and natural communities.
- ◆ **Preservation:** A desire to preserve the unique, rare quality of the Mountain Parks and the diverse natural communities found therein.
- ◆ **Education:** The need to educate the public in order to help preserve natural ecosystems, to minimize impacts on park resources, and to provide a background for future stewardship.

### Summary Recommendations

Chapter 2 of this document describes a set of goals and management strategies that are the heart of the recommendations of the management plan. These core goals include the following objectives:

1. Promote long-term sustainability of resources.
2. Utilize an adaptive natural resource management program.
3. Work with neighbors to maintain natural functions.
4. Utilize a system of management areas.
5. Manage recreation to protect natural resources and enhance visitor experience.
6. Improve interpretive, educational and research opportunities and engage the community in a cooperative stewardship program.
7. Improve the safety of Boulder Mountain Parks.
8. Improve core park management and maintenance.
9. Enhance park funding and staffing.





## *Chapter 1: THE PLANNING CONTEXT*

### **Geographical Setting**

**Topography.** The Boulder Mountain Parks core area comprises an area of about 6,000 acres of land, most of which is located just west of the Boulder city limits, between Sunshine Canyon and Eldorado Canyon (see Map 1). Uniquely situated at the boundary between two great physiographic provinces—the Colorado Piedmont subprovince of the Great Plains and the Colorado Front Range of the Southern Rocky Mountains—the Mountain Parks reflects a diverse topography that ranges from rugged, steep slopes in the canyons to gentle hills and flat table lands. Elevations generally increase from east to west within the core area of the Mountain Parks, ranging from 5,400 to 8,549 feet. Seeps and springs are scattered across the area as well.

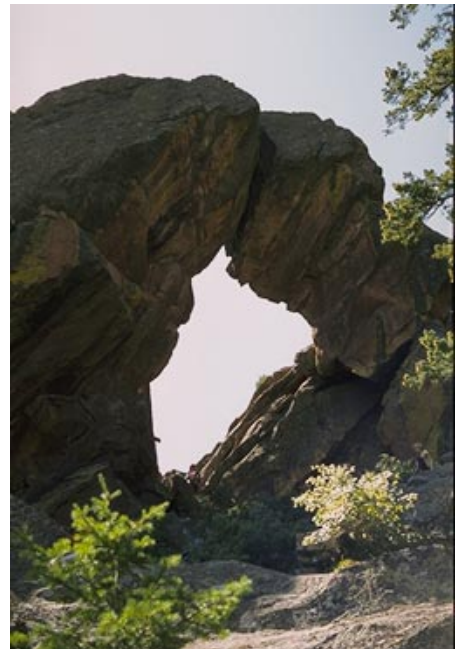
**Geology.** The underlying geological bedrock trends generally north–south, consisting primarily of folded and faulted sedimentary rock layers that lie against the older igneous rock found in the western portions of the park. Initially laid down in flat to slightly dipping layers, the sedimentary rocks reflect a variety of depositional environments, including oceans, deserts, and streams. These layers were sharply tilted during the initial uplift of the most recent Rocky Mountains, approximately 65 million years ago. The most conspicuous geologic features in the Mountain Parks are the “Flatirons,” spectacular sedimentary rock layers that lean snugly against the sides of Green Mountain, Bear Peak, and South Boulder Peak, whose summits rise approximately 3,000 vertical feet above the plains. The foothills area at the base of the mountain front is characterized by numerous broad, gently sloping interstream surfaces that stand at step-like levels above modern stream valleys. As streams carried eroded material to the plains following the last Ice Age, surfaces were planed to create the flattened mesa tops that flank the foothills. The most recent pulse of mountain-building occurred nearly eight million years ago, uplifting the area to its present lofty heights. Erosion has since carved and shaped the area to its present topography.

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***“Nature has been for me, for as long as I remember, a source of solace, inspiration, adventure, and delight; a home, a teacher, a companion.”***

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**—Lorraine Anderson**



*Royal Arch, one of the geologic wonders of the park.*

**Hydrology.** The Boulder Mountain Parks area is drained by northeast-trending tributaries of Boulder Creek, which originate in the mountains west of Boulder and



*Bear Canyon Creek flows through the deeply incised Bear Canyon.*

bisect the Mountain Parks as it flows in an easterly direction towards the South Platte River. Besides Boulder Creek, other Boulder Creek tributary streams and drainages that flow from west to east through the Mountain Parks include Lost Gulch, Long Canyon, Bluebell Canyon Creek, Gregory Creek, Bear Canyon Creek, Skunk Creek, Fern Canyon Creek, Shadow Canyon Creek and South Boulder Creek. Many of the Mountain Parks wetland areas occur within these and other smaller

drainages, as well as along topographic breaks and toe slopes where springs discharge groundwater. Streams have cut steep canyons through the eastern slopes of the higher peaks, while the topography is less severe on the western slopes. In the Boulder Mountain Parks area between Boulder and South Boulder Creeks, debris flows occur in every one of the small, steep, ephemeral, foothill stream drainages, indicating occasional large stream flow in the past.

**Climate.** The complex climate of the Boulder area is broadly classified as semi-arid and continental, characterized by strong sunlight, low humidity, relatively low annual precipitation (about 20 inches per year), large daily temperature ranges, warm summers, and cold winters. Because Boulder is located at the easternmost edge of an arc formed by the Front Range as it opens towards the plains, upslope storms are funneled into the Boulder area. Spring is the wettest season; fall the driest. Summer generally has sunny days, with afternoon cloud buildup that may produce intense, but brief, thunderstorms. Average annual snowfall is 79 inches, and March is usually the snowiest month. Between October and May, snow will occasionally dust the summits of the highest peaks of the Mountain Parks while the city of Boulder remains snow-free. Temperatures are typically hottest in July (average temperature of 72.9°F) and coldest in January (average temperature of 32.1°F),<sup>1</sup> and prolonged extreme temperatures are rare. Warm, dry Chinook winds occasionally roar through the Mountain Parks, with some gusts exceeding 100 m.p.h.. At the other extreme, a cloud veil occasionally forms on Green Mountain and Bear Peak, creating locally humid conditions.

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<sup>1</sup> From NRCS, "Climate Data for Boulder, Colorado, 1996."

**Soils.** Soil development, which involves a complex interplay of weathering and biological processes, is affected by a variety of factors, including climate, biological activity, time, relief, and parent material. The characteristics of the soils in the Mountain Parks vary from place to place, depending upon the nature and intensity of the factors that controlled their development. In the foothills, slope aspect is often the controlling factor in the kind of vegetation that can grow, and this in turn affects the type of soil that develops.



Soil classifications in the Mountain Parks range from bedrock and rock outcrop areas that are virtually devoid of developed soils to gravelly, sandy, and stony loams to colluvial land. Many soils receive medium to excessive runoff from adjacent slopes, with moderate to high erosion hazards. The youngest soils tend to be found in the flood plains, low terraces, and recent alluvial fans. The oldest soils are in areas where the soil has weathered in place from the underlying bedrock.

*A winter wonderland*

### **Natural Ecosystems**

The physical setting and various landscape features form the basis for the richly diverse natural and cultural resources that make the Boulder Mountain Parks a set of unique and special places. These features determine the types and arrangement of vegetation (see Map 2), which in turn affect the species and locations of wildlife. They are also critically linked to how the land has been used by people, and how it may be used in the future.

Each type of ecosystem present in the Mountain Parks hosts its own cadre of plants, and has associated wildlife species that depend on it for food, shelter and nesting opportunities. At the most general level, the major types of natural ecosystems in the Mountain Parks landscape include:

**Forest Ecosystems.** Most of Mountain Parks is covered with forest ecosystems, representing 80% of the landscape. Most forest tree stands are ponderosa pine, Douglas-fir, or a mixture of the two. Drought-resistant ponderosa pine trees dominate on sunny, dry, south-facing slopes. Shade-tolerant Douglas-fir trees prevail on cooler, moister north-facing slopes. Where slope and aspect conditions are variable,

a mixture of two types is often present. Over fifty species of mammals and over seventy species of breeding birds have been documented in these forests, where seeds, fruits, berries, and insects are particularly varied and abundant.<sup>2</sup>

***Grassland Ecosystems.*** Plains and mountain grassland ecosystems cover a small but important portion of Mountain Parks (9%). Plains grasslands such as Chautauqua Meadow are located at the edge of the plains up against the east side of Boulder's mountain backdrop. At the lowest elevations of Mountain Parks, these grasslands have especially high biological diversity, given the transition from plains to mountains and the overlap of associated wildlife species. Mountain grasslands occur in two different environments. Perennial mountain grasslands occur on sites that are too warm and dry to support trees due to dry solar aspect, prevailing windy conditions, or soil types that cannot support trees. Seral mountain grasslands result from natural disturbances like fire and windfall that create openings in the forest. They are seral because they support grasses until trees or shrubs can replace them through the process of succession.

***Shrubland Ecosystems.*** Shrubland ecosystems cover about 1% of Mountain Parks but provide important specialized habitat. Shrubs occur within a range of moisture and soil conditions that exist between those conditions favored by trees and grasses--drier than trees but wetter than grasses, more fine-grained soil texture than trees, but coarser than grasses.

***Riparian / Wetland Ecosystems.*** Riparian and wetland ecosystems combined cover only a very small portion of Mountain Parks (2%). Because they are located on relatively wet sites, these ecosystems provide an extremely rich habitat for many of the plant and animal species in the park, many of which are specialized to these ecosystems. Riparian ecosystems are located along the many perennial and temporal streams in Mountain Parks on narrow bands that are much wetter than adjacent forests or grasslands. They provide important habitat and also function as travel corridors for many wildlife species. Riparian areas are drier than wetlands and can support deciduous trees and shrubs. Wetland ecosystems occupy sites where soils are saturated with water most of the time. They support a rich variety of grasses, sedges, and other herbaceous plants. In Colorado, 95% of the wildlife species utilize riparian / wetland ecosystems to meet critical habitat needs over their life history. Consequently the health of these ecosystems in Mountain Parks is extremely important.

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<sup>2</sup> Cushman, Ruth Carol, Jones, Steven R. and Knopf, Jim, 1993. *Boulder County Nature Almanac: What to See Where and When*. Boulder, Colorado. Pruett Publishing Company.



## **Establishment of the Boulder Mountain Parks**

The Boulder Mountain Parks system is the oldest natural resource protection area in Boulder County and one of the earliest such systems in the western United States. Initially acquired in 1898 by the citizens of Boulder for “the protection of the trees,” the land acquisition at Chautauqua Park was quickly followed by additional purchases from the federal government in the Flagstaff, Green Mountain, and Bear Peak areas. Donations of land from citizens to bolster the growing park also contributed valuable resources and habitat. The middle 1960s brought increased threats of development, and the citizens again moved to protect their beloved vistas, voting to tax themselves to purchase land in the Enchanted Mesa area. Concerned citizens, working together with city staff, began to envision a greenbelt surrounding the growing city, and a dedicated open space tax to fund city acquisitions was approved by voters in 1967.<sup>3</sup> As land was purchased with the dedicated tax revenues, the Department of Parks and Recreation managed the newly acquired lands with fiscal oversight from the Real Estate Department. Various management plans were created and old refuse was removed, grazing regimes were established, and the protection and restoration of the natural values of the land were begun.<sup>4</sup> In 1983, the City of Boulder Open Space Department took over the management of lands purchased with the dedicated open space tax revenues, and Parks and Recreation continued to manage the historic Mountain Parks system.

Citizen groups have always had a very active role in caring for the scenic backdrop that forms the core of the Mountain Parks. Trails, shelters, and roads were constructed in the system throughout the 1900s. In the 1960s, the Parks and Recreation Department of the City of Boulder began to actively manage the approximately 6,000-acre natural area as part of its mission. A seasonal work force developed into a formal park ranger program in 1971, with the hiring of Dick Lyman. Additional Mountain Parks staff was added in the 1970s, working under the direction of the Parks Superintendent, Ron Donahue.



*Dick Lyman was the first full-time Mountain Parks Ranger.*

<sup>3</sup> Please see “History of Boulder Parks and Recreation,” published in 1989.

<sup>4</sup> Please see “Management History of the Mountain Parks” in Appendix.

Mountain Parks staff continued to grow in size and experience as visitor use increased. A series of studies began to highlight the rich resources contained in the varied topography of the Mountain Parks, and a conscious effort to educate visitors and protect these unique attributes led to an increased management effort. Successful ballot issues in 1992 and 1995 increased funding for the Mountain Parks, and a 1993 reorganization created a Division of Mountain Parks within the Department of Parks and Recreation.<sup>5</sup>

Today, the Mountain Parks forms the western backbone of an approximately 38,000-acre system of natural lands managed by the City of Boulder. The City of Boulder Open Space Department manages about 30,000 acres, most of it natural grasslands and agricultural lands. Mountain Parks manages the core mountain parks area (approximately 6,000 acres) and numerous smaller satellite natural area properties (about 2,500 acres), including outlying mountain properties and several plains properties.

### **Management Approach**

The management approach of the Boulder Mountain Parks has always been to enlist the citizens in the mission by engaging them in conversation. Through education in all its myriad forms, sound resource knowledge, and careful facility development, the

Mountain Parks staff strives to work with the citizenry to meet the mission. Park staff believes very strongly that its success is dependent on the goodwill and assistance of the visitors. The staff also believes that visitors are fully capable of adapting to changing conditions in the Mountain Parks and are willing to learn new ways of interacting with and caring for this resource.

The following ideas have guided the management of the Mountain Parks over time:

### **The Mountain Parks Mission Statement guides**

**both day-to-day and long-term decisions.** The mission has a dual focus: first and foremost, to protect the park's natural and cultural resources, while also accommodating recreational use that is compatible with long-term resource protection.



*A resident of the park.*

<sup>5</sup> Please see Mountain Parks Division Organizational Chart in Appendix.



**Park management seeks to nurture excellence and innovation in achieving its mission**, both on the part of the organization as a whole and among individual staff, volunteers, and friends of the park. Park management seeks to be proactive in dealing with problems and opportunities.

