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# County Parks & Open Space Recreational Conflicts Study

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During the summer of 2003, Boulder County Parks and Open Space conducted a study to obtain baseline data on perceived visitor conflicts. The report of that study is included below. BATCO supports Boulder County's continuing efforts to gather the data necessary to make informed decisions about land management policies and practices. We believe establishing a baseline with the Conflict Study, combined with continued monitoring of future trends, is a most appropriate way to understand and manage the quality of our visitor's experiences.

The facts that 98% of the visitors reported no conflicts on their visits and that 66% reported never having a conflict were very encouraging findings. We are pleased that overall results are so positive and hope we can help to maintain and improve conditions in the future.

Before presenting the study, we would like to make a precautionary comment. In reviewing the study, one of the strongest impressions we received was that bicyclists are the primary source of concern and generate a disproportionate number of complaints compared to other visitors. Although bicyclists received the largest number of conflict comments, they were also the largest user group. In fact, the proportion of comments about bicyclists was reasonably consistent with the proportion of bicycle users (bicyclists making up 47% of the visitors and receiving 52% of the conflict comments). Several other user groups had disproportionately large numbers of complaints for the number of visitors in the group. Table 4 of the study report makes this clear, but the information tends to get lost in the detail results for the various properties, where bicycle comments consistently head the lists of concerns. We think it is important to highlight the Table 4 information to keep things in context.

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## Recreation Conflict at Six Boulder County Parks and Open Space Properties: a Baseline Study

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September 10th, 2004

## **Contents**

<b>Acknowledgements</b>	<b>i</b>
<b>Executive Summary</b>	<b>ii</b>
<b>1. Introduction</b>	<b>1</b>
<b>Background</b>	
<b>Literature Review</b>	
<b>Study Purpose and Objectives</b>	
<b>2. Methods</b>	<b>3</b>
<b>Interview Instrument Design</b>	
<b>Sampling Strategy</b>	
<b>Data Collection Procedure</b>	
<b>Data Organization and Analysis Methods</b>	
<b>3. Results</b>	<b>4</b>
<b>A. Demographic Data</b>	
<b>B. Conflict Data</b>	
<b>4. Conclusion</b>	<b>20</b>
<b>Achieved Objectives and Implications for Management</b>	

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**Literature Cited** **21**

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**Appendices****A. Interview Survey****Section 1: Properties allowing dogs****Section 2: Properties not allowing dogs****B. Respondent Demographics****C. Survey Schedule****D. Conflict Comments****E. Policies, Facilities and Operations-Related Comments****F. Stated Reasons Respondents Will Not Return to Property****G. Positive Comments and Suggestions for Improvement**

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Boulder County Parks and Open Space would like to thank the corps of Boulder County seniors, volunteers and dedicated staff whose many hours of data collection and data entry made this study successful.

The Department would also like to thank the 624 visitors to Boulder County Parks and Open Space who took time out of their recreation to complete the interview. Thank you.

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**EXECUTIVE SUMMARY**

During the summer of 2003, Boulder County Parks and Open Space conducted a study to obtain baseline data on perceived visitor conflicts. Trained staff conducted 624 interviews at six Boulder County Parks and Open Space properties. The results of this survey show that only 2% of respondents experienced conflict on the day they were interviewed, while 98% had no interpersonal conflicts that day. Also, approximately 66% of respondents reported never having conflicts, while 34% had ever experienced interpersonal conflicts at some point in the past.

Of the respondents who reported conflicts, those interviewed at Betasso Preserve reported conflicts most often, while respondents at Walker Ranch-Meyers Homestead Trail reported conflict least often. Equestrians, dog walkers, and hikers reported conflicts most frequently, whereas mountain bikers and runners reported conflicts least frequently.

Respondents who reported conflicts mainly focused on mountain bikers' failure to yield, high speed, lack of communication, and failure to comply with park regulations. Dog walkers' leashing and control behaviors, and the presence of horse feces on the trail were also of concern for some respondents. Respondents who reported conflicts also occasionally mentioned conflicts with hikers and "other visitors."\*

These and other baseline data determine what conflicts presently exist and between which types of visitors, and will guide future studies and management actions.

