

Voice and Sight Tag Program

Monitoring Report

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Voice and Sight Tag Program Monitoring Report



Executive Summary

OSMP launched the Voice and Sight Tag program in the summer of 2006. The program's goal is to increase compliance with existing voice and sight rules and decrease dog-related conflict on OSMP-managed lands. By the end of the summer of 2010, over 25,000 participants had registered in the program and most (86%) off-leash dogs observed on OSMP had the program's green tag visibly displayed.

Monitoring conducted before, immediately after, and almost four years after the program's launch, as well as other sources of information, indicate that the program achieved some but not all of the program's objectives.

- OSMP increased its voice and sight control outreach to visitors and some visitors report an improved understanding of the voice and sight rules because of the program.
- OSMP observed an increase in compliance with some components of voice and sight rules.
- Dog-related conflict initially decreased following implementation of the Voice and Sight Tag program, but dog-related conflict rates returned to pre-program levels by 2010.
- OSMP did not detect any increase in dog guardians' ability to use voice control following implementation of the program.

OSMP also measured compliance with dog excrement removal rules. Compliance with these rules was generally poor with 46% to 63% of the visitor parties complying with the rules.

Barriers that dog guardians may face when trying to comply with rules include:

- Limited skills (guardians in using voice control, dogs in responding to voice control),
- Weak or no external pressure to persuade compliance,
- Personal beliefs or attitudes, and
- Personal habits or routines.

Recommended management strategies to improve compliance include:

- Testing and/or certifying dog guardians' skill in using voice control before allowing dog guardians voice and sight privileges,
- Increasing enforcement and raising fines for violating rules,
- Reinforcing the desired social norm, and
- Understanding dog guardians' beliefs and attitudes about voice and sight control, off-leash dog recreation, and excrement removal learned via focus groups, interviews, and/or surveys to better target information and education programs or other management strategies.

Voice and Sight Tag Program Monitoring Report



1.0 INTRODUCTION

The City of Boulder Open Space and Mountain Parks (OSMP) land has long been a favorite destination for individuals wishing to recreate with their dogs. The popularity of OSMP for dog guardians and their canine companions may be due, at least in part, to the opportunity for dog guardians to recreate with their dogs off-leash. Approximately 60% of OSMP's 144 miles of recreational trails afford visitors the opportunity to recreate with dogs off-leash, provided dog guardians manage their dogs in accordance with the City's Voice and Sight rules. In contrast, many surrounding open space systems, including Boulder County Parks and Open Space, U.S. Forest Service wilderness areas, and Rocky Mountain National Park require dogs to be leashed while on trails or prohibit dogs altogether.

Recent surveys suggest that many OSMP visitors, including many Boulder residents, take advantage of the off-leash dog walking opportunities on OSMP lands. Approximately one third of all OSMP visitors are accompanied by at least one dog (Vaske et al. 2009). When asked specifically about off-leash dog walking, more than half (59%) of Boulder residents who have walked a dog on OSMP lands in the past 12 months said they did so with their dogs off-leash (National Research Center 2010). Further, while most Boulder residents who have walked a dog on OSMP lands in the past 12 months stated they were equally likely to visit OSMP areas where dogs are required to remain on-leash as they were to visit areas where dogs are allowed off-leash, of those residents who stated they *were more likely to visit one area or the other* (i.e. leashed areas vs. off-leash areas), more than twice as many said they were more likely to visit areas where dogs are allowed off-leash (National Research Center 2010).

On OSMP lands, dogs can only be managed off-leash if their guardians exercise "voice and sight control" over their dogs. While there is no single "voice and sight" law, the City of Boulder Revised Code (B.R.C.) 1981 outlines the specific requirements of voice and sight control in several locations¹. B.R.C.6-1-16 requires all dogs to be leashed unless, among other things,

- the dog is in an area where voice and sight is allowed;
- the dog is accompanied by its guardian or keeper and within view and voice control of such person;
- the accompanying guardian or keeper has a leash in his or her immediate possession; and
- the accompanying guardian or keeper has not more than two dogs simultaneously unleashed or unrestrained.