**Park management places a high priority on providing core services**, including public safety, facility maintenance, essential visitor services, resource protection, and environmental education. Management activities support the day-to-day, high-quality provision of other essential services as well, including public outreach, resource planning, research and evaluation, volunteer management, and training.

**Park management decisions seek to balance competing community needs and desires and to provide fairness in allocating opportunities for recreational use among competing uses.** Park management is based on an inclusive and open decision-making process.

**Resource management and park maintenance are aimed at preventing problems, solving problems efficiently, and respecting natural and facility life cycles.**

**Park management will seek out and use the best resource management and visitor-use management concepts and ideas available.** Park management aims to learn from experience and research and to adapt management practices accordingly.

**Mountain Parks constitutes a mature natural area system.** We do not expect to offer many new trails or facilities; we do expect to enhance and refurbish existing resources and facilities.

**Park management seeks to protect and restore natural conditions and processes that are vital to the health of Mountain Parks as a natural area.** Park management will articulate and consider the needs of the entire land community—the land itself, the plants and animals that inhabit the land, and the people who seek its natural qualities for low-impact recreation.



*Columbine, the state flower, is found in the park.*

**Park management seeks to build community partnerships and to foster stewardship of the parks among those who use them.** Environmental education is the most important management tool for resource protection, as it fosters love and appreciation of Mountain Parks and facilitates low-impact recreational use techniques.

**Management seeks to channel and influence recreational use and to protect the quality of recreational opportunities, not to promote growth in use.**

**Management of visitor use emphasizes using the least-restrictive means possible, as long as resource health is protected.** Education that encourages the public to develop personal responsibility and the capacity for change and engages the public in the mission of the park will be emphasized in managing visitor use.

**A key goal of management is to promote the long-term sustainability of natural and cultural resources, recreational experiences, and facilities.** Long-term sustainability requires that the impacts of use do not degrade the integrity and diversity of natural and cultural resources, detract from the quality of recreational experience, or overwhelm the capacity of facilities to provide acceptable levels of service.

**A key foundation concept for park management is ecosystem management,** which provides an approach to sustaining indefinitely desired landscape conditions, natural system functions, the diversity of native species, and the quality of recreational experience.

**Park management pursues a “good neighbor” policy,** which seeks to prevent or mitigate adverse visitor-use impacts or adverse results of management policy affecting neighborhoods surrounding the park.

**Operation of the park requires ongoing efforts to coordinate the planning and resource management activities** of the many private and public landowners in proximity to Mountain Parks.

**Park management is open to changing conditions and to new information and can acknowledge that it has and will make errors in management.** We intend to learn from mistakes. We will continually strive to achieve the very best natural resource and visitor management possible.

## **New Challenges and Opportunities**

The Mountain Parks is always changing because of the many different kinds of natural and human flows across the landscape. At the same time, in our complex world, the natural beauty and values of Mountain Parks can serve as an anchor for plant and animal inhabitants, as well as for human visitors. For a natural area the size of Boulder Mountain Parks, the level of visitation is remarkably high, with approximately 1.7 million visitors per year (or 285 people per acre each year) in the mountain backdrop. Easy accessibility, the dramatic increase in the human population of the Front Range, and the “lure of the Flatirons” will continue to foster extremely high visitation rates. This visitation occurs in a rare and unique natural area that is widely known for its highly diverse and valuable collection of plants, animals, and ecosystems . . . some of which are found nowhere else in Colorado. And Mountain Parks offers wonderful opportunities to renew, restore, and re-create our connections with nature and each other.



Mountain Parks has a long tradition of resource management, environmental education, and visitor-use management. Current use and future growth in use challenge us to create management policies and strategies that will ensure the endurance of the special qualities of Mountain Parks. Some of the more significant problems requiring attention by park management today and in the future include:

- Current high use resulting in extensive soil erosion and vegetation loss, particularly on trails designed and built over five decades ago.
- An expanding network of social trails into more remote areas, fragmenting habitat and thereby reducing its value to wildlife.
- Direct resource degradation from inappropriate or high concentrations of recreational use.
- Invasion of non-native plants and animals, which displace native species.
- Effects of past fire suppression, which have undermined forest health and created catastrophic fire hazards.
- Development adjacent to Mountain Parks, which in some cases blocks wildlife movement in and out of the park and reduces available habitat.
- Erosion in the quality of some recreational experiences due to overcrowding.
- Conflict between some types of recreational users.

*A future  
park  
steward.*

Many of the solutions to these problems will not be easy. Mountain Parks managers have a wealth of experience and expertise in resource and visitor-use management. However, they know that they do not have all the answers and that multiple perspectives and creativity will be required to both discover and continually refine the best overall solutions. Through this plan and the citizen guidance it depends upon, we hope to craft a protective strategy that will retain its vibrancy and responsiveness over time.

### **Policy Framework**

The Mountain Parks Division of the Department of Parks and Recreation partners with multiple agencies and works within a framework of environmental protection protocols to accomplish its natural resource management goals. The Boulder Valley Comprehensive Plan establishes the Boulder Valley as an area that contains significant natural ecosystems, defined as:

*“ . . . places that support natural ecosystems of native plants and animals or possess important ecological, biological, or geological values. Boulder Valley Natural Ecosystems may also contain features that are rare, unique, or sensitive to human disturbance and are essential to maintain the scientific and educational importance of places representing the rich natural history of the Boulder Valley.”*

The entire Mountain Parks system fits this protected category of natural ecosystems and is further noted in the Boulder County Comprehensive Plan as an important Environmental Conservation Area. Much of the backdrop is included in the registered (designation pending) Green Mountain Natural Area, which is a recognition by the State of Colorado Natural Areas Program of unique and extraordinary natural values. Mountain Parks is further protected by City Charter, Department of Parks and Recreation Mission Statement and Management Plan,<sup>6</sup> and by its own Mountain Parks Mission Statement (see the Executive Summary).

City ordinances and regulations have been specifically enacted to ensure long-term protection of the natural values, as well as the protection of citizens using the system for recreation. Specific management plans have been developed over time as responses to particular critical issues (mountain bikes, dogs and climbing bolts are examples), and these further guide management efforts. Partnership with

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<sup>6</sup> Excerpts from the Department of Parks and Recreation Department Mission Statement and Management Plan and the Boulder Valley Comprehensive Plan (see Appendix).

programs and agencies such as the City of Boulder Open Space Department, the Colorado Natural Heritage Program, the Colorado Division of Wildlife, the University of Colorado, other City of Boulder Departments, and external agencies contribute to both policy formation and stewardship of these unique natural resources.<sup>7</sup>

### **Public Process in the Development of this Plan**

Throughout the past three years, Boulder Mountain Parks staff has held public meetings and conducted outreach campaigns in order to gauge public perception and solicit input regarding the management of the park system. Late in 1995 and 1996, a Visitor Use Survey was conducted to determine the intensity of use, types of users, and visitor use patterns. The survey revealed that over 1.7 million users visit the 6,000-acre core mountain park annually, a higher and more-concentrated pattern of use than is experienced by most other high-quality natural areas or parks across the country. Beginning in 1996, the Division compiled existing studies, reports, and assessments documenting resource and recreation conditions and trends.

In March of 1997, a Stakeholder Survey was completed by over 100 individuals from various user groups in the community, including recreational advocates, environmental protection groups, community groups, and interested citizens. The questionnaire asked the participants to identify major problems and opportunities that should be addressed in a management plan. The survey identified that two of the most critical issues pertaining to management are the maintenance and restoration of the ecological integrity and sustainability of Mountain Parks, and the need to obtain a balance between recreation and critical resource protection. Also in 1997, Mountain Parks staff wrote an extensive series of “issue papers,” chronicling the current status of park management and resources. These papers helped shape the creation of educational displays to inform and involve the public in the planning process.

Throughout 1998, Mountain Parks staff hosted a series of outreach events to help the public understand issues of concern and encourage public involvement in the planning process. From January through May 1998, planning Open Houses



*Public involvement has always been critical in the management of Mountain Parks.*

<sup>7</sup> Agencies and Policies That Influence Boulder Mountain Parks (see Appendix).



An artist at work in the park.

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***“If we consider nature and humanity to be at opposite poles, we have little hope of discovering what an ethical, sustainable, honorable human place in nature might actually look like.”***

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—William Cronon

were held at various locations throughout the community. These forums educated the public on current activities and policies of the Division and solicited public input for future planning ideas. Between November and December, three Park Management Forums engaged citizens in role-playing. During the meetings in November, participants were divided into small groups and then asked to (1) create a vision for Boulder Mountain Parks in the year 2025; (2) complete a budgetary exercise to allocate competing investments to improve the park; and (3) act as hypothetical members of a Mountain Parks advisory group that addressed park management dilemmas. In December, groups were asked to develop a comprehensive set of strategy ideas for management and address dilemmas concerning visitor-use impacts.

### **Public Attitudes: Key Findings and Themes**

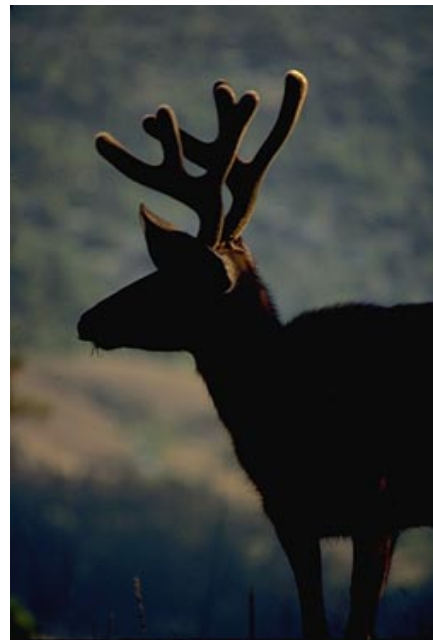
The prevalent themes from the community meetings and forums included:

- 1. The need to balance recreational uses and resource protection in order to better integrate the natural and human communities.*** In both the public forums and written questionnaires, people expressed the need to protect the natural resources of the parks while maintaining the recreational use that community residents have long enjoyed. Although citizens were not willing to sacrifice the ecological integrity of the various park ecosystems, they also desired to maintain recreational use. Many believe that having to make trade-offs is a false dichotomy. Largely because staff has been successful in both areas in the past, people expect management approaches to be better and smarter rather than unnecessarily restrictive.
- 2. The need to provide for science-based management of the parks to preserve its natural ecosystems and maintain ecological integrity.*** Public commentary revealed that the public supported techniques such as weed management, seasonal closures, limiting access points, and fire management, if the techniques could preserve and enhance ecological ecosystems and were based on scientific information.



3. ***The need for and importance of education.*** Comments emphasizing the importance of education were woven throughout all discussions. Residents agreed that education plays an integral component in the long-term management of the Boulder Mountain Parks, helping to preserve and protect ecological systems, minimize impact, maintain a balance between recreational use and resource protection, and provide a foundation and background for future stewardship.
  
4. ***The need to maintain and preserve the quality of the visitor experience.*** Nearly all participants in the public meetings remarked on the exceptional experiences they have enjoyed at Boulder Mountain Parks. Noting the special and unique character of the park, its “backcountry feel,” and the experience of solitude and nature, community residents emphasized the need to maintain and preserve the quality of these experiences.

Nowhere was this desire to balance and integrate people and nature demonstrated more clearly than at the conclusion of the first public meeting when people were asked to rate the top vision ideas. The top three ideas received roughly the same number of votes. The highest vote-getter was improving natural resource management, followed by appropriate recreation and visitor use, and stewardship of the park. This can be interpreted as follows: the two key functions of Mountain Parks are to provide quality natural resources (nature) and recreational/visitor activities (people). The glue that makes this possible is caring for the resources through enhanced stewardship, engagement of the community, and education.



## Chapter 2: MANAGEMENT PLAN RECOMMENDATIONS

The following nine strategies are designed to meet the mission and vision for the Mountain Parks. Each of them responds to one or more of the goals established by the Mountain Parks staff and the issues and directions identified in the public meetings.

### Strategy 1: Promote Long-term Sustainability of Resources

*GOAL: Maintain, enhance, and restore the natural and cultural resources of the Mountain Parks, allowing for uses that do not degrade the resources.*

#### **Vegetation Resources**

1. Protect native species and rare, threatened, and sensitive plant communities and populations.
2. Protect and restore natural levels of biodiversity.
3. Control invasive weed species through integrated weed management.
4. Restore fire as a natural process and implement effective vegetation restoration activities after major fires or other disturbances.

#### **Water and Air Resources**

4. Protect watersheds, wetlands, and floodplain areas.
5. Protect air and water quality.
6. Minimize artificial lighting that will degrade the natural experience.

#### **Geological and Soil Resources**

7. Protect significant geological resources.
8. Prevent unnaturally high levels of erosion and protect soils during management practices.

#### **Wildlife Resources**

9. Protect critical wildlife habitat areas, including native habitat diversity and integrity.
10. Reduce habitat fragmentation via roads and trails.
11. Protect migration corridors.
12. Control urban “predators.”
13. Manage wildlife-human conflicts and educate visitors on key aspects of wildlife in the parks in order to reduce conflicts.

#### **Cultural Resources**

14. Protect archeological, historical, and visual resources.

### Strategies at a Glance

1. Promote long-term sustainability of resources.
2. Utilize adaptive natural resource management.
3. Work with neighbors to maintain natural functions.
4. Divide Boulder Mountain Parks into management areas.
5. Manage recreation to protect natural resources and visitor experience.
6. Improve interpretive, educational, and research opportunities, and engage the community in a cooperative stewardship program.
7. Promote park safety through information, training, and presence.
8. Improve core park management and maintenance.
9. Enhance park funding and staffing.