## 1. INTRODUCTION

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Outdoor recreation is a very popular American activity. From 1999 to 2002, 98.5% of Americans aged 16 and older (210 million) participated in some type of outdoor recreation activity nationwide (NSRE 2002). Locally, visitation to Boulder County Parks and Open Space properties increased about 16% from 1998 to 2003 (BCPOS 1998, 2003). As more people discover the benefits of outdoor recreation, land managers have seen increasing usage affect the quality of the recreation experience.

Information about visitor attitudes and preferences is useful in guiding recreation management (Manning 1999). Two related aspects of particular interest to Boulder County are visitor satisfaction and trail-based recreation conflict. Recreation conflict on multiple-use trails is a concern that needs attention at many natural areas (Moore 1994). As such, by identifying and monitoring sources of recreation conflict, land managers can employ appropriate resolution techniques.

### Background

The Board of County Commissioners receives feedback about recreation conflict through a variety of means, including letters, telephone calls and comments at public hearings. As a result, in 2003 Boulder County Parks and Open Space (BCPOS) conducted a study of recreation conflict at six County Parks and Open Space areas. An independent leisure studies consultant, Marcella Wells, Ph.D., reviewed its form, objectives and content.

### Objectives

The objectives of this study are to:

1. Determine baseline levels of recreation conflict on six high-visitation, multiple-use BCPOS properties;
2. Guide management decisions to mitigate these conflicts;
3. Inform and direct future recreation conflict studies;
4. Provide background data for other land management agencies.

## Literature Review

Five sources were primarily reviewed in developing the study: Gibbons & Ruddel 1995, Jacob & Schreyer 1980, Manning 1999, Ramthun 1995, and Watson 2001. A dynamic concept, "recreation conflict" is defined by Jacob and Schreyer (1980) as "goal interference attributed to another person's behavior," where the "goal" is the visitor's main reason for recreating. For example, when a trail visitor determines that the quality of their experience is compromised due to someone else's behavior, conflict can result and satisfaction may suffer. Individuals differ on the levels of conflict they perceive. The perception of trail-based conflict is largely derived from the visitors' own experiences, beliefs and attitudes (ibid). Nonetheless, Ramthun (1992) found that conflicts, if not checked, could grow beyond the mitigation capacity of the managing agency. While difficult to quantify, BCPOS must be aware of recreation conflicts in order to fulfill our mission and to ensure a high-quality experience for visitors (BCPOS Mission Statement, 2002). As such, BCPOS requires current information about recreation conflict to identify trends and to guide appropriate management decisions.

Different types of recreation conflict have been identified. Conflict can occur between visitors doing the same or different recreation activities. Much of the conflict observed in the literature involved visitors' safety concerns (e.g., collisions), but Jacob and Schreyer (1980) and Moore (1991) reported that no physical contact need occur for conflict to be perceived (e.g. seeing evidence of another recreation group).

The literature review shows that visitors to outdoor recreation areas place value on trails and other activities as they relate to their quality of life (Gibbons and Ruddel 1995, Jacob and Schreyer 1980, Manning 1999, Watson 2001). When visitors believe that their recreation experience is compromised by another visitor's behavior, they may feel that the value of their experience is diminished as well. Nonetheless, Moore (1991), Ramthun (1995) and Jacob & Schreyer (1980) all stated that most outdoor recreationists are satisfied. The results of this report reiterate those found in the literature, with local variations outlined in detail.

## 2. METHODS

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### Interview Design

Jacob and Schreyer (1980) measured recreation conflict by directly asking respondents if and how others interfered with their goals or enjoyment during outdoor recreation. The present study was based upon that mode of analysis. An interview form was developed that allowed respondents to describe their experiences in narrative fashion (see [Appendix A](#)). Respondents were asked about others' activities that interfered with their recreation goals. Five major activities were chosen because of their high frequency in these six parks. These activities included dog walkers, equestrians, hikers, mountain bikers, and runners (BCPOS 2003). Another category, called "others," was used to ensure conflicts with other types of visitors were understood as well. If the respondent replied that "others" did interfere, the respondent was then asked to specifically describe to whom the "other" referred.

## Data Collection and Sampling

Resource Management staff, Senior Tax Work-Off program participants and volunteers conducted the interviews during the summer and fall of 2003. Staff chose six specific parks to sample because of their high visitation and multiple-use trail characteristics. The parks sampled were Betasso Preserve, Hall Ranch, Heil Valley Ranch, Rabbit Mountain, Walker Ranch Loop and Walker Ranch-Meyers Homestead Trail. Interviewers collected information on respondent demographics and recreation activities along with the conflict data. Ninety-three interview sessions resulted in 279 hours of data collection ([Appendix C](#)), yielding 624 valid interviews and 292 refusals, for a response rate of 68%. A total of 1,743 visitors were observed in the parks during interview hours, therefore approximately 36% of the total number of visitors observed were interviewed. Though the number of respondents varied at each property, the number of interviews collected was representative of the overall visitation at each property (See Table 1).