¹ The voice and sight rules outlined in the text here refer to the B.R.C. 1981 before the Voice and Sight Tag program was implemented in 2006. Following adoption of various Voice and Sight Control ordinances, B.R.C. 6-1-16 was amended to include the requirement that dogs under voice and sight control must visibly wear a Voice and Sight Control Evidence Tag; the definition of voice control in Section 6-1-2 was updated and expanded to include sight control; and Chapter 6-13 was added to the B.R.C. 1981.

The B.R.C. 1981 further clarifies the meaning of voice control in Section 6-1-2 by defining it in the following manner:

“Voice control” means control of the behavior of a dog which is not leashed or otherwise physically restrained by its guardian or keeper sufficient that the dog does not, without regard to circumstances or distractions:

- (1) Charge, chase, or otherwise display aggression toward any person or behave toward any person in a manner that a reasonable person would find harassing or disturbing;
- (2) Charge, chase, or otherwise display aggression toward any dog;
- (3) Chase, harass, or disturb wildlife or livestock; or
- (4) Fail to come to and stay with the guardian or keeper immediately upon command by such person;

and voice control does not exist unless the guardian or keeper exercises this command authority at all times to keep the dog within the requirements of this definition.

Prior to implementation of the Voice and Sight Tag program, dog guardians meeting the requirements listed above were said to be managing their dogs under voice and sight control.

Despite the existence of codified voice and sight control requirements, the interpretation of the rules and expectations regarding the behavior of off-leash dogs likely varied greatly from visitor to visitor. In an effort to improve the understanding of voice and sight control, and thereby increase compliance with voice and sight rules, Friends Interested in Dogs and Open Space (FIDOS) proposed the creation of an educational video that would “depict realistic and enforceable dog management behaviors” (FIDOS 2005). The video, which was to be viewed by all dog guardians wishing to visit OSMP with their dogs off-leash, was intended to establish a shared understanding of what voice and sight control means and expectations regarding dog behavior while being managed off-leash. Working together, OSMP and the community developed the Voice and Sight Tag program (Tag Program), which included, as its centerpiece, a video that met the general objectives articulated by FIDOS. In 2006, OSMP launched the Tag Program; dog guardians who wish to visit OSMP lands with their dogs off-leash and under voice and sight control must participate in the Tag Program.

1.1 Voice and Sight Tag program goal and objectives

The overall goal of the Voice and Sight Tag program is to:

Increase the proportion of dog guardians visiting OSMP with their dogs who have control over their dogs as required by applicable regulations (B.R.C. 6-1-16)

The program objectives are to:

1. Improve understanding of voice and sight control.
2. Improve compliance with dog control rules.²

² “Dog control rules” refers to voice and sight related rules. OSMP only evaluated compliance with rules that could be *observed*. Examples of observable components of voice and sight rules include whether the dog within the guardian’s view; whether the guardian attempting to manage more than two dogs under voice and sight control; etc.

3. Increase OSMP outreach to and education of the public with respect to voice and sight control.
4. Decrease conflict involving dogs on OSMP properties.



The centerpiece of the Voice and Sight Tag program is the 15-minute, educational Voice and Sight Tag video. The video describes the City of Boulder’s expectations of guardians who use voice and sight control, the rules regarding dog waste, and general trail etiquette. More importantly, the video presents various scenarios that guardians and their dogs may encounter on OSMP-managed lands and shows responses to these scenarios by both well- and poorly-trained dogs. These examples show applicants the level of control the City of Boulder expects of dog guardians who choose to manage their dog(s) off-leash under voice and sight control.

The Voice and Sight Tag program is a voluntary program, but one in which dog guardians must participate if they wish to visit OSMP lands with their dogs off-leash under voice and sight control. Participation in the program includes viewing the Voice and Sight Tag video, registering in the program, and agreeing to manage off-leash dog(s) in the manner described in the video. Payment of a small fee³ is also required as part of the registration. Following registration, participants receive a green Voice and Sight tag which must be visibly displayed on any dog managed off-leash under voice and sight control.