**Strategy 2: Utilize Adaptive Natural Resource Management Program**

*GOAL: Promote a thorough understanding of Mountain Parks and resource issues through appropriate biological and sociological studies and cooperative involvement in community affairs.*

Maintaining and enhancing the important ecological conditions and functions that distinguish the Mountain Parks are a major focus of this plan. Given the increasing pressures of people and activities, along with public expectations that the Mountain Parks provide both a quality environment and visitor experience, there is a need for a management approach that combines flexibility, scientific understanding, monitoring, and appropriate actions. Aspects of this approach have been utilized by Mountain Parks staff, but full implementation of this strategy requires placing these capabilities into a system and creating some new capabilities. The essence of this flexible, adaptive approach combines regular monitoring of specific natural resource characteristics and functions with a flexible tool kit of management actions that can be tailored towards maintaining critical natural resources and managing human impacts. By creating a feedback loop through the monitoring program, Mountain Parks staff can connect science to management actions that can be evaluated in terms of impact on resource health, and more timely, creative, and effective management actions can be undertaken.

***The Key Elements of the Adaptive Management Program***

1. Identify resource objectives. Natural resource objectives should be identified for key areas or zones (Strategy 4) of the parks. For example, major emphasis has to be focused on managing to encourage and sustain native flora and fauna and protecting and enhancing habitat for rare and endangered species. Similar objectives have been defined for many areas, but they must be defined in terms that can be readily understood by the public and for which there are indicators or factors that can be monitored over time to indicate the relative health of the resource.
2. Define the current conditions of these natural resources, and establish a monitoring program to evaluate the effects of different management actions.
3. Evaluate management options. Based on feedback from monitoring, a review of alternative management options should be conducted and evaluated. Such actions might include alternative approaches to control of invasive weeds, expanded use of fire, enhanced planting of native vegetation, removal of social trails or the hardening of key trails.

**Components of the Monitoring Program**

- ◆ Define key factors that stress or threaten core natural values that need to be monitored, such as weeds, pests, domestic animals, erosion, and levels and diversity of plant and animal populations. This should include factors outside the park boundary that may have an impact on the park.
- ◆ Develop monitoring programs with clearly designated responsibilities and schedules.
- ◆ Coordinate efforts with recreation and visitation monitoring.
- ◆ Use the GIS system to record and illustrate data.
- ◆ Encourage students and volunteers to assist staff in monitoring and conducting specific research projects.

4. Enhance and restore resources. Based on feedback information, refine and adapt management actions to improve natural functions and values.
5. Establish periodic review. The effectiveness of the monitoring and response strategies should be evaluated on a regular basis; that will allow adjustments to be made to ensure that the connections between monitored functions and management actions and responses is as clear as possible.

### **Strategy 3: Work with Neighbors to Maintain Natural Functions**

*GOAL: Engage neighbors to work with staff to promote protection of the broader ecosystem by working together toward common objectives.*

The boundaries of Mountain Parks are a result of historic opportunities and land ownership patterns that bear little relationship to ecological functions. If the natural functions operating in the park are to be maintained, the park will need to work with, educate, and encourage its neighbors to maintain important functions. Boulder



*The City of Boulder and Mountain Parks*

Mountain Parks should continue to work with its public and private neighbors in a cooperative and collaborative fashion to achieve mutual objectives. The public and private landowners surrounding Mountain Parks share many common objectives; these should be identified and used as a basis for developing a cooperative management system. Mountain Parks has many potential partners in this effort, including nonprofit land conservation groups, city and county open space programs, federal agencies, and private landowners who appreciate and enjoy Mountain Parks as a neighbor. There are many ways that Mountain Parks can flexibly achieve its objectives of ecosystem management, buffering the park, and protecting natural systems. Mountain Parks has worked closely with the City of Boulder Open Space Department to ensure that policies, regulations, and management strategies provide as seamless a boundary as is possible. Mountain Parks staff also developed an acquisition and protection program in 1995 for the areas west of the Mountain Parks, and this was supported in the ballot issue of 1995. Approximately 350 acres have been protected so far by this program.

Other methods include:

1. Educate neighbors on the importance of ecological values and ways to practice good land stewardship on their properties.
2. Encourage private donations of conservation easements and provide

landowners with relevant information and access to resources that can help them in these transactions.

3. Continue to acquire land and conservation easements in key areas.
4. Work with neighbors to establish a cooperative management approach. Each of the neighbors would be a partner in this approach, allowing both management objectives and projects to be defined. Cost-share arrangements should be explored to carry out mutually beneficial management projects. Such a public/private approach to land management may be attractive to funders such as GOCO and some federal agencies.

#### **Strategy 4: Utilize A System of Management Areas**

*GOAL: Define areas for park management, each of which has management strategies tailored to its specific mix of desired ecological and recreational characteristics.*

##### ***Overall Approach of Area Management.***

Mountain Parks constitutes a large natural area and a precious community asset that contains invaluable natural and cultural resources. As a regional recreation destination located adjacent to a large urbanized area, Mountain Parks receives a substantial amount of highly-concentrated visitor use. Consistent with its mission statement, Mountain Parks will emphasize the protection of natural ecosystems, processes, and intangible qualities, while also accommodating recreational use that is compatible with resource protection. To implement this difficult challenge, a system of management areas will be utilized, based on development of a park-wide management framework and delineation of management areas. This approach is intended to maintain the naturalness of Mountain Parks and to provide compatible recreational opportunities in suitable areas.

##### ***The Natural Area Foundation and Stewardship of the Mountain Parks.***

Because of its diverse ecosystems and associated rich biodiversity, Mountain Parks has always been an important natural area—before Euro-American settlement, during settlement times, and up to the present. In the face of development in nearby mountains and on the plains surrounding Mountain Parks, this resource has become increasingly valuable for critical wildlife habitat and as a refuge for plant communities. Because of its outstanding natural qualities, for over 100 years Mountain Parks has been a protected place where visitors have enjoyed natural wonders and recreated in a natural setting. In recognition of the diversity and quality of these

natural resources, all of Mountain Parks is considered an important natural area. Figures 1, 2 and 3 show several geographic overlays that support the official recognition of Mountain Parks as a natural area of regional and statewide significance; they also illustrate the challenge of managing Mountain Parks as a natural area given the many areas of concentrated visitor use.

Figure 1 shows almost the entirety of Mountain Parks designated as an Environmental Conservation Area in the Boulder County Comprehensive Plan. Boulder County’s Environmental Conservation Area designations are intended to identify the County’s most important core habitat areas and habitat connections between them and to guide targeted conservation and preservation efforts. Figure 1 also shows the western portion of Mountain Parks designated as a Registered Colorado Natural Area by the Colorado Natural Areas Program (specifically designated as the “Green Mountain Natural Area”). This state Registered Natural Area designation is part of a statewide system of natural areas, designated with the intent to support the protection of special, rare, and threatened natural features in Colorado. Both the County and State designations recognize the ecological importance of Mountain Parks while at the same time acknowledging its high level of recreational use. Compiled from available inventories, research studies and other information, Figure 2 shows areas that have demonstrated rare, unique, or threatened plant communities and critical wildlife habitat areas. Based on recent visitor use counts, Figure 3 displays many of the access points where visitor counts identify high levels of use. These counts suggest that large numbers of visitors travel through many critical plant and animal habitat areas in Mountain Parks.

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***“Ecology is not more complicated than you think, it is more complicated than you can think.”***

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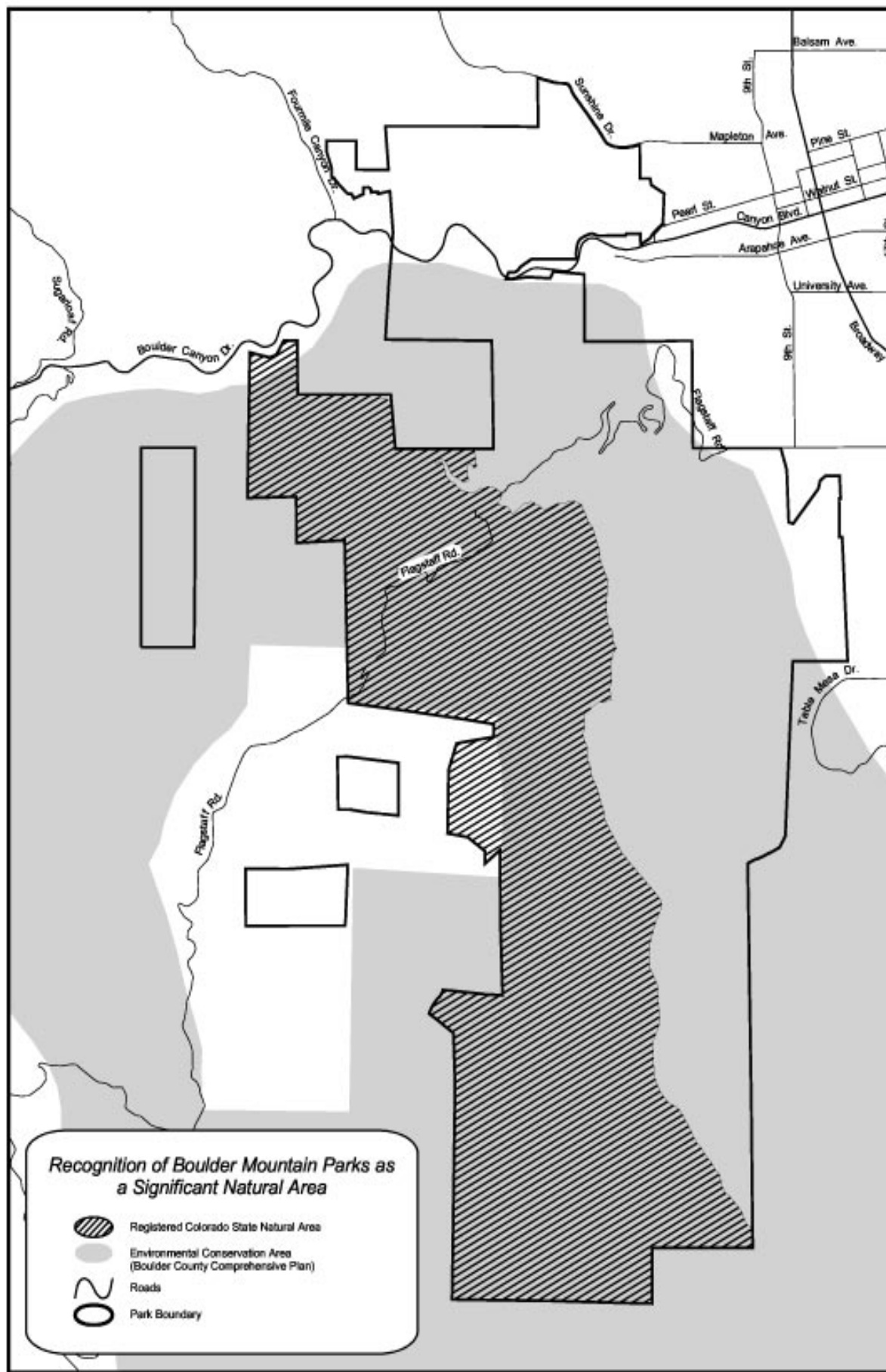
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In the face of high and rapidly increasing recreational pressures, maintaining Mountain Parks’ valued natural qualities requires a dual management emphasis: protecting the health of its natural ecosystems and processes and preserving opportunities for high-quality visitor experience. These two important community values can be provided only if the community ensures that enjoyment of the park does not degrade its natural, scenic, and cultural resources.

Mountain Parks has a long history of providing environmental education opportunities, encouraging visitors to recreate and interact with the park in ways that promote personal responsibility and stewardship values. Knowledge of the resources and our human impacts upon them, combined with a