Table 1: Overall Visitor Activities Compared to Respondents' Activities, 2003

	<b>HIKERS/DOG WALKERS</b>	<b>BIKERS</b>	<b>OTHERS</b>	<b>RUNNERS</b>	<b>EQUESTRIANS</b>
<b>2003 Overall Visitation</b>	43%	47%	2%	4%	4%
<b>2003 Survey Respondents</b>	36%	51%	2%	9%	2%

The "2003 Overall Visitation" category in Table 1 refers to the percentage of the listed activities at these six BCPOS areas in 2003, and was determined through observation by field staff. Table 1 shows that the interviews from this study are generally representative of these user groups.

## 3. RESULTS

This section outlines the demographics of respondents and baseline data on visitor recreation conflict: its perceived nature, where it exists, and between which types of recreational activities.

The results are divided into two sections:

- A. Demographic Data
- B. Conflict Data

## A. Demographic Data

### Recreation Activity



Figure 1. Participants by Recreation Activity

Interviewers recorded the activity in which respondents were participating at the time of the interview. (Note: Figure 1 shows the percentages of visitor types who *participated* in the interviews, but illustrates nothing about who reported conflict, which will be outlined in the "Results" section). Figure 1 shows that just over half of all respondents (51%) were mountain biking, 34% were hiking, and the remaining 15% were running, riding horses, walking dogs and doing other activities (e.g. fishing, having picnics, etc.).

### Age

*Question #9: "What age range do you fall into?"*

Respondents were given several age categories and asked to specify their age within one of the designated ranges. One percent of respondents were under 18 years old; 9% of respondents were between 18 and 24 years old; 45% of respondents were between 25 and 39 years old, and 38% were between 40 and 60 years old. Five percent of respondents were over 60, and 2% of respondents refused to answer.

### Residence

*Question # 8: "What is your zip code?"*

Residence was derived from the reported zip codes, and was divided into eight categories: Boulder, Longmont, Southeast Boulder County, Other Boulder County cities, outside Boulder County, Denver Metropolitan area, Out of State, and Blank/Refused. The largest category overall was from the City of Boulder (40%), followed by Longmont (21%). Respondents from other Boulder County communities comprised 15% of respondents, while 8% were from Denver, and 6% were from outside the state of Colorado.

### Gender

The interviewer recorded the apparent gender of each respondent. Males comprised 64% of respondents, while females comprised 36%.

See [Appendix B](#) for a detailed listing of respondent demographics by property and activity type.

## B. Conflict Data

Conflicts were analyzed in two basic ways: 1) the number and types of visitors who reported conflicts, and 2) the nature of the conflicts they reported. The following section describes the visitors who reported conflicts, the nature of these conflicts and individual summaries of conflicts at each of the six properties.

### Visitors Who Reported Conflict

Table 2 illustrates the number of visitors who reported having conflicts on the day they were interviewed, and the number of visitors who reported conflicts ever occurring in the past at that property.

Table 2. Percentage of Visitors Reporting Conflict by Property

	BETASSO PRESERVE	HALL RANCH	HEIL VALLEY RANCH	RABBIT MOUNTAIN	WALKER RANCH LOOP	WR-MEYERS HOME-STEAD	OVERALL %
Conflicts during Today's Visit	3%	1%	3%	2%	1%	0	<b>2%</b>
Conflicts Ever in the Past	43%	38%	34%	35%	28%	28%	<b>34%</b>

Table 2 shows that approximately 2% of all respondents reported experiencing conflict on the day they were interviewed, whereas 98% of respondents were free of conflict on the day of the interview. In addition, 34% of all respondents reported ever having conflict at some time in the past. Therefore, 66% of respondents reported never having trail conflict.

The number of visitors who reported conflict, however, was not necessarily proportional to the number of visitors interviewed at each of the six properties. Figure 3 illustrates the proportion of visitors who reported conflict at each property.

