

Mountain Bike Use and Regulation Compliance on the Canyon Loop Trail at Betasso Preserve

2003

Introduction

Interpretation staff conducted the Betasso Mountain Bike Compliance study from July to October 2003 to assess visitors' compliance of the "no mountain biking Wednesdays and Saturdays" regulation. As such, staff should then be able to assess whether the regulation is having its intended effect of mitigating trail conflict.

Methods

Staff conducted the study on the non-biking days (Wednesday and Saturday), arriving in an unmarked vehicle. Staff wore (non-County) civilian clothes and sat inconspicuously at the picnic shelter or under a nearby tree so as not to unduly influence normal visitor behavior. Each shift lasted for 3 hours, scheduled in the mornings, afternoons and evenings. From their locations, staff was able to count the number of mountain biking visitors who arrived at Betasso and either rode the trail or did not.

Staff recorded the following information: 1) number of mountain bikers complying with the regulation; 2) number of mountain bikers not complying with the regulation; 3) total number of other visitors during that time.

Results

A slightly higher number of visitors did not comply with the "no bikes on Wednesdays and Saturdays" regulation (57%) than complied (43%). A total of 30 mountain bikers were observed over 21 hours of observation.

Discussion

In discussing this study, staff concluded that the sample size insufficient in that it did not represent the biking days. As such, we will continue this study in 2004, collecting data not only on Wednesday and Saturday, but on Tuesday, Thursday and Sunday as well, varying the time of day in which we conduct the observations. Furthermore, Resource Protection staff plans to be a significant presence at Betasso Preserve again in 2004 to ensure compliance with the posted regulation and to mitigate user conflicts.

2004

Interpretation staff coordinated the “Betasso Mountain Bike Observation” study from March to October, 2004 in order to assess mountain bicyclist’s compliance of the “no mountain biking on Wednesdays and Saturdays” regulation. As such, based upon the compliance rates on the Canyon Loop Trail, staff should be able to assess whether the regulation helps to mitigate trail conflict.

Methods

Staff, volunteers and Senior Property Tax Work-off participants conducted the study on both non-biking days (Wednesday and Saturday) as well as other days of the week (mostly Thursday). Arriving in unmarked vehicles, observers wore plain clothes on non-biking days, and sat in inconspicuous locations so as not to influence normal visitor behavior. Observers conducted 61 shifts, of 3 hours each for a total of 183 hours of observation.

This year’s sample size was sufficient and representative. In 2003 (See Annual Report 2003) staff concluded that the sample was not sufficient, and aimed to improve it in 2004, which we succeeded in doing. Furthermore, we gathered extra information by observing visitors on days bikes *were* allowed, in order to assess normal regular visitation.

Observers were scheduled in the mornings, afternoons and evenings, and counted the number of mountain biking visitors who either rode the Canyon Loop Trail or did not. Observers recorded this information as follows: 1) number of mountain bikers complying with the “no bikes” regulation; 2) number of mountain bikers not complying with the “no bikes” regulation; 3) number of mountain bikers visiting on days they are permitted; 4) total number of other visitors on all days.

Results

Non-biking Days

A total of 843 total visitors were observed over 123 hours of observation on Wednesdays and Saturdays, the non-biking days. Table 1 illustrates that, during that time, 56% (67) of 119 mountain bicyclists failed to comply with the posted regulation. Non-compliance was lower on Wednesdays (54%) than on Saturdays.

Table 1. Mountain Bike Compliance by Day of Week

	Total	% Not-Complying (N)	% Complying (N)
Overall	119	56% (67)	44% (52)
Wednesdays	57	54% (31)	46% (26)
Saturdays	62	58% (36)	42% (26)

A seasonal account of compliance is illustrated in Table 2. Non-compliance was lowest in spring (45%) and greatest in the fall.

Table 2. Mountain Bike Compliance by Season

	Total	% Not-Complying (N)	% Complying (N)
Spring	40	45% (18)	55% (22)
Summer	51	59% (30)	41% (21)
Fall	28	68% (19)	32% (9)

Table 3 illustrates that mountain bicyclists comprised 14% (119) of the 843 total visitors observed on these days. Hikers were 61% (511) of total visitors observed, visitors having picnics were 11% (95), runners were 8% (64) and visitors relaxing or “doing nothing” made up 4% (31) of total visitation.

Table 3. Visitation to Canyon Loop Trail at Betasso Preserve on “non-biking days”

	% of Overall Visitation (N)
Bikers	14% (119)
Hikers	61% (511)
Picnickers	11% (95)
Runners	8% (64)
Relax/Nothing	4% (31)
Dog Walkers	2% (13)
Other	<1% (8)
Equestrians	<1% (2)
Wildlife Viewing	0
TOTAL	843

Biking Days

In order to assess regular use patterns, observers also counted visitors on some days that mountain bicyclists were allowed on the Canyon Loop Trail. Table 4 illustrates that during 60 hours of observation on these days, 60% (353) of the 588 total visitors observed were mountain bicyclists. Hikers comprised 29% (169) of total visitors observed, while “others” (e.g. artists) made up 4% (15), runners (20) were 3% and visitors having picnics and relaxing were both 2% (11).

Table 4. Visitation to Canyon Loop Trail at Betasso Preserve on “biking days”

	% of Overall Visitation (N)
Bikers	60% (353)
Hikers	29% (169)
Runners	3% (20)
Other	3% (15)
Picnickers	2% (11)
Relax/Doing nothing	2% (11)

Dog Walkers	1% (5)
Wildlife Viewing	<1% (4)
Equestrians	0
TOTAL	588

Discussion

This study more accurately measured non-compliance than actual compliance of this regulation. The reason for this is the presumption that some visitors choose to comply before they ever arrive at Betasso Preserve. For example, if a visitor who is aware of the regulation decides while they are at home or at work not to ride a bike at Betasso Preserve, then that visitor is complying with the regulation, but obviously cannot be counted. Therefore, we more accurately measured non-compliance by observing visitors who arrived intending to ride mountain bikes, and then decided to ride or not after observing the posted regulation.

Similar to 2003, 44% (52) of the bikers who came to Betasso on “non-biking days” complied with the restriction. As we would expect, more hikers (61% of total visitors) visited the Canyon Loop Trail on days when bikes were restricted. Conversely, more mountain bicyclists (60%) visited the Canyon Loop Trail on days when bikes were allowed. This pattern reflects a trend toward staff’s intended result: visitors begin to regulate their own behavior in order to avoid unlawful or otherwise undesirable situations that might increase the chance of recreation conflict*. Also, we found that non-compliance was lowest in spring (45%) and highest in fall (68%).

Staff assumes that some of the difficulty in gaining greater compliance comes from the annual influx of new CU students to the area, some of whom are eager to go mountain biking. This assumption is supported by the fact that the percentage of bikers not complying is lowest in the fall, when new students come to Boulder (Table 2). To address this concern and increase compliance, interpretation staff created a newspaper ad which appeared 5 times in the Colorado Daily, including the “Back-to-school” issue, encouraging mountain bikers to ride responsibly and reminding them of the restrictions at Betasso Preserve. Also, staff attended the CU Alternative Transportation Fair in September with our “Operation: Trailshare” display. This display focused on issues described in the 2003 Recreation Conflict study, encouraged responsible trail etiquette, and invited students to join BCPOS staff and Boulder Offroad Alliance for group mountain bike rides to address these issues in a fun, engaging way.

* For more information on recreation conflict see “Recreation Conflict on Six Boulder County Open Space Properties: a Baseline Study” (2004).