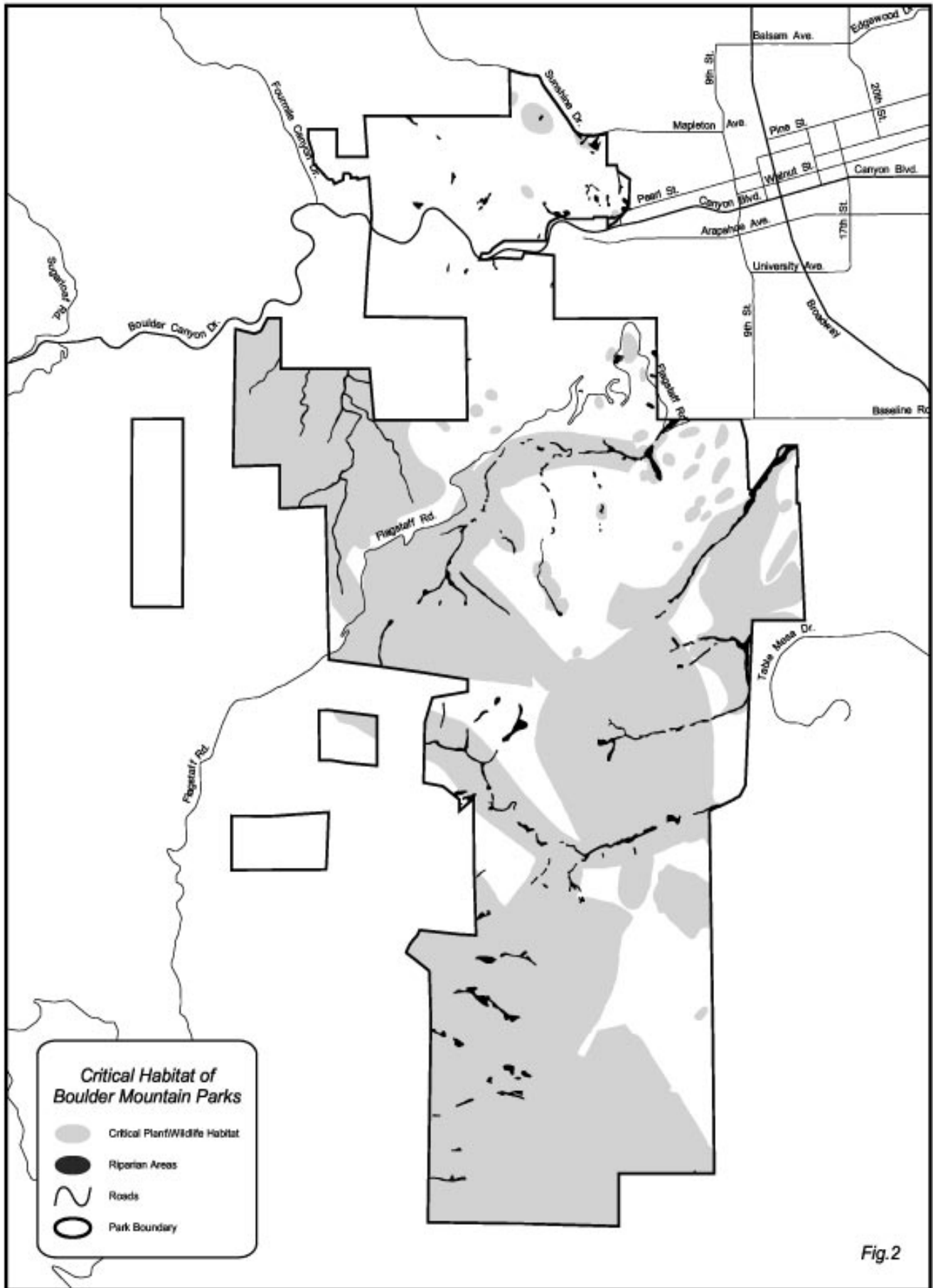


Fig.2

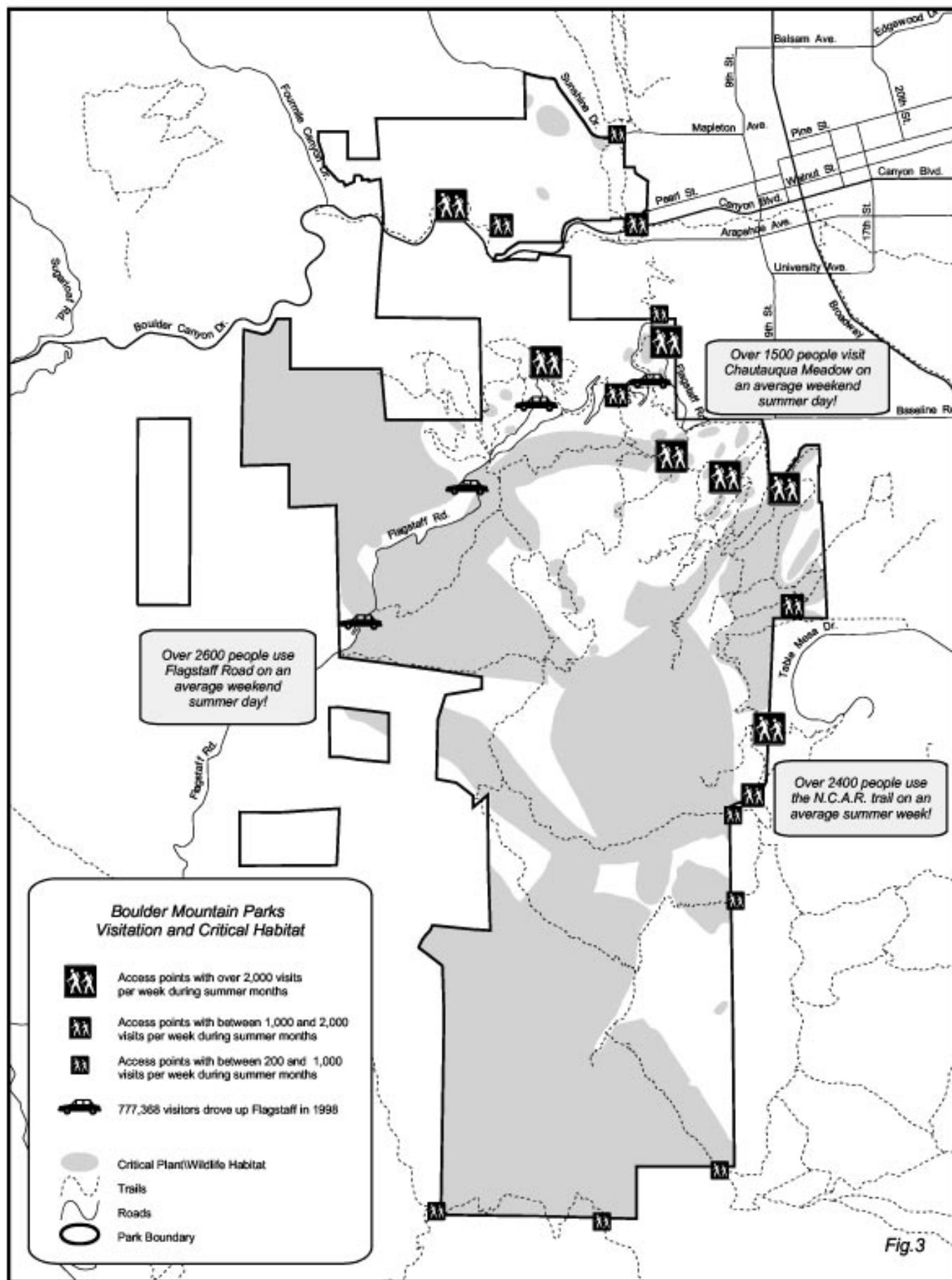


Fig.3

willingness to change our behavior and lessen personal impacts on the park and other visitors, can be a significant force in managing these lands. Mountain Parks recognizes and supports the continued expansion of the public's ability and willingness to be good stewards of the land.



*Mountain Parks' delicate white adder's-mouth orchid is extremely rare in Colorado.*

***Rationale for the Area Management System.***

Some natural and cultural resources are widely distributed throughout Mountain Parks, while others are located only in specific locations. Some natural resources are inherently more rare, fragile, or sensitive to the impacts of visitor use; others are more common and less vulnerable to the impacts of use.

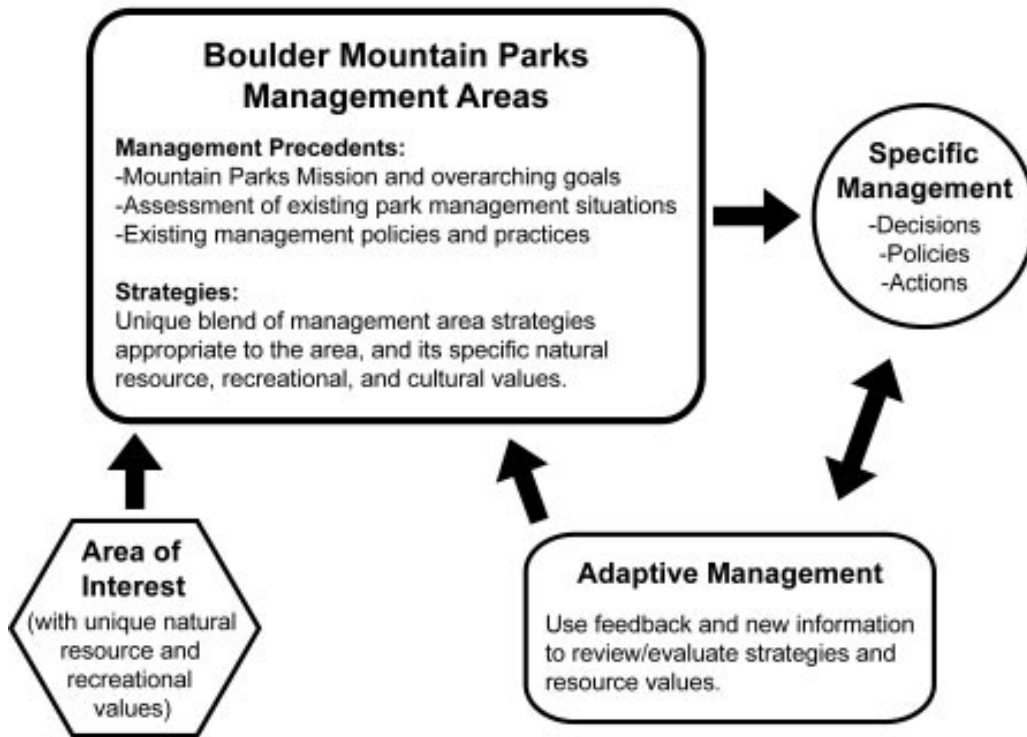
Consequently, park management will recognize these differences in the designation of different management areas and use suitable management techniques that fit the area-specific needs for protecting resource integrity and the quality of visitor experience. The Area Management System is designed to provide a higher level of protection to those areas with higher resource values and vulnerability to the impacts of use, and an appropriate lower level of protection to areas with lower resource values and less vulnerability to use. The Area Management System recognizes the widely varying levels of visitor

use in different areas and provides the means to accommodate recreational use that is compatible with resource protection. In high-use areas, the challenge of balancing resource protection and use is often more difficult to accomplish.

***Description of the Area Management System.***

The Area Management System in the Boulder Mountain Parks is designed to tailor management to the situational needs of each management area. The overarching mandate for management within Mountain Parks is to protect the essential natural characteristics of the land that support healthy ecosystems and provide recreational opportunities based on those natural characteristics (scenic qualities, steep topography, unique geology, forested and non-forested areas, abundance of wildlife, highly accessible and remote areas, and so on). Within this mandate, each management area is defined according to a different management emphasis, and the management tools used are geared to achieving the goals of that particular emphasis. That is, the appropriate range of natural area management tools is matched to the specific resource protection needs and recreational characteristics of each management area (see Figure 4 for an example of the decision-making process).

**Figure 4: Steps to Determine an Area's Management**



### **Boulder Mountain Parks' Management Areas**

The management of Mountain Parks is fundamentally grounded on the foundation of the park as a natural area, with an overarching framework of goals and strategies to guide management decisions. On the Mountain Parks Management Map, this foundation is recognized with the statement that the entirety of the Park is a “Natural Area”. This contextual statement indicates the commitment for Mountain Parks management to provide an adequate level of resource protection for **all** areas within Mountain Parks, given its values and essential character as a natural area. The level of resource protection, the type of facilitation for recreational use, and applicable management strategies vary for each management area.

Mountain Parks management areas are identified on the Mountain Parks Management Map by different colors. These areas include:

**NATURAL PRESERVATION / DISPERSED USE AREAS (BLUE)**

- Includes most of the lands managed by Mountain Parks.

**SPECIAL PROTECTION AREAS (PINK)**

- Greenman Springs Special Protection Area
- Long Canyon / Panther Canyon Special Protection Area
- Raptor closure areas
- Harmon Cave Bat Closure Area
- Gregory Canyon Preble's Mouse Special Protection Area

**RECREATION OPPORTUNITY AREAS (GREEN)**

- Red Rocks area
- Boulder Canyon trail corridor
- Flagstaff Summit / Flagstaff Road area
- Chautauqua Meadow / Bluebell-Baird area
- Enchanted Mesa area
- Mesa Trail
- Mallory Cave trail

**MANAGEMENT CHALLENGE AREAS (YELLOW)**

- Sections of Gregory Canyon
- Sections of Greenman and Ranger trails
- Section of Saddle Rock Trail
- 1st / 2nd Flatirons area
- Bluebell Canyon area
- Royal Arch trail
- Lower Skunk Canyon area
- Bear Canyon trail

**MANAGEMENT EVALUATION AREAS (GOLD)**

- Anemone Hill Area
- Dinosaur Mountain Area

The following tables summarize the characteristics of the Mountain Parks management areas and the applicable range of area-specific management strategies.



<b>NATURAL PRESERVATION / DISPERSED USE AREAS</b>			
<b>Geographic Definition</b>	<b>Management Emphasis</b>	<b>Appropriate Use Characteristics</b>	<b>Range of Area-Specific Management Strategies</b>
<ul style="list-style-type: none"> <li>• Includes most of the lands managed by Mountain Parks in the city's natural area backdrop</li> <li>• Trails with low to moderate levels of use which bisect large areas of important natural habitat</li> <li>• Few social trails</li> <li>• Large tracts of intact habitat</li> <li>• Visitor experience protection areas (remote or isolated areas where the intent is to continue offering opportunities for solitude and backcountry experiences).</li> </ul> <p>Shown in a blue color on the Mountain Parks Management Map.</p>	<ul style="list-style-type: none"> <li>• Emphasis on resource protection while at the same time accommodating recreational use compatible with resource protection</li> <li>• Restoration of resource values and features if degraded</li> <li>• Maintenance of low use intensities that generate minimal resource impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Low levels of recreational use and associated impacts</li> <li>• Low intensities of use</li> <li>• Relatively dispersed use (not concentrated)</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance / restoration of natural resources and underlying ecosystem processes</li> <li>• Implementation of best resource management practices on the ground</li> <li>• Provision of environmental education and stewardship opportunities that reduce visitor use impacts</li> <li>• Management of visitor use to preserve the low level and intensity of use, minimize resource impacts, and preserve the quality of visitor experience</li> <li>• No net gain in access points or trail mileage</li> <li>• Provision of high-quality, durable facilities and services geared to low levels of use</li> <li>• Enforcement of regulations that protect park resources and visitor safety</li> <li>• Monitoring of resource and use conditions and trends</li> <li>• Adaptation of park management approaches based on experience and new information</li> </ul>

<b>SPECIAL PROTECTION AREAS</b>			
Geographic Definition	Management Emphasis	Appropriate Use Characteristics	Range of Area-Specific Management Strategies
<p>Potential Special Protection Areas include</p> <ul style="list-style-type: none"> <li>• Critical wildlife habitat area</li> <li>• Rare and sensitive plant communities</li> <li>• Unique or fragile geological resource areas</li> <li>• Special scenic resource areas</li> <li>• Special cultural resource areas (such as historical settlement or recreational areas)</li> <li>• Special education / interpretation areas</li> <li>• Special resource restoration areas</li> </ul> <p>Shown in a light pink color on the Mountain Parks Management Map.</p>	<ul style="list-style-type: none"> <li>• Provision of special protection measures to preserve or restore the integrity of high-value, fragile, and rare resources</li> <li>• Restoration of resource values and features if degraded</li> <li>• Management of use to ensure long-term resource integrity</li> </ul>	<p>Low to very low:</p> <ul style="list-style-type: none"> <li>• Level of use</li> <li>• Intensity of use</li> <li>• Level of impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance / restoration of natural resources and underlying ecosystem processes</li> <li>• Implementation of best resource management practices on the ground</li> <li>• Area- or resource-specific environmental education / interpretation opportunities to enhance resource protection</li> <li>• Certification of visitors and dogs that comply with rules and desired behavior to minimize impacts</li> <li>• Seasonal or year-round prohibition / limitation of certain types of high-impact recreational uses</li> <li>• Use limits or special access restrictions to enhance resource protection in specific areas</li> <li>• Re-routing of trails or relocation of facilities away from highly-sensitive areas</li> <li>• Retrofitting the design or materials for existing trails and facilities to enhance resource protection</li> </ul>
<p>Specific special protection areas proposed for now include:                      Greenman Springs Special Protection Area                      Long Canyon / Panther Canyon Special Protection Area                      Other areas will be proposed, as needed, in the future.</p>	<p>Raptor Closure Areas                      Harmon Cave Bat Closure Area                      Gregory Canyon Preble's Mouse Special Protection Area</p>		

## **Description of the Special Protection Areas**

### ***Greenman Springs Special Protection Area***

Historically, Greenman Springs has been a visitor destination as a unique natural feature. The area is an exceptional botanical treasure, dependent on perennial water availability from the Spring. The area contains many sensitive and rare plant species, including the white adder's-mouth orchid, rattlesnake fern, western polypody fern, and others. Mountain Parks is one of the few, if not the only, known occurrence of white adder's-mouth orchid in Colorado, which is listed by the Colorado Natural Heritage Program as needing the highest level of protection (S1--critically imperiled in the state because of rarity, 5 or fewer occurrences, or because of vulnerability to extinction). The Greenman Trail crosses the Greenman Springs riparian area twice near sensitive species and parallels and encroaches into the riparian area in another area. The Saddle Rock Trail nears the sensitive plant area as it joins the Greenman Trail from the east. Management actions for this special protection area have not yet been determined but could include trail relocation, on-trail-only use restrictions, or other measures. The special protection area boundary includes the Spring, riparian zones around it, and a buffer area.