Image

Figure 2. Visitors Interviewed Compared to Visitors Reporting Conflict per Property

Figure 2 illustrates the number of visitors reporting conflicts as a percentage of the number interviewed at that property. This unequal distribution of conflict reporting also holds for the different recreation activities.

Image



Figure 3. Visitors Reporting Conflict by Activity Type

Figure 3 illustrates the number of respondents who reported conflicts as a percentage of the total number of that activity type who were interviewed.

Respondents were asked to report interference by the five activity types described in the Methods section. Respondents from each of these activity types reported on respondents in each of the others, as illustrated in Figures 4, 5 and 6.

Image

Figure 4. Hikers Reporting Conflict

The 93 hikers reported 65 conflicts with bikers, and 25 conflicts with dog walkers: much more than with the other visitors we asked about.

Image

Figure 5. Bikers Reporting Conflict

Mountain bikers reported conflicts with other bikers most often, followed closely by equestrians.

Image

Figure 6. Runners Reporting Conflict

Figure 6 shows that 20 runners reported nine comments about bikers, seven comments about equestrians and six about dog walkers.

### Additional Conflicts

In addition, of six dog walkers reporting conflicts; two were with other dog walkers, and three were with bikers. However, the numbers of dog walkers reporting conflict (six) was too small to be useful in analysis. Similarly, of the seven equestrians who reported conflicts, two were with runners, and six were with bikers. Again, seven equestrian respondents were not sufficient for a meaningful analysis.

The previous section showed, graphically, who reported conflicts about whom. The next section outlines the subject matter of these comments.

## **Discussion of Narrative Comments**

The survey tool was an interview. As such, the comments provided were in narrative form and were analyzed and categorized by their content. This section describes the content of the comments provided by respondents. First, the raw data are summarized. Then, comments are grouped by content and finally they are organized by specific property. This organization scheme allows for both a macro-level observation of baseline conflict data, as well as a micro-view of conflicts at each of the six properties.

## Summary

Conflict comments were divided into three categories: 1: interpersonal conflicts (IP), 2: external conflicts (EX), and 3: "Unaware of Rules, Regulations and Policies" (URP) conflict comments ([Appendix D](#)). IP conflicts were defined as moments where the respondent felt their goals or enjoyment were interfered with by the behavior of another individual or activity group. EX conflicts were defined as moments where the respondent felt their goals or enjoyment were interfered with by factors unrelated to the behavior of other visitors. URP conflicts were comments that, while attributing interference to the behavior of others, originated from the respondent's lack of awareness of BCPOS rules, regulations and policies. Table 3 provides examples to help illustrate.

Table 3. Examples of EX, IP and URP Conflict Comments

<b>IP Conflict:</b>	<i>Runner at Hall Ranch:</i> "Hikers stop and block the trail."
	<i>Biker at Heil Valley Ranch:</i> "Other bikers often don't yield properly."
<b>EX Conflict:</b>	<i>Dog Walker at Rabbit Mountain:</i> "I saw a rattlesnake in the middle of the trail."
	<i>Biker at Walker Ranch Loop:</i> "Trail was really loose and dangerous."
<b>URP Conflict:</b>	<i>Hiker at Rabbit Mountain:</i> "Horses don't usually move off the trail for you."
	<i>Biker at Hall Ranch:</i> "Hikers won't yield to you."

In the cases of URP comments shown in Table 3, both the hiker at Rabbit Mountain and the biker at Hall Ranch were unaware that it was they who should have yielded to the others, according to BCPOS Rules and Regulations.

Four hundred forty-eight total comments were reported, not all of which regarded IP conflicts. Seventy-five percent (337) of the total comments were counted as IP conflicts, 15% were EX conflict, and 10% were URP conflict comments. From this point forward, when the word "conflict" is used (unless otherwise indicated) only IP conflicts are considered, and both EX and URP conflicts are disregarded. However, it is of note that staff is aware of EX and URP conflicts, and that they are not disregarded when considering certain management options.

The total number of visitors to these six BCPOS areas was not proportional to the number of comments regarding those visitors. For example, the number of comments regarding mountain bikers was not proportional to the number of mountain bikers who visit these six properties. Table 4 illustrates the proportion of visitor activity types in 2003 compared to the proportion of conflict comments regarding those visitor types. Clearly, some activity types received conflict comments at levels disproportionate to their presence at BCPOS properties.