1.2 Program evaluation

OSMP conducted observational monitoring and visitor interviews to evaluate the success of the Voice and Sight Tag program in achieving its objectives and meeting standards established in the Visitor Master Plan (OSMP 2005). Observational monitoring focused on objectives 2 and 4, specifically examining whether compliance with dog control rules increased and the incidence of dog-related conflict decreased following implementation of the Voice and Sight Tag program. Staff also used observational monitoring to estimate dog guardian compliance with excrement removal regulations and rates of participation in the Voice and Sight Tag program. Lastly, in a separate monitoring effort, staff conducted brief interviews with dog guardians to evaluate compliance with leash possession rules.⁴

Important Note:

It is important to emphasize that the monitoring was designed to evaluate a ***change*** in compliance with dog control rules and a ***change*** in the incidence of dog-related conflict following implementation of the Voice and Sight Tag program.

OSMP staff observed visitor parties for only a small portion of their visit. Therefore the monitoring results are not estimates of compliance or conflict rates for an entire visit. Compliance and conflict rates reported in this document refer only to ***rates within the observation zone***.

³ Currently, City of Boulder residents are charged \$15.00 for the first Voice and Sight tag and \$5.00 for each additional tag. Program participants who live outside the Boulder city limits are charged \$18.75 for their first tag and \$5.00 for each additional tag.

⁴ This monitoring was conducted separately because staff could not observe whether a guardian had a leash for each dog being managed under voice and sight control since some leashes were in backpacks or under clothing.

Additionally, because the Voice and Sight Tag program applied to all areas on OSMP lands that allow guardians to manage their dog(s) using voice and sight control, no areas were available to serve as a “control” for the monitoring. Consequently, the results presented below can only suggest a *correlation* (or lack thereof) between the Voice and Sight Tag program and any observed change in compliance or incidence of dog-related conflict rather than indicate that the new program *caused* any of the observed changes.

2.0 STUDY SITES

Staff evaluated the effectiveness of the Voice and Sight Tag program by observing visitor and dog behavior at 25 sites along trails with medium, high, or very high visitation levels (per Vaske et al. 2009) that allow guardians to use voice and sight control to manage dogs (Figure 1). In order to observe a variety of situations that dogs and their guardians encounter on OSMP land, staff considered the location along the trail when selecting monitoring sites. Slightly more than one third (35%) of the monitoring sites were located at or near the start of a trail with the remaining monitoring sites being located at least 1,500 feet from the start of the trail. Staff also conducted visitor interviews at the same sites, but at different dates and times than the observational monitoring, keeping the two monitoring efforts separate. Additional details on the project’s monitoring sites can be found in the project protocol (OSMP 2010) which is available upon request.

While trail visibility (how much of the trail is visible from the monitoring site) was considered in selecting monitoring sites, no sites afforded a view of visitors for a typical visit⁵. On average, staff could view approximately 1,050 feet of trail from a monitoring site. Such a vantage allowed monitoring staff the opportunity to observe visitor parties for approximately four minutes of their trip. This is important in understanding that the compliance rates (and similarly, conflict rates) reported in this document refer only to *rates within the observation zone* which typically represent only a small portion of each party’s visit. Compliance (or conflict) rates reported here are not, and should not be construed as, compliance *rates for an entire visit*.

3.0 METHODS

3.1 Observational monitoring

OSMP staff monitored visitor and dog behavior in the spring (March, April, and May) of 2006 prior to implementation of the Voice and Sight Tag program, the spring of 2007 approximately six months after implementation of the program, and the spring of 2010 approximately three and a half years after the program was initiated.

Each month, staff monitored visitor and dog behavior during 28 three-hour monitoring periods. The 28 monitoring periods occurred on ten weekday mornings (7:00-10:00 AM)⁶, ten weekday evenings (4:00-7:00 PM), four weekend mornings (7:00-10:00 AM), and four weekend mid-days (10:30 AM-1:30 PM).

⁵ The average visit to OSMP is approximately one hour in length (Vaske and Donnelly 2008).