### ***Long Canyon / Panther Canyon Special Protection Area***

This area is an exceptional botanical treasure. The steepness and direction toward the sun of these canyons creates an unusually cool and moist habitat in our semi-arid environment. Because of their wetness, these canyons include a rich eastern woodland plant community that is a relict from glacial times and includes paper birch, wood lily, beaked hazelnut, wild sarsaparilla, black snakeroot, and other species. Plant species with Colorado Natural Heritage S1 and S2 designations (imperiled in the state due to rarity, 6 to 20 occurrences, or other factors) include an historic occurrence of white adder's-mouth orchid, the paper birch (with the closest existing population several hundred miles away), and the broad-leaved twayblade. One of the reasons this area is considered unique in Colorado is the high ecological integrity of its plant communities, which could be degraded with off-trail visitor use. Along with its extraordinary plant diversity, the Long Canyon/Panther Canyon Special Protection Area is the richest known bird habitat in Mountain Parks, with a very high diversity of bird species, a high density of cavity nesting birds, and abundant forest interior species. Some of the notable rare and sensitive bird species in the area include nesting flammulated owls, Williamson's sapsucker, hermit thrush, and potential nesting habitat for the ovenbird and the chestnut-sided warbler. The Long Canyon/Panther Canyon area is also prime bear habitat and is a major bear feeding destination in the fall. Management actions for this special protection area have not

yet been determined but could include trail relocation, on-trail-only use restrictions, or other measures. In the past, Mountain Parks has decided not to draw additional visitation to the area by connecting the Long Canyon Trail to form a loop trail system with other trails in the vicinity. The special protection area boundary includes the plant communities considered most sensitive and vulnerable to visitor use and buffer areas.

***Raptor Closure Areas***

Current seasonal visitor use closures are in effect to protect cliff-nesting habitat for rare and sensitive raptor species. Boundaries were drawn in cooperation with the Colorado Division of Wildlife based on nest protection guidelines and the local topography and trail system. Specific raptor closure areas include: Shadow Canyon area, The Sphinx (proposed closure area), North Side of Fern Canyon, Bear Creek Spire (Bear Canyon), Sacred Cliffs (south rib of Green Mountain), Skunk Canyon, and the 3rd Flatiron area. These seasonal closures are credited with helping de-list the formerly threatened Peregrine Falcon.

***Harmon Cave Bat Closure Area***

Currently a voluntary seasonal visitor use closure is in effect, but the process of implementing a mandatory seasonal closure is underway. The closure is intended to protect maternal colonies for Townsend's big-eared bat (a rare species in Colorado with an S2 Colorado Natural Heritage designation) and roosting sites for Townsend's and other bats. A special bat protection gate has been installed at the entrance to the cave to prevent entry into the cave itself.

***Gregory Canyon Preble's Mouse Special Protection Area***

Preble's jumping mouse, a riparian habitat species, is listed as a threatened species under the Endangered Species Act. It was recently documented in the lower part of Gregory Canyon. It is likely that additional studies will find the mouse distributed upstream as well. A protection area will be designated for lower Gregory Canyon including its riparian habitat and a buffer area (set back 300 feet from the 100-year floodplain). To proceed, any proposed habitat modifications in this special protection area will require local-state-federal consultation and a determination of no significant negative effect on the habitat. The boundaries of this special protection area will be expanded, if the presence of the Preble's jumping mouse is found through additional studies. Gregory Canyon possesses other critical wildlife habitat for species besides Preble's. Like Long Canyon / Panther Canyon, Gregory Canyon is also a hot spot for diverse bird life and prime habitat for bears, especially during the fall feeding frenzy.

<b>RECREATIONAL OPPORTUNITY AREAS</b>												
<b>Geographic Definition</b>	<b>Management Emphasis</b>	<b>Appropriate Use Characteristics</b>	<b>Range of Area-Specific Management Strategies</b>									
<p>Recreational Opportunity Areas include:</p> <ul style="list-style-type: none"> <li>• Trails with moderate to high levels of use</li> <li>• Dedicated use areas (nature study and teaching areas, wildlife viewing areas, scenic viewing areas, scenic driving areas, areas designed for use by people with disabilities)</li> <li>• Developed recreation areas (such as group picnic facilities, group shelters, large outdoor amphitheater, parking areas, roadways, trailheads, scenic overlooks, nature center)</li> </ul> <p>Shown in a green color on the Mountain Parks Management Map.</p>	<ul style="list-style-type: none"> <li>• Facilitation of current recreational opportunities and growth in opportunities if compatible with resource protection</li> <li>• Containment of impacts from concentrated use to prevent spillover to more sensitive areas</li> <li>• Enhancement of the quality of recreational opportunities where possible</li> </ul>	<p>Moderate to high:</p> <ul style="list-style-type: none"> <li>• Level of use</li> <li>• Intensity of use</li> <li>• Level of impacts</li> </ul> <p>Relatively concentrated use.</p>	<ul style="list-style-type: none"> <li>• Re-routing of trails to offer more direct routes or diverse settings</li> <li>• "Hardening" of trails and facilities to increase durability and user friendliness</li> <li>• Special trail design or routing and special facilities to support dedicated uses</li> <li>• Special environmental education / interpretation opportunities to publicize use options</li> <li>• Creation of special trails, facilities, or regulations that permit special types of recreational uses</li> <li>• Targeted, intensive monitoring of visitor use and impacts</li> </ul>									
<p>Specific Resource Opportunity Areas proposed for now include:</p> <table border="0"> <tr> <td>Red Rocks area</td> <td>Enchanted Mesa area</td> </tr> <tr> <td>Boulder Canyon Trail Corridor</td> <td>Mesa Trail</td> </tr> <tr> <td>Flagstaff Summit / Flagstaff Road area</td> <td>Mallory Cave trail</td> </tr> <tr> <td>Chautauqua Meadow / Bluebell-Baird area</td> <td></td> </tr> </table>					Red Rocks area	Enchanted Mesa area	Boulder Canyon Trail Corridor	Mesa Trail	Flagstaff Summit / Flagstaff Road area	Mallory Cave trail	Chautauqua Meadow / Bluebell-Baird area	
Red Rocks area	Enchanted Mesa area											
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Chautauqua Meadow / Bluebell-Baird area												

## MANAGEMENT CHALLENGE AREAS

Management Challenge Areas represent some of the most difficult areas to manage in the context of balancing competing resource protection needs and recreational demands. Based on their recreational characteristics, including in some cases historical recreational facilities, these areas have drawn and continue to draw moderate to high levels and intensity of use. At the same time, these areas also contain some high-value or sensitive resources that require special protection. Consequently, there is a dual management emphasis in these areas to accommodate the current high level of use and to implement special protections where necessary to prevent resource degradation. In many cases, management of these areas may be contentious, and there may not be any optimal solutions. Each Management Challenge Area will have a different, unique set of recreational and resource characteristics. Consequently, these areas require specific crafting of solutions, experimentation, and intensive monitoring of results.

Geographic Definition	Management Emphasis	Appropriate Use Characteristics	Range of Area-Specific Management Strategies
<p>Management Challenge Areas include:</p> <ul style="list-style-type: none"> <li>• Sections of Gregory Canyon</li> <li>• Sections of Greenman and Ranger trails</li> <li>• Section of Saddle Rock trail</li> <li>• 1st / 2nd Flatirons area</li> <li>• Bluebell Canyon area</li> <li>• Royal Arch trail</li> <li>• Lower Skunk Canyon area</li> <li>• Bear Canyon trail</li> </ul> <p>Shown in light yellow color on the Mountain Parks Management Map</p>	<ul style="list-style-type: none"> <li>• Containment of impacts from concentrated use to prevent spillover to more sensitive areas</li> <li>• Restoration of degraded resource values and features where possible</li> <li>• Facilitation of current recreational opportunities and growth in opportunities if compatible with resource protection</li> <li>• Enhancement of the quality of recreational opportunities where possible</li> </ul>	<p>Moderate to high:</p> <ul style="list-style-type: none"> <li>• Level of use</li> <li>• Intensity of use</li> <li>• Level of impacts</li> </ul> <p>May be relatively concentrated use.</p>	<ul style="list-style-type: none"> <li>• Depending on the area-specific needs, natural area / visitor use management strategies used in Management Challenge Areas will be drawn from the toolbox of strategies appropriate to both Natural Preservation Areas and Recreation Opportunity Areas or will be uniquely developed as needed.</li> </ul>



<b>MANAGEMENT EVALUATION AREA</b>			
<p>This area is considered an interim, transitional category until sufficient research, monitoring, and planning provides the basis for designating a management emphasis with an appropriate range of area-specific management strategies. Once that occurs, decisions are made on the appropriate amount and type of use and associated management strategies. In addition, the Management Evaluation Area would then be given a different management area designation. In some cases these areas may require significant coordination with adjacent private and public land owners to reach desired management objectives.</p>			
Geographic Definition	Management Emphasis	Appropriate Use Characteristics	Range of Area-Specific Management Strategies
<p>Management Evaluation Areas include:</p> <ul style="list-style-type: none"> <li>• Anemone Hill Area</li> <li>• Dinosaur Mountain Area</li> </ul> <p>Shown in a harvest gold color on the Mountain Parks Management Map.</p>	<p>Desired management emphasis is not yet determined.</p>	<p>Moderate but increasing:</p> <ul style="list-style-type: none"> <li>• Level of use</li> <li>• Intensity of use</li> <li>• Level of impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Various natural area / visitor use management strategies that preserve status quo use patterns and resource conditions until the desired management emphasis is determined</li> </ul> <p>This management approach is similar to how Congressionally-designated wilderness study areas are managed.</p>

## Strategy 5: Manage Recreation to Protect Natural Resources and Enhance Visitor Experience

*GOAL: Develop and maintain quality trail systems and public facilities that contribute to visitor enjoyment and safety while ensuring protection of natural resource attributes.*

Managing for visitor use is a principal component of the mission of the Mountain



*Trailhead signs help visitors enjoy the park.*

Parks. However, population growth coupled with corresponding increases in the popularity and importance of outdoor recreation have resulted in increased visitation to the park and pressure on the natural resources. The Boulder Mountain Parks is a mature system where opportunities for expanding recreational use do not exist—there will be no significant new trails or facilities proposed. However, a number of the existing trails and facilities can be enhanced and refurbished to improve the visitor experience and to protect natural values. The management of the park should seek to channel

and influence recreational use and to protect the quality of recreational opportunities, but not to promote growth in use.

As mentioned earlier, the Mountain Parks receives extremely high visitation. With over 50 miles of developed trails and countless more undeveloped trails, it is possible to access almost every part of the park and every point of interest. Thirty recognized access points and countless informal portals along the park's periphery and Flagstaff Road feed the trail corridors. The areas of highest concentrated use are associated with ease of access, such as at NCAR, Flagstaff, Chautauqua, and Red Rocks. Extremely high usage occurs on about one quarter of the park.

The Boulder Mountain Parks is a major regional recreation destination. As such the park lands fill several niches, serving as:

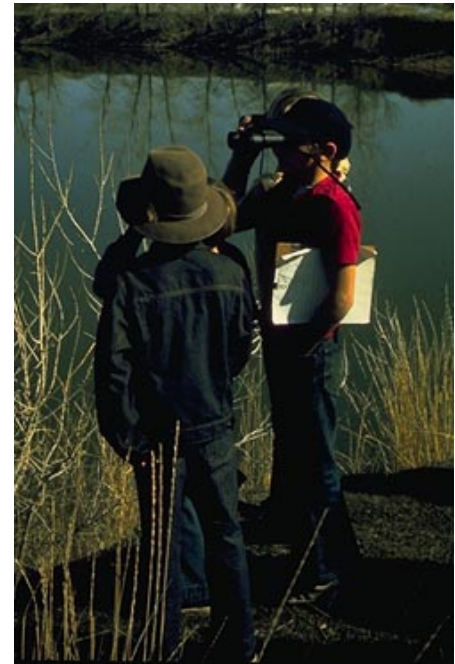
- A major regional draw for hikers who want to experience rigorous outdoor adventure and to appreciate the parks' tremendous natural and scenic qualities.
- A major, world-class, heavily used climbing destination.
- A recreation area heavily used by nearby residents who run, hike, and walk their dogs frequently.

- A regional attraction for park users who want their dogs off-leash.
- A regional tourist destination to view Boulder and the plains to the east and the Continental Divide to the west.
- A regional destination for large group picnics, weddings, and other day-use events.