Table 4. Percentage of visitor activities in 2003 vs. percentage of conflict comments regarding those visitors

	HIKERS/DOG WALKERS	BIKERS	OTHERS	RUNNERS	EQUESTRIANS
<b>Total Visitation in 2003</b>	43%	47%	2%	4%	4%
<b>Percentage of Conflict Comments Regarding these Visitors</b>	20%	52%	6%	8%	14%

Figure 7 shows the percentages of conflict *comments* reported by property, and should not be confused with Table 2, which reports percentages of the *visitors* who reported those comments. This is an important distinction, as one visitor could have reported multiple comments.

Image

Figure 7. Proportion of conflict comments by property

While Figure 7 illustrates where conflict comments were reported, Figure 8 illustrates the activity types about which conflict comments were reported. That is, Figure 8 shows which visitors were reported to interfere with other visitors' goals or enjoyment.

Image

Figure 8. Activity types about which conflict comments were reported

Figure 8 shows that the number of comments regarding mountain bikers' behaviors (174) was greater than the sum of the remaining comments (163). These concerns are expanded upon in Table 5, where the 10 most common conflict comments (per number received) are outlined by content.

Table 5. Summary of Most Frequent Conflict Concerns

<i>Significant Conflict Areas</i>	<i>Number of Comments Reported</i>
Bikers Yielding	55
Bikers Speed	44
Bikers Courtesy and Communication	38
Dogs Off Leash	25
Horse Feces	24
Dog Owner Control	22
Bikers' Compliance of Regulations	18
Bikes Overcrowded	10
Biker Collision	9
Dog Feces	7

Table 5 illustrates that respondents were most concerned with mountain bikers' yielding (16% of IP conflicts), high speeds (13%) and communication with other visitors (11%). Next, respondents were concerned with dog walkers leashing (8%) and control (7%) behaviors. Finally, horse feces on the trail (7%) and mountain bikers' compliance with regulations (5%) were of concern for respondents. Perhaps more telling was how respondents stated these behaviors. The following examples illustrate:

- *"Bikers sometimes come around those blind corners too fast to move out of the way."*
- *"Mountain bikers don't always use the best trail etiquette."*
- *"Some dog owners just let their dogs run and chase wildlife without trying to stop them."*

Respondents were also asked at the end of the interview if they had "anything else they would like to add." Fifty-two percent of respondents reported positive comments, and 14% of respondents offered suggestions for improvement. [Appendix G](#) lists both the positive comments and suggestions for improvement in full.

## Summary of Conflict Comments

This section summarizes and outlines the conflict comments expressed at each of the properties surveyed. Table 6 is different from Table 3 in that, where Table 3 illustrates the number of *respondents* who reported conflicts, Table 6 illustrates the number of *conflict comments* they reported. As such, Table 6 is a matrix of these comments and the properties at which they were reported.

Eleven percent of respondents reported multiple comments per interview; that is, 217 respondents reported 337 conflict comments.

Table 6. Conflict Comments per Property

	Betasso Preserve	Hall Ranch	Heil Valley	Rabbit Mountain	Walker Ranch Loop	Walker Ranch Meyers	TOTAL
<b>CONFLICTS REGARDING:</b>							
<b>(as a percentage of TOTAL conflict comments)</b>							
<b>MOUNTAIN BIKERS</b>							
<b>Speed concerns</b>	5%	3%	2%	2%	1%	1%	<b>14%</b>
<b>Improper Yielding</b>	2%	5%	4%	2%	4%	0	<b>17%</b>
<b>Compliance of Use Restrictions</b>	4%	1%	0	0	0	0	<b>5%</b>
<b>Communication Concerns</b>	2%	4%	3%	2%	1%	<1%	<b>13%</b>
<b>Other Concerns</b>	2%	2%	<1%	0	<1%	6%	<b>4%</b>
<b>TOTAL</b>	<b>15%</b>	<b>15%</b>	<b>9%</b>	<b>6%</b>	<b>6%</b>	<b>2%</b>	
<b>DOG WALKERS</b>							