⁶ All times are approximate

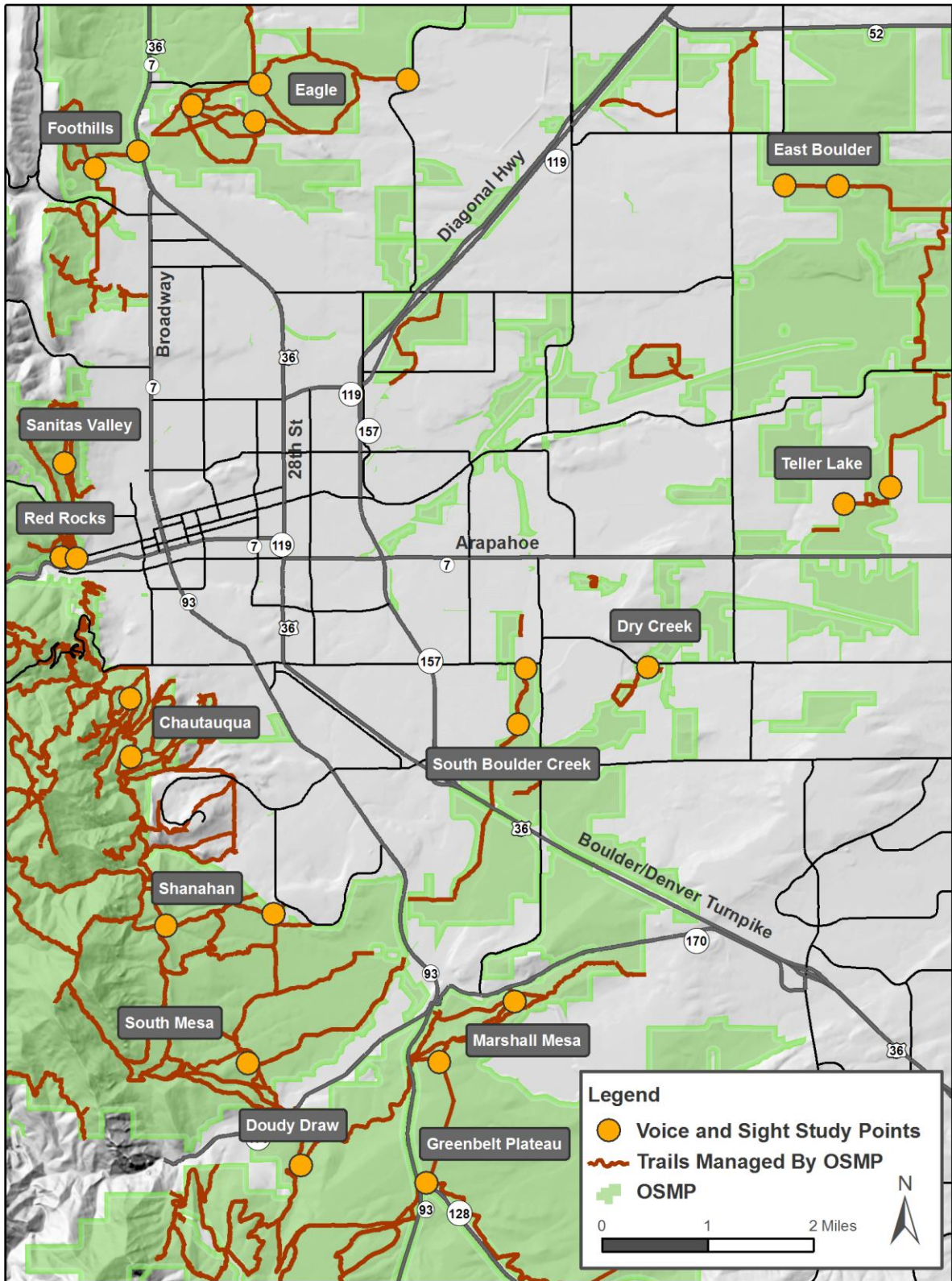


Figure 1: Voice and Sight Tag program monitoring locations.

Each month, staff used a random number sequence to determine which days of the month would be monitored. Once the monitoring days were determined, staff used a second random number sequence to assign study sites to