Visitor uses should be low impact, high quality, and compatible with maintaining important natural functions. Although Mountain Parks management is known for its ability to achieve a level of balance between meeting user needs and protecting the resources, increased pressures warrant the implementation (or continuation) of the following strategies:

***Monitor Recreational Use***

1. Establish baseline recreation use data to determine type of use, user destination, size of group, trip duration and frequency, user residence and travel to park. Re-survey recreation users periodically.
2. Monitor recreation trends and provide proactive policies to deal with changes in outdoor recreation.
3. Coordinate with the resource monitoring programs to determine impacts to resources and, when needed, to change or develop new recreation policies or new management activities.
4. Coordinate with other agencies to monitor adjacent development and impacts on recreational needs and natural resources within the park.
5. Continue reservation system for use of shelters.
6. Continue non-resident parking-fee program and evaluate the feasibility of expanding the program to include Boulder County residents.



*Young visitors enjoying wildlife.*

***Provide Appropriate Recreation Use in Appropriate Locations***

7. Tailor recreational use to appropriate areas (see Strategy 4 for a discussion of the Area Management System) and continue to implement seasonal and voluntary closures as needed.
8. Continue current low-impact recreation in the park, with enhancement of high-use areas (such as trail hardening) to better accommodate current and projected levels of use.
9. Improve recreational facilities and trails as needed, when consistent with natural resource values.
10. Provide recreational opportunities for people of all abilities, including

retrofitting some existing facilities for use by disabled populations. Implement a philosophy similar to the USDA Forest Service's program of "Challenge Levels," in which some trails are more accessible than others, and not all trails are accessible.

11. Continue to work with dog owners to teach responsible use of the park and to train dogs for off-leash opportunities, and limit off-leash opportunities as needed.
12. Continue to work with the climbing community to teach responsible use of the park and reduce climbing impacts.
13. Use flexible approaches to recreation and resource management that engage the community.
14. Continue to limit mountain bike use in the core area of the Mountain Parks. However, explore the opportunity for a cooperative mountain bike connection from Eldorado Canyon State Park to Walker Ranch, assuming a link can be provided without detrimental effect to the park's natural resources.

#### ***Manage Trail Systems***

15. Develop and maintain trails, compatible recreation opportunities, and public facilities consistent with sustaining natural resources.
16. Apply sound ecological planning and design principles to the construction and maintenance of trails, and relocate trails as needed to decrease maintenance and increase hiker comfort and associated allegiance to staying on trail.
17. Conduct a full inventory of all designated and social trails in the park, and determine appropriate trail closures and mitigation measures to direct users to stay on designated trails.
18. Remove or relocate trails that lead users into sensitive resource areas.
19. Provide logical trail connections to surrounding public lands.
20. Implement an "Adopt-a-Trail" program with local user groups to leverage limited maintenance dollars with the extensive maintenance needs in the park.
21. Coordinate with education programs to teach people the importance of staying on designated trails (such as the "Get Muddy" campaign).
22. Provide ongoing trail maintenance through staff, the Junior Ranger program, "Adopt-a-Trail" program, and the use of volunteer groups dedicated to these activities, such as Volunteers for Outdoor Colorado. Identify maintenance as a budget priority in preparing annual budgets.
23. Offer a range of different trail experiences to appeal to the diversity of trail users and to foster staying on the trail.
24. Minimize trail-user conflicts, and strike a balance among competing needs.

***Rehabilitate Impacted Areas***

25. Implement trail surface hardening where appropriate to accommodate high levels of use.
26. Use fencing and other mechanisms where needed to direct user traffic.
27. Close social trails and revegetate damaged areas with hardy native plant materials.
28. Correct erosion problems through either closures or the installation of appropriate erosion control devices.
29. Use temporary and permanent closures to restore severely impacted areas, such as a “rest and recovery” program.

***Improve Public Access***

30. Provide clear directions to park facilities and trails, and direct users to areas that are appropriate for use. Create better visual signage in complex locations.
31. Encourage use of public transit, pedestrian, and bicycle access to the park. Coordinate with RTD for enhanced transit service to major park portals.
32. Improve existing trailheads to provide local access points and reduce congestion.

**Strategy 6: Improve Interpretive, Educational, and Research Opportunities and Engage the Community in a Cooperative Stewardship Program**

*GOAL #1: Continue to develop and present excellent environmental education programs that build awareness and understanding of natural processes and human interaction with nature.*

*GOAL #2: Promote public involvement in the long-term management of the Mountain Parks by providing diverse communication opportunities and maintaining a responsive attitude towards visitor concerns.*

The Boulder Mountain Parks is a unique resource located close to a major university, local schools, and other educational facilities. There are many opportunities for citizens to become involved with and learn about the resources in their back yard. However, the seasonality and continual “turnover” of college students, in particular, provides unique educational challenges to the Mountain Parks. Additionally, the Boulder Mountain Parks has a history of public stewardship from the first acquisition of lands to the continued and enhanced funding of portions of the program and today’s popular volunteer programs. The long-term health of the Mountain Parks depends upon constructively engaging the community through

education, interpretation, and volunteer activities in taking care of the park.

Environmental education is the most important management tool for resource protection, as it fosters love and appreciation of the park and facilitates low-impact recreational use techniques.

***Provide High-Quality Educational and Outreach Opportunities***

1. Inspire park visitors to appreciate nature and their place in it; encourage them to become stewards of natural resources.
2. Continue to promote and provide educational programs within the park, such as Ecology Hikes and Fireside Talks.
3. Continue operation of the Flagstaff Summit Nature Center and the associated volunteer naturalist program.
4. Continue outreach programs with local schools, and work with teachers to develop curriculum that will result in better stewardship of our public lands.
5. Make a concerted effort to work with the University of Colorado to educate students about the Mountain Parks ecosystem and the importance of stewardship and involvement.
6. Continue to utilize environmental education as a tool to involve people and minimize the need for a more regulatory approach.
7. Expand educational opportunities for non-English-speaking populations.
8. Coordinate environmental education programs with City Open Space and other providers.
9. Expand interpretive signing and “self service” educational opportunities.
10. Implement the other recommendations found in the Draft Environmental Education and Interpretive Program Plan (1997).

***Provide High-Quality Interpretive Materials***

11. Provide improved maps, brochures, and interpretive signs, where needed.
12. Continue to use the Website for dissemination of important information.
13. Continue publication of *Natural Selections* on a quarterly basis as a cooperative effort with City Open Space.
14. Continue use of seasonal postings at trailheads and trail signs to inform visitors of unique conditions that may exist.
15. Expand the “stay on designated trails” program.
16. Reinstitute publication of the *Woodswise* newsletter semi-annually.



***Provide Research Opportunities***

- 17. Continue to utilize the research permit process and collaborate with City Open Space as appropriate.
- 18. Identify, provide, and manage research opportunities for students and professionals that tie directly into the adaptive management approach. Set standards and methods for research projects as appropriate in order to receive data that will be useful in adapting management techniques for changes in the Mountain Parks.
- 19. Participate in natural resource conferences and other forums to exchange ideas with other natural resource professionals.



*A staff researcher at work in the park.*

***Provide Stewardship Opportunities and Programs***

Consider every citizen to be a potential steward of public lands and identify ways that citizens can be engaged in stewardship activities.

- 20. Continue and improve on volunteer opportunities within the park.
- 21. Use the volunteer clearinghouse developed by Volunteers for Outdoor Colorado to match volunteer interests with the needs of the park.
- 22. Continue to train staff in volunteer management and coordination.
- 23. Continue to encourage individuals and organized groups to participate in park management programs as volunteers.
- 24. Continue to consult with user groups and the community at large on policy issues.
- 25. Work cooperatively with neighborhood organizations in the areas of facility development, land acquisition, and ongoing management programs that specifically affect them.

**Strategy 7: Improve the Safety of Boulder Mountain Parks**

*GOAL: Promote visitor safety and resource management goals through effective public education, law enforcement, and protection services.*

The terrain, local weather patterns, wildlife populations, high wildfire potential, recreational activities, and proximity to a major metropolitan area all contribute to public safety concerns in the Boulder Mountain Parks. Many of these safety issues are so unpredictable and inherently unmanageable that there is little likelihood of removing all safety concerns. Mountain Parks should strive to provide levels of public safety appropriate to the setting.

***Continue Proactive Approach to Public Information and User Education***

1. Develop integrated public information programs to inform users about potential hazards, appropriate uses, and rules and regulations.
2. Increase level of regular front- and backcountry ranger patrol services to directly contact visitors in the field.

***Continue Coordinated Approach to Public Safety***

3. Continue close cooperation with City of Boulder Open Space Department, the Boulder Sheriff and Boulder Police Departments, the Colorado Division of Wildlife, and the Boulder Fire Department.



*Wildlife and human visitors in close proximity create possible conflicts.*

***Continue Extensive Law Enforcement, First Aid, and Search and Rescue Training***

4. Continue to require Peace Officer Standards and Training (POST) for all park rangers.
5. Encourage rangers and other staff to become certified Emergency Medical Technicians (EMTs).
6. Continue search and rescue capability and preventive programs, and continue coordination with other rescue services.
7. Continue fire-fighting training for Mountain Parks personnel.

***Enforcement Efforts***

8. Use highly professional and consistent law enforcement techniques when enforcement is required, and continue operating under the general standards of the Boulder Police Department.
9. Continue to use enforcement encounters as one step in the continuum of opportunities for environmental and stewardship education.

**Strategy 8: Improve Core Park Management and Maintenance**

*GOAL: Keep roads, facilities, and access trails open, clean, safe, and in good repair, and accomplish all other core maintenance services listed below.*

***Expand Maintenance Services***

1. Continue to eliminate backlog of maintenance tasks that resulted from understaffing and low budgets in the past.

2. Improve shop space for indoor construction projects.
3. Contract trash removal from remote locations in order to free up Mountain Parks staff for ongoing maintenance needs.
4. Continue to utilize bear-proof cans to better manage wildlife and trash issues, and provide wildlife-related structures as needed..
5. Increase seasonal and contractual labor to accomplish goals.

***Provide Core Mountain Parks Maintenance Services***

6. Maintain and repair buildings and structures, including historical park structures.
7. Construct, maintain, and repair fire and access roads, gates, signs, and interpretive signs.
8. Landscape to stabilize disturbed areas, re-establish vegetation, and eliminate invasive weeds.
9. Construct and maintain access routes to facilities.
10. Improve access to facilities for persons with disabilities.
11. Install and repair picnic tables, shelters, outhouses, and other facilities.
12. Build and repair fences, handrails, ramps, decks, and amphitheaters.
13. Repair vandalism of buildings, structures, shelters, fences, and signs. Remove graffiti as quickly as possible.
14. Remove trash and service outhouses.
15. Provide snow removal and plowing for facility access.
16. Construct structures to manage runoff for irrigation and erosion control.
17. Maintain fire-fighting and maintenance tools and equipment.
18. Continue to provide excellent environmental education and other informational signing, and continuously strive for new ways to better inform visitors.



*Fire is used as a management technique to improve the health of the vegetation in the park.*

**Strategy 9: Enhance Park Funding and Staffing**

*GOAL: To provide the necessary staffing and funding to carry out the mission of the Boulder Mountain Parks.*

The ability of Mountain Parks to carry out the ambitious management program identified in this plan requires an increase in both staffing and funding. The 1992 and 1995 ballot initiatives enhanced the Division’s ability to maintain and protect the

Mountain Parks; however this funding is not sufficient to meet the needs identified in this plan—particularly establishing the adaptive management program. Further, general fund budget cuts which occurred in 1997 and 1998 in Mountain Parks have diminished the capacity to meet our goals.

***Mountain Parks Funding***

1. Identify specific budgets required to implement the plan, and locate sources of additional funding for annual research and monitoring needs.
2. Continue to identify and implement cost-saving methods in the park.
3. Identify additional funds as needed to complete the land and conservation easement acquisition program.
4. Explore potential for private and nonprofit support for specific park projects.
5. Secure permanent funding for the Junior Ranger program and the Integrated Pest Management program.
6. Move forward on providing sufficient, well-located office space for the bulk of the Mountain Parks staff in one location (expansion of the Ranger Cottage at Chautauqua Park). Support facility needs of the Resource Operations and Maintenance section in the area of the city yards.



*Bluebell Shelter, an historic structure in the park.*

***Mountain Parks Staffing***

7. Continue to provide excellent training opportunities so staff can maintain and enhance natural resources and recreational opportunities while providing for public safety.
8. Identify any additional staffing needs for Special Programs, Volunteer Coordinator, Junior Rangers, Resource Management, Visitor Use Management, and so on.
9. Utilize seasonal and contractual labor whenever possible to complete special research and projects; plan incremental steps so that full-time regular staff does not become overwhelmed with project administration.
10. Continue to utilize well-trained volunteers to accomplish our management goals.
11. Provide diverse opportunities for the general public to contribute to park management.



**Chapter Summary.** At the heart of this document is the need to balance natural resource protection and enhancement with appropriate recreational use and educational opportunities. This ideal involves complex interactions between public agencies, the public, user groups, volunteers, and elected officials. This chapter presents the range of goals and strategies needed to balance those interests, keeping the protection of the natural resources foremost.



*One of the Mountain Parks' Rangers patrolling on horseback.*

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***“Look deep, deep into nature, and then you will understand everything better.”***

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—Albert Einstein

## Chapter 3: IMPLEMENTATION

The Mountain Parks constitutes a mature system where the struggle to achieve a balance between natural resource values and recreational use has been taking place for over 100 years. The professional management of the Mountain Parks provided by the Parks and Recreation Department since the late 1960s has created multiple ongoing programs, many of which have served as models in this community and for other land management agencies. Mindful of the past, staff will continue to expand its knowledge of the park and hone management responses while working to implement the challenging actions outlined in this plan.