<b>Off Leash Concerns</b>	3%	0	<1%	2%	1%	2%	<b>8%</b>
<b>Owner Control Concerns</b>	2%	0	0	2%	2%	<1%	<b>7%</b>
<b>Other Concerns</b>	1%	1%	0	<1%	<1%	<1%	<b>3%</b>
<b>TOTAL</b>	<b>6%</b>	<b>1%</b>	<b>&lt;1%</b>	<b>5%</b>	<b>4%</b>	<b>2%</b>	
<b>EQUESTRIANS</b>							
<b>Feces Concerns</b>	<1%	4%	2%	1%	<1%	0	<b>8%</b>
<b>OTHER COMMENTS</b>	6%	4%	4%	3%	3%	1%	<b>21%</b>
<b>GRAND TOTAL</b>	<b>28%</b>	<b>24%</b>	<b>15%</b>	<b>15%</b>	<b>13%</b>	<b>5%</b>	<b>100%</b>

Table 6 shows that many of the same concerns were expressed at each of the six properties and among a diversity of visitor types. Mountain bikers were of primary concern at all of the properties except Walker Ranch-Meyers Homestead Trail, where dogs off-leash were of primary concern. Indeed, dogs off-leash and dog owners' control of their dogs were the second most prevalent concerns at the other five properties.

### Property Highlights

#### Betasso Preserve

Betasso Preserve has a recent history of management concerns surrounding mountain biking. The concerns reported by participants reiterated that trend. The majority of respondents' recreation modes were fairly evenly split between hikers (43%) and mountain bikers (42%). See [Appendix D](#) for a complete breakdown of respondents.

Five Most Significant Concerns (as % of total conflicts reported at Betasso):

- Biker's speed (18%)
- Bikers not complying with use restrictions (15%)
- Dogs off leash (11%)
- Biker's communication and courtesy (8%)

- Owner control of dogs on leash (7%)

Examples:

*"Bikes come around the corners too fast to see them." (speed concern)*

*"They come here and ride on days when they're not supposed to." (use restriction compliance)*

*"There's always dogs running around up here." (dog off-leash concern)*

Summary:

Concerns at Betasso Preserve were proportionate to overall concerns, as illustrated in Figure 8: mountain bikers generated the most concern, followed by dog walkers.

*Hall Ranch*

Hall Ranch has two distinct trail options. One trail is multiple-use, while the other does not allow mountain biking. Hall Ranch is also a very popular mountain biking destination in Boulder County. As such, even though mountain bikers were more difficult to stop for interviewing, respondents were 63% bikers, 21% hikers and 12% runners

Five Most Significant Concerns (as % of total conflicts reported at Hall):

- Biker's yielding (24%)
- Biker's communication and courtesy (18%)
- Horse feces on trail (16%)
- Biker's speed (12%)
- Bikes overcrowding (7%)

Examples:

*"Some bikers just don't know how to yield to others properly."(yielding concern)*

*"Bikers aren't always polite when they pass." (communication and courtesy concern)*

*"They just fly right by you sometimes (bikers)." (speed concern)*

Summary: Respondents at Hall Ranch commented about horse feces on the trail two to three times more often than at any other property. Bikers expressed Ninety-six percent of these concerns. Further, approximately 22% of bikers reported conflicts with other bikers, regarding the above concerns, a greater proportion than any other property surveyed, and the largest proportion of any user group to report conflicts with other members of the same group.

*Heil Valley Ranch*

Heil Valley Ranch is a relatively new property, which opened in 2001. However, it has quickly become a major destination for hikers, wildlife viewers and mountain bikers due to its diversity of trail, terrain and wildlife

viewing opportunities. Heil Valley Ranch has one multiple-use trail and one hiker-only trail. Respondents were 57% mountain bikers and 34% hikers.

Five Most Significant Concerns (as % of total conflicts reported at Heil):

- Biker's yielding (24%)
- Biker's communication and courtesy (18%)
- Biker's speed (14%)
- Horse feces on trail (10%)
- Runner's communication and courtesy (4%)

Examples:

*"Some bikers expect you to get off the trail." (yielding concern)*

*"Bikers don't always have the best etiquette when they pass." (communication and courtesy concern)*

*"Bikers ride too fast." (speed concern)*

Summary: Other than the familiar concerns about mountain bikers, runners' communication behavior and horse feces on the trail were of concern to more respondents at Heil Valley Ranch than the overall concerns illustrated in Figure 8.

### *Rabbit Mountain*

Rabbit Mountain is a popular destination for wildlife viewers, bikers, runners and dog walkers. Respondents were 45% hikers, 24% bikers, and 16% runners. Rabbit Mountain has two distinct multiple-use trail options.

Five Most Significant Concerns (as % of total conflicts reported at Rabbit):

- Biker's yielding (16%)
- Dogs off leash (16%)
- Biker's speed (14%)
- Bikes communication and courtesy (12%)
- Dog owner's control (12%)

Examples:

*"Bikers think you have to get out of their way." (bikers yielding concern)*

*"There's usually dogs off running up here." (dogs off-leash concern)*

*"Bikers just go too fast sometimes." (bikers speed concern)*

Summary: Dogs off-leash were as important a concern at Rabbit Mountain as the most common mountain bike concerns. Only Betasso Preserve and Walker Ranch-Meyers Homestead Trail had as proportionally high dog concerns.

### *Walker Ranch Loop*



The Walker Ranch Loop trail is a multiple-use trail that is also very popular with mountain bikers. Sixty-eight percent of respondents were bikers, where 21% were hikers and 5% were runners.

Five Most Significant Concerns (as % of total conflicts reported at Walker Ranch Loop):

- Biker's yielding (29%)
- Dog owner's control (18%)
- Dogs off leash (9%)
- Biker's speed (7%)
- Horse feces (5%)

Examples:

*"Bikers sometimes don't want to slow down for you." (biker's yielding concern)*

*"The dogs can get in your way when you're trying to get by." (dog owner's control concern)*

*"Bikers ride really fast, and it's scary." (biker's speed concern)*

Summary: Mountain bikers and dogs were the primary concerns at Walker Ranch Loop. Interestingly, 14% of mountain bikers reported conflicts with other mountain bikers at here, the second highest property under Hall Ranch for intra-group reporting.

*Walker Ranch-Meyers Homestead Trail*

The single trail at Walker Ranch-Meyers Homestead Trail is relatively wide in most places, and allows plenty of room for comfortable passing on the trail. Various recreationists visit Meyers Gulch: 47% of respondents were hikers, and 37% were bikers, while 11% were runners and 5% dog walkers.

Five Most Significant Concerns (as % of total conflicts reported at Meyers Homestead Trail):

- Dogs off leash (28%)
- Biker's speed (17%)
- Biker's communication and courtesy (11%)
- Dog owner's control (11%)
- Dog feces on trail (6%)

Examples:

*"They bring their dogs without a leash." (dog off leash concern)*

*"When bikers come down hill at you, it's scary when they go fast." (biker's speed concern)*

*"Dog owners don't like to tell their dogs 'no,' so they don't." (dog owner's control concern)*

Summary: Dogs were generally more of a concern here. Dogs off-leash were of much higher concern here than any other property, proportionally.

## Other Comments and Concerns

As mentioned previously, some of the comments were directed specifically at issues of parks management, rather than other visitors. This section explores four types of comments that are of interest to division managers:

1. Compliments
2. Suggested Changes
3. Comments regarding BCPOS policies, trails and facilities
4. Comments stating why respondent won't return to a specific property

### *1) Compliments*

As stated earlier, 66% of our respondents reported no interpersonal conflict ever, and 98% of respondents were conflict-free the day of the interview. In addition, 52% of respondents reported positively about these 6 areas. The most common compliments were that our parks are "beautiful" and to "keep up the good work." For a complete listing of complimentary or positive comments, see [Appendix G](#).

### *2) Suggested Changes*

Fourteen percent of respondents made suggestions for improving our trails, facilities and management practices. The most frequent suggestions for improvement were "build more trails" and "allow more biking." For a complete listing of these suggestions, see [Appendix G](#).

### *3) Policies, Trails and Facilities*

Some aspects of policies, trails and facilities were of concern to respondents. Below are the most frequent of these types of comments. Many comments were only heard once or twice. For a detailed listing, see [Appendix E](#). Below are the proportions of these comments, out of the 448 total comments.

- Too much horse feces on the trail (5%)
- Poor trail condition/design/maintenance (3%)
- Too much dog feces on the trail (2%)
- Parks are overcrowded (2%)

To clarify, these are policy-related comments in that, at the time of interviewing, BCPOS policy did not require dog owners or equestrians to pick up after their animals, and BCPOS had no set limitations on number of visitors to any of our trails.

### *4) Respondents Who Will Not Return to a Property*

#### Number of Respondents Stating "Will Not to Return" to a Property

Hall Ranch 14

Betasso Preserve 12

Heil Valley Ranch 11

Rabbit Mountain 4

Walker Ranch Loop 2

Pella Crossing 1

Legion Park 1

See [Appendix F](#) for the full narrative of reasons respondents reported for not wanting to return.