The attached matrix of Resource Management in Boulder Mountain Parks details the resource management concerns of the park, the guiding studies or plans, the activities and programs that currently address these concerns, and “new directions” provided by citizen input throughout this management planning process. Through adaptive management techniques, these activities and programs will be supplemented and changed as needed to incorporate lessons learned, new concerns, and new information. Critical steps in the adaptive resource management process which lead directly to implementation techniques include:



*Rare and sensitive wood lilies occur in the park.*

***Recognition of Resource Management Problems and Opportunities.*** We have included in the implementation matrix some of the sources of information that we use to guide our management of the park (Guiding Studies or Plans). In addition, we monitor both citizen input and activities occurring in other jurisdictions so that we can recognize and respond to new activities, trends, issues, and opportunities.

***Resource Inventories, Research, Studies, and Monitoring.*** Although we have many historical reports on the natural and visitor values in the Mountain Parks, we are strongly committed to increasing this aspect of our management. Currently, we are very involved in extensive vegetation monitoring, and we have also begun a new effort in long-term monitoring of faunal resources. We are developing funding proposals to ensure that research and monitoring retains a critical position in our management strategies. This new funding will probably need to come from lottery funds or a reallocation of ballot issue funds.



***Internal Decision-Making Processes with Interdisciplinary Staff Teams.***

Mountain Parks established interdisciplinary staff teams (Advisory Committees) in 1995, a system which has worked very effectively to utilize and involve staff in decision-making. In addition, we work closely with the City of Boulder Open Space Department and other City and external agencies in formulating new policies. We have a strong history and continued commitment to establishing consistent procedures and policies that are fair and understandable to the public.

***Public Involvement.*** In the past, Mountain Parks staff has relied heavily on citizen groups like the Trails Committee, the Climbing Task Force, and the Dog Round Table to help us create solutions to emerging problems. We are currently considering the establishment of a citizen advisory group, representing diverse interests, to serve as a sounding board for new strategies to implement the goals of this management plan.

***Liaison with Other Agencies.*** Mountain Parks has created many of its current management policies and plans in cooperation with other agencies. Primary among these is the City of Boulder Open Space Department, with whom we share overarching jurisdictional goals. Our ongoing intention is to work closely with this sister department to guarantee that our regulations and policies are consistent and understandable to the public we both serve. Other agencies like Boulder County, the Colorado Division of Wildlife, the Colorado State Forest Service, the National Park Service, and the United States Forest Service are also major cooperators on various projects, and we will continue working closely with these and other agencies.

***Implementation Strategies: Programs, Management Actions, Regulations, and Education.*** These action items will be created and enacted in accordance with the guidelines expressed in the Management Approach section and various strategies expressed in this plan.

**Special Policies Currently in Use**

Mountain Parks has developed several special policies in the past that are still in operation. At the end of this section, we have included a short description of special policies we plan to focus on in the very near future. We will first briefly describe the



existing special policies, both to clarify these policies and to show how they might serve as models for creating other policies on special issues that might be implemented in the future.

***Mountain Biking.*** In part, the formation of the Trails Committee in 1983 can be attributed to the desire of Parks and Open Space users to have a voice representing their interests, one of which was mountain biking. At the first meeting of the Trails Committee on March 10, 1983, public interest in opening up more trails to mountain bikers was expressed, and the committee decided to address the issue and engage in further discussion. At that time, Boulder Revised Code prohibited the use of non-motorized vehicles in Parks or Open Space except where posted for that use by the City Manager. At the second meeting of the Trails Committee on March 31, 1983, the Mountain Bike Coalition—a newly formed group representing the interests of mountain bikers—addressed the committee, expressing a desire to have more trails opened up to bikers. The Mountain Bike Coalition also made a commitment to the Trails Committee to provide volunteers to monitor and maintain trails for damage that might occur.

On April 13, 1983, the Open Space Board of Trustees voted unanimously to approve the Open Space staff recommendation to open an additional 13 trails to mountain bikes. In the spring of 1984, Mountain Parks designated the north end of the Mesa Trail (including Enchanted Mesa Fire Road and Bluebell Road) and the Chapman/Tenderfoot trails open to mountain bike use. In deciding to open these areas to mountain bikes, committee members and board members felt that there would be no real impact to the trails or other users, noting that mountain bikes were extremely expensive, sales of mountain bikes accounted on average for only 10 to 15 percent of total bike sales at the retail stores, and their expected use and popularity were not likely to increase substantially in the near future.

Contrary to those predictions, in 1985 and 1986, the popularity and sales of mountain bikes increased tremendously. Estimates from local retail bike stores indicated that mountain bike sales made up approximately 50 percent of total bike sales. Off-road cycling as a form of recreation and fitness training was becoming quite popular. Staff began to see and document user conflicts, trail and off-trail damage, and hear complaints from citizens regarding conflicts and safety concerns on trails.

During this period, Mountain Parks and the City Open Space staffs engaged in a substantial effort to educate the public about mountain biking. New signs were developed and posted, material for trailhead information was developed,

maps and brochures were designed, and Mountain Parks, City Open Space, the City Bike Program, and the University of Colorado Bike Program cooperatively developed educational programs for students and citizens. The NORBA (National Off-Road Bicycle Association) Off-Road Cyclist's Code was promoted in our educational efforts. Staff documentation of warnings and summons issued in 1985 and 1986 indicated that approximately 65 percent of all violations were committed by CU students.

In the fall of 1986, responding to an increase in visitor complaints and concern for public safety, City Council requested that City staff explore the possibility of a regulatory ban on mountain bikes in Mountain Parks and City Open Space areas. Also in the fall of 1986, the Trails Committee held two public meetings on this issue. Discussions focused on education, stricter enforcement of regulations and possible revisions to current trail use, loop trails, and closing trails to mountain bikes. The Trails Committee also developed and distributed a trail-use questionnaire to poll constituents of the organizations they represented.

At the Trails Committee meeting held on February 5, 1987, the following recommendations to the Parks and Recreation Advisory Board and the City of Boulder Open Space Board of Trustees were approved:

1. Close trails currently open to mountain bikes south of Sunshine Canyon, west of Broadway, north of Eldorado Canyon. (This closure was expanded north to Lee Hill Drive.)
2. Increase fines to a minimum of \$100.00 per offense. (This was subsequently approved by the City Council.)
3. Improve signs.
4. Provide extensive media/public relations effort on closures, etiquette, and regulations.
5. Advertise alternative riding areas.
6. Assign a task force (Trails Committee members) to evaluate modifications, discuss alternative areas, and investigate other issues related to mountain biking.

On February 23, 1987, after reviewing public comment and recommendations from both Boards and the Trails Committee, City Council voted to approve regulatory changes banning mountain bikes in the geographic area west of Broadway, north of Eldorado Canyon, and south of Lee Hill Drive. Several members of the mountain biking community spoke to City Council in support of this closure, citing intense hiking use which already occurred in these areas and concerns with impacts and conflicts.

Presently, violations of this closure do still occur; however, the frequency is minimal (approximately 5 to 15 summonses annually on Mountain Parks properties). The associated resource damage and public complaints are negligible, reflecting the infrequent, illegal incidents of mountain bike use. Mountain biking is currently permitted and supported by trail improvements in the Boulder Reservoir area and in several City of Boulder Open Space areas.

During the Park Management Forums held in November and December of 1998, mountain biking proponents in attendance supported the continued closure of the core area of the Mountain Parks, but encouraged staff to pursue an “east–west” connection through the Eldorado Canyon area. Staff has committed to working on this potential corridor with other land management agencies, including City of Boulder Open Space, Boulder County Parks and Open Space, and Eldorado Canyon State Park.

***Climbing Management.*** In the early 1980s, the need to provide better protection for nesting birds of prey in the Mountain Parks and City Open Space led to a cooperative effort between the Boulder County Nature Association, the Colorado Division of Wildlife, and the City of Boulder Mountain Parks to seasonally close an area in Skunk Canyon. The first closure in 1983 has led to a system of seasonal wildlife protection closures in both Mountain Parks and City Open Space. These

closures have very successfully protected peregrine falcons, prairie falcons, golden eagles, and other raptors from disturbance during their nesting cycle, and have been well-supported by the climbing community.

Also beginning in 1983, the Mountain Parks staff has mapped increasing social trail networks in the area of the Flatirons and other popular climbing and hiking areas. Mountain Parks has utilized the Junior Ranger Program, Volunteers for Outdoor Colorado, local climbing groups, and the services of a trail planning consultant to develop plans to allow access to

popular climbing routes while diminishing the impacts of social trails. Since its inception in 1996, the Mountain Parks resource trail crew has been able to develop excellent access to specific climbing routes and to restore associated eroded areas. Hikers as well as climbers now use these stabilized trails, and impacts from heavy use in those areas have been reduced. There are still extensive areas in need of



*Falcons and eagles nest on Mountain Parks' crags.*

rehabilitation and trail renovation around the Flatirons, Saddle Rock, Dinosaur Mountain, and Bear Mountain.

The advent of the “new sport of rock gymnastics” (Roach, 1987), in which routes previously considered unclimbable become accessible through the use of rappel bolting, has had considerable impacts on both Mountain Parks and City Open Space climbing areas. In particular, numerous new social trails throughout Fern Canyon and complaints about mechanized drills and hardware placement prompted the posting of notices that such activity was in violation of existing City ordinance BRC 5-4-2 (Damaging Public Property) in late 1989. These notices created a strong reaction in the climbing community, and an extensive conversation and public process ensued.

The Climber’s Coalition was formed, which allowed proponents of “clean climbing,” fans of bolting, and environmental protection advocates to discuss issues with staff. Those meetings, as well as co-sponsored public hearings, were helpful in resolving the issues. Talk about how climbing issues were being resolved in various national and state parks furthered the discussion, and other agencies were widely contacted by staff. Staff inventoried almost all of the climbing routes in both Mountain Parks and City Open Space. Staff gathered input from multiple sources and, through a series of 31 formal meetings and hearings, created a series of three draft plans for consideration by the public, the Parks and Recreation Advisory Board and the Open Space Board of Trustees, and City Council.

The Climbing Area Management Plan of Boulder Mountain Parks and City of Boulder Open Space and associated ordinance changes were approved by Boulder City Council on second reading in May of 1991. The ordinances included changes in BRC 5-4-2, (Damaging Public Property) and a new ordinance, BRC 8-3-20 (Fixed Hardware Prohibited). Major tenants of the plan included a discussion of various impacts associated with climbing activity and a management action plan, including:

- a strong educational effort,
- regulatory changes,
- an increased backcountry presence,
- environmental and recreational research,
- area closures and route removal protocols,
- development of climbing access trails, and
- cooperation with climbing groups and other agencies.

Since this plan was adopted, a “*Conscious Climbing*” brochure has been produced, staff has increased its presence in the backcountry, visitor use and ecological management studies and floristic inventories have been accomplished, seasonal wildlife closures have been advertised and implemented annually, raptor nest production has increased, multiple climbing access trails have been designed

(and many completed), and a “bolt replacement” process has been created in cooperation with climbing groups. Local climbing groups and the climbing public have participated in restoration projects in climbing areas and in annual chalk-cleanups at Crown Rock.

Members of the climbing community have expressed interest in creating a system that might allow new bolted routes in the Mountain Parks and City Open Space, modeled after the system in place in Eldorado Canyon State Park. Since 1991, staff members have focused their efforts on mitigating impacts from climbing activity through

education, providing good climbing access trails, protecting and monitoring raptor nest sites, and restoring eroded areas. Although the staff has worked with the climbing community to provide a process for bolt replacement to ensure that climbers have the ability to replace old or unsafe hardware, staff has not wished to enter a discussion of new route placement without a general management plan. The adoption of the Resource Protection and Visitor Use Plan for the Boulder Mountain Parks may provide the appropriate setting and policy framework for such discussions.

Limited opportunities to place new bolted routes in the park might be considered if significant effort can be expended to help control erosion. Climbing community volunteerism will be an important aspect of any discussion of new routes. Further, although staff has suggested that any new bolted routes might be traded off by closing other, environmentally damaging routes, staff has not suggested the removal of traditional easy and moderate climbs in favor of new, more difficult bolted routes.

Recently, the climbing community has expressed interest in creating a citizen advisory group to deal with climbing issues. Mountain Parks staff is considering this idea, but prefers an option that would include a diverse range of citizen interests to look at broader issues in the park.





**Dog Management.** Mountain Parks staff has worked on managing dog issues since the middle 1970s, when it created guidelines for responsible dog control. These guidelines clarified the general park ordinances and were intended to educate dog owners on protecting natural values and considering the concerns of other visitors. They were posted on all sign boards, and beginning in the 1980s, they were passed out by hand to park visitors. Regulations concerning voice and sight control and dogs at large were enforced as part of the educational process.

In January 1994, the City Open Space Department proposed changing dog management regulations as part of its Long Range Management Policies. A Dog Round Table was convened in June 1994 to broaden community participation in addressing dog management issues, and in August of that year, City Council directed Parks and Recreation and City Open Space to work together to develop consistent dog management policies. Under the leadership of the City Manager's Office, a series of Dog Round Table meetings were

held with stakeholders ranging from dog owners to environmental groups. A subcommittee of this Dog Round Table, composed of citizens, board members and City staff developed recommendations regarding dog management. The subcommittee presented the recommendations to the Dog Round Table in March 1996 and then held a series of four public meetings in April 1996. The subcommittee



integrated public comment to revise the recommendations and presented the Dog Management Plan to the Parks and Recreation Advisory Board, the Open Space Board of Trustees, and City Council, all of which adopted the plan in late 1996. The following are brief descriptions of the major components of the plan:

- A new trail map for Mountain Parks and City Open Space, showing dog management regulations for specific trails and areas. Trails are voice and sight control unless otherwise posted. Several areas are closed to dogs.
- An aggressive educational campaign to encourage responsible dog behavior and to disseminate information on regulations and land management concerns.
- An enhanced voice and sight control ordinance that clarified and strengthened the terms of control, emphasizing that in the absence of control, a dog must be leashed.

- A city referendum to allow the possibility of voice and sight control on Parks and City of Boulder Open Space lands within the city limits. This referendum was approved by voters and allows boards and council to consider proposals to change the leash law at specific sites.
- The development of “Dog Exercise and Training Areas” where dogs can be off leash for exercise and training close to home. These would be small fenced areas within the city limits; they must go through extensive public process with the appropriate board prior to approval.
- A long-term monitoring process to measure the success of the program.