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## 4. CONCLUSION

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In concluding this study, our stated objectives have been achieved. This section presents these objectives individually.

**Objective 1: Determine a baseline data set of recreation conflicts issues. Presently, there seems to be some perceptions of conflict at these properties, both within and between some of the activity types. These basic figures show that on any given day, about 2% of visitors have conflicts on these six popular, multiple-use properties (Table 2); in contrast, Jefferson County Open Space found in their 2001-2003 comparative analysis (the only other current recreation conflict study we know of in Colorado) that about 8% of visitors reported having conflict on the day they were interviewed. Furthermore, about 34% of visitors remember ever having a conflict at some time in the past. The most common visitors to report conflicts were hikers, dog-walkers and equestrians (Figure 3). Their comments were largely regarding mountain bikers' speed, yielding and communication behaviors, and dog walkers' leashing habits and control of the animal (Table 5). Finally, the presence of horse feces on the trail was also a concern, but more so at Hall Ranch than the other five properties.**

**Objective 2: Guide management decisions to mitigate these conflicts. Boulder County Parks and Open Space has taken the initial step of identifying and isolating recreation conflict baseline data: specific issues by specific visitor activity types at specific locations. These baseline data are essential for beginning a tracking and monitoring process. Future management decisions regarding recreation conflict will rely both on these baseline data and any future information on conflict. That is, staff will monitor trends to address recurring issues in coming years. One method we will use to continue monitoring is to incorporate these questions into the five-year study (next cycle in 2005), which will allow us to identify and monitor trends over time, and to address issues if they become apparent trends. These potential trends will inform future management decisions at these and other properties.**

**Objective 3: Inform and direct future recreation conflicts studies. BCPOS management must decide on acceptable levels of conflict in order to maintain the high quality of experience that we are charged with providing. This study is now a template for possible future recreation conflict studies at other County parks.**

**Objective 4: Provide background data for other land management agencies. This objective is achieved in the availability of this report to other land management agencies, such as the City of Boulder Open Space and Mountain Parks, the U.S. Forest Service, Jefferson County Open Space, etc.**

In the meantime, educational efforts to encourage proper trail etiquette and promote tolerance for other user groups are an effective approach to reducing conflicts (Moore 1991). To that end, staff will continue conducting "Trail Share," our on-sight education and awareness event, during the spring, summer and fall months. Trail Share emphasizes good communication, proper yielding, safe passing and expectations for voluntary regulation compliance. To address the respondents' stated concerns from this study, Trail Share organizers will emphasize bikers' speed, control and awareness, and dog walkers leashing and control behaviors. Furthermore, Resource Protection staff will address these issues during normal patrol by enforcing posted use regulations and by responding to public comments as they arise. Betasso Preserve and Hall Ranch have the highest rates of reported conflict, so our focus should be at those locations.

If BCPOS staff continues to address these issues by ticketing violations, conducting Trail Share and other outreach events, and incorporating these issues into daily patrol techniques, we can have a positive impact on the level of conflict at these six properties.

## Literature Cited

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[Boulder County Parks and Open Space Mission Statement. 2003.](#)

Boulder County Parks and Open Space. 1998, 2002. *Annual Report*.

Jacob, Gerald R. and Schreyer, Richard. 1980. "Conflict in Outdoor Recreation: a Theoretical Perspective." *Journal of Leisure Research*. 4: 368-379.

Manning, Robert E. 1999. *Studies in Outdoor Recreation*. Oregon State University Press.

Moore, Roger L. 1994. "Conflicts on multiple-use trails: synthesis of the literature and state of the practice." Federal Highway Administration Report No. FHWA-PD-94-031.

"National Survey on Recreation and the Environment." 2002. USDA Forest Service and the University of Tennessee, Knoxville, Tennessee.

Ramthun, Roy. 1995. "Factors in User Group Conflict Between Hikers and Mountain Bikers." *Leisure Sciences*. 17: 159-169.

Ruddel, Edward J. and Gramann, James H. "Goal Orientation, Norms and Noise-Induced Conflict among Recreation Area Users." 1994. *Leisure Sciences*. 16: 93-104.

Watson, Alan E. 2001. "Goal Interference and Social Value Differences: Understanding Wilderness Conflicts and Implications for Managing Social Density." *USDA Forest Service Proceedings RMRS-P-20*: 62-67.