Following this public process, a grace period was instituted, so that the public could adjust to the new regulations. The ordinances began to be enforced in 1997. Mountain Parks staff has worked on continuing education for dog owners, including offering the American Kennel Club program “Canine Good Citizen” and instituting better signing in the park. Court summons are issued for serious violations, and the support of the court has been excellent. We are currently working together to institute alternative sentencing options. Presently, there is increased emphasis on issuing summons for violations and encouraging peer pressure amongst the public so that this dog management system will succeed. The program is reviewed regularly, and if the program is found to be unsuccessful in protecting natural and visitor values, staff will work together with the City Open Space Department and the community to explore a dog “certification” program for voice and sight control and consider instituting further restrictions if needed.

### **Current Policy Considerations**

At the present time, Mountain Parks is considering the development and implementation of several new policies not specifically addressed elsewhere in this plan. They include the regulation of commercial uses in the park, a change in regulations for large groups, and changes in the parking permit fee system.

#### ***Commercial Use Policy***

Although multiple uses could be affected if a commercial use policy is adopted, primary issues have developed around commercial filming and instruction of groups for private gain. At the current time, control of these uses is primarily based on good will. While this is our preferred method of operation, incidents have occurred in which better regulatory power would have prevented damage to the park. The Parks and Recreation Department has drafted a potential commercial use policy,

which has been shared with the City Open Space Department. Mountain Parks will continue to work cooperatively to develop this plan. Any changes in regulation will go through a public process, and the City council would have to approve and enact ordinance changes. We hope to move forward with this process in the year 2000.

### ***Policies Regarding Large Groups***

Both Mountain Parks and the City Open Space Department have considered changing the current ordinance governing large groups to further limit group size. The present ordinance requires a special permit for groups over 50 persons, and exempts educational groups. We have considered further limiting the requirement for a special permit to groups of 25 and larger, and will explore including educational groups.

### ***Parking Permit Fee System***

Due to changes in Colorado's system of issuing license plates that are expected to be implemented in the first several years of the new century, it will be necessary to re-evaluate the Mountain Parks' current parking permit fee system. Staff has proposed that the fee system be extended to all vehicles, as it will no longer be possible to identify the county of residence based on the license plate. The parking permit fee system has been very successful, generating much-needed revenue for the Mountain Parks. Most important, the system has served as a point of contact for all visitors, making them more aware of management goals and protective strategies for the park. Further, the program has significantly reduced late-night use, which formerly was the source of significant vandalism and other crime.

### ***Other Policy Changes***

As the "new directions" planned and shown in the matrix of the Mountain Parks management plan are implemented, other policy changes may be needed. Specific decisions, policies and actions will be created and enacted in accordance with the guidelines expressed in the Management Approach section and the various strategies expressed in this plan. All of the new directions included in the matrix are intended for partial or full implementation within the next five years.

# Implementation Matrix

	Guiding Studies or Plans	Management Activities	New Directions
<b>WILDLIFE</b>	<ul style="list-style-type: none"> <li>◆ Studies by Armstrong, Cooper, Jones, and others</li> <li>◆ BCNA raptor bird studies</li> <li>◆ CDOW raptor protection studies</li> <li>◆ 1976 Prairie Dog Management Plan</li> <li>◆ Deer studies and monitoring (1983–present)</li> <li>◆ Boulder County Comprehensive Plan critical wildlife habitat designations</li> <li>◆ Abert Squirrel study</li> <li>◆ Managing Mountain Park Ecosystems for Birds and Mammals (Jones 1990)</li> </ul>	<ul style="list-style-type: none"> <li>◆ Sawhill Ponds Management Plan</li> <li>◆ Prairie dog management activities</li> <li>◆ Raptor protection and closure program</li> <li>◆ Bear and lion management program (sightings, monitoring, education, management actions)</li> <li>◆ Bat monitoring program</li> <li>◆ Deer management activities</li> <li>◆ Wildlife transects (inventory and monitoring)</li> <li>◆ Contract research program</li> <li>◆ Limited land acquisition program primarily for preservation of wildlife habitat</li> <li>◆ Boulder Reservoir Management Agreement</li> </ul>	<ul style="list-style-type: none"> <li>◆ Expand inventory and research activities; develop ongoing resource monitoring system to support adaptive management</li> <li>◆ Implement area management system to provide high level of protection for sensitive resources and low-impact, high-quality recreational opportunities in appropriate locations</li> <li>◆ Expand resource management programs designed to protect wildlife habitat</li> <li>◆ Build cooperative agreements with neighbors to protect habitat, and continue to acquire critical land</li> </ul>
<b>VEGETATION</b>	<ul style="list-style-type: none"> <li>◆ Studies by Cooper, Hogan, Jones, and others</li> <li>◆ Vegetation and land-cover mapping (1997)</li> <li>◆ Wetland study (1997 Phase 1; 1998 Phase 2)</li> <li>◆ Greenslope plans (1975)</li> <li>◆ 1982 Forest Management Plan</li> <li>◆ 1999 Forest Ecosystem Management Plan and prescriptions</li> <li>◆ Wildflower interpretive brochure</li> </ul>	<ul style="list-style-type: none"> <li>◆ Colorado Natural Area Registration</li> <li>◆ Prescribed fire to restore biodiversity</li> <li>◆ Forest thinning and beetle management (Greenslope and present)</li> <li>◆ Wetlands creation (51st Street, Coot Lake) and protection</li> <li>◆ Integrated Pest Management (IPM)</li> <li>◆ Native species seed collection</li> <li>◆ Revegetation activities</li> <li>◆ Forest and riparian area inventories</li> <li>◆ Ongoing vegetation monitoring</li> <li>◆ Contract research program</li> <li>◆ Forest Ecosystem Management Plan prescriptions and implementation</li> </ul>	<ul style="list-style-type: none"> <li>◆ Expand inventory and research activities; develop ongoing resource monitoring system to support adaptive management</li> <li>◆ Implement area management system to provide high level of protection for sensitive resources and low-impact, high-quality recreational opportunities in appropriate locations</li> <li>◆ Expand resource management programs designed to protect wildlife habitat and sensitive plant communities</li> <li>◆ Continue careful use of prescribed fire, thinning, and weed control to enhance the health of ecosystems</li> </ul>

BUILDING STEWARDSHIP	Guiding Studies or Plans	Management Activities	New Directions
	<ul style="list-style-type: none"> <li>◆ Draft Environmental Education and Interpretive Plan (Reilly-McNellan 1997)</li> <li>◆ Visitor surveys</li> <li>◆ Historic Environmental Education programs begun in 1971 (Fireside Talks, Ecology Hikes, school programs)</li> </ul>	<ul style="list-style-type: none"> <li>◆ Fireside Talks and Ecology Hikes in summer; specialized talks and hikes throughout rest of year</li> <li>◆ Outreach to schools and civic groups</li> <li>◆ Flagstaff Summit Nature Center</li> <li>◆ Informational and interactive Website</li> <li>◆ Environmental Education programs in Spanish</li> <li>◆ Teacher workshops plus program materials and informational brochures for teachers</li> <li>◆ Interpretive brochures on wildlife, wildflowers, history, geology, dogs, climbing, areas</li> <li>◆ Environmental Education backpacks, kits for public and school use</li> <li>◆ Volunteer Naturalist Program</li> <li>◆ Junior Ranger Program</li> </ul>	<ul style="list-style-type: none"> <li>◆ Form a citizen advisory committee to provide ongoing liaison and sounding board for Mountain Parks planning and decision making</li> <li>◆ Continue to expand environmental education and community outreach programs</li> <li>◆ Enhance interpretive signs and expand the number of interpretive trails</li> <li>◆ Increase staff presence and contact with the public (education, patrol, hands-on involvement in park management)</li> <li>◆ Expand volunteer program and build broader base of support</li> </ul>
TRAILS	<ul style="list-style-type: none"> <li>trail studies (Steve Ross 1983, others)</li> <li>◆ Trail plans produced by Jim Angell (consultant)</li> <li>◆ Trail planning and criteria developed by staff</li> <li>◆ 1998-99 Social Trail Update (Hatfield)</li> </ul>	<ul style="list-style-type: none"> <li>◆ Trail maintenance</li> <li>◆ Trail surfacing or hardening</li> <li>◆ Trail relocations</li> <li>◆ Trail redesign and refurbishment</li> <li>◆ Trail hosts program</li> <li>◆ Trail Master Plan and longer-term trail planning</li> <li>◆ Eagle Scout and other volunteer projects</li> <li>◆ Junior Ranger program</li> </ul>	<ul style="list-style-type: none"> <li>◆ Aggressively eradicate social trails and relocate trails out of environmentally sensitive areas</li> <li>◆ Continue to refurbish trails and make them more user-friendly</li> <li>◆ Develop an expanded proactive trail and facility maintenance program</li> </ul>
FACILITIES	<ul style="list-style-type: none"> <li>◆ Facility Inventories</li> <li>◆ Historic records of structures</li> <li>◆ Lists of maintenance priorities</li> </ul>	<ul style="list-style-type: none"> <li>◆ Facility protection and vandal-proofing</li> <li>◆ Facility maintenance</li> <li>◆ Facility refurbishment</li> <li>◆ Restoration of historic structures</li> <li>◆ Facility reservation system</li> <li>◆ Road paving and striping</li> <li>◆ Provision of ADA facilities and retrofits</li> <li>◆ Fishing for Fun piers</li> </ul>	<ul style="list-style-type: none"> <li>◆ Harden recreational sites as needed to enhance resource protection and visitor services</li> <li>◆ Develop an expanded, proactive facility maintenance program</li> <li>◆ Improve facilities and signs to meet current needs</li> <li>◆ Expand areas accessible to people with disabilities</li> </ul>

	<b>Guiding Studies or Plans</b>	<b>Management Activities</b>	<b>New Directions</b>
<b>GEOLOGY</b>	<ul style="list-style-type: none"> <li>◆ Mapping of significant geological features</li> <li>◆ White paper on geological resources of the Mountain Parks (Reilly-McNellan)</li> </ul>	<ul style="list-style-type: none"> <li>◆ Outreach to CU geology classes</li> </ul>	<ul style="list-style-type: none"> <li>◆ Enhance interpretive efforts to highlight this resource</li> </ul>
<b>CULTURAL</b>	<ul style="list-style-type: none"> <li>◆ 1995 Cultural Inventory</li> <li>◆ Historical records</li> </ul>	<ul style="list-style-type: none"> <li>◆ Physical improvements to restore or stabilize historical features / structures</li> </ul>	<ul style="list-style-type: none"> <li>◆ Enhance interpretive efforts to highlight these resources</li> </ul>
<b>WILDFIRE</b>	<ul style="list-style-type: none"> <li>◆ 1982 Forest Management Plan</li> <li>◆ 1989 Fire Preparedness Plan</li> </ul>	<ul style="list-style-type: none"> <li>◆ Annual City of Boulder Fire Preparedness Plan</li> <li>◆ Boulder County Mutual Aid System</li> <li>◆ Forest Ecosystem Management Plan and “red-zone” studies</li> </ul>	<ul style="list-style-type: none"> <li>◆ Prescribed fire program and mechanical thinning to reduce biofuels and enhance vegetative health</li> <li>◆ Fire suppression as needed</li> </ul>
<b>VISITOR USE</b>	<ul style="list-style-type: none"> <li>◆ Visitor use counts and surveys (1978-present)</li> <li>◆ Visitor intercept surveys</li> <li>◆ 1991 Climbing Management Plan</li> <li>◆ 1984-87 mountain bike impact surveys</li> <li>◆ 1996 Dog Management Plan</li> <li>◆ 1998-99 Climbing Use Update (Hatfield)</li> </ul>	<ul style="list-style-type: none"> <li>◆ Visitor use monitoring program</li> <li>◆ Group permit regulations</li> <li>◆ Research permits</li> <li>◆ Climbing management program</li> <li>◆ Dog management program</li> <li>◆ Mountain bike closures and opportunities</li> <li>◆ Visitor protection and emergency response activities</li> <li>◆ Parking permit fee system</li> <li>◆ Environmental education, interpretation, and outreach programs</li> <li>◆ Flagstaff Summit Nature Center</li> <li>◆ Junior Rangers Program</li> <li>◆ Volunteer Naturalist Program</li> <li>◆ Use and access controls at Boulder Reservoir and Sawhill Ponds</li> <li>◆ Current development of commercial use policy</li> <li>◆ Bolt replacement policy</li> <li>◆ Cooperative projects with the Access Fund</li> </ul>	<ul style="list-style-type: none"> <li>◆ Continue to develop program for ongoing visitor-use monitoring</li> <li>◆ Maintain the prohibition of mountain biking in the core, but initiate interagency feasibility study of mountain bike connection from Eldorado Springs to Walker Ranch (which may cross a fringe of Mountain Parks)</li> <li>◆ Investigate development of a system that allows limited creation of new fixed-hardware climbing routes with the tradeoff or abandonment of other climbing routes, especially those in highly sensitive areas.</li> <li>◆ Develop an expanded permitting and fee system for large groups and commercial users.</li> <li>◆ Investigate the inclusion of Boulder County residents in the parking permit system to adjust to new state licensing system.</li> </ul>

This implementation matrix, and the strategies which it supports, is meant to be incorporated into the annual work planning of the Mountain Parks Division. Each fall, staff designs our work projects for the coming year through a process of acknowledging ongoing “core” services and their impact on staff time and budget, and then selecting the highest priority special projects for accomplishment during the coming year.

As we plan our work programs for each coming year, we will draw these special projects from the “New Directions” column of the implementation matrix and the nine Strategies of the Plan. These will be selected based on visitor input, staff prioritization, immediacy of need, and budgetary opportunities. We acknowledge that it will take several years to tackle all of these issues and that new unforeseen issues and projects will emerge; nonetheless, we hope to address and hopefully complete all the listed “New Directions” within the planning period of 2000 - 2004.

We will complete an annual report each year so that we can both evaluate and communicate our progress towards these goals, and plan to produce a five year update of the Management Plan in the year 2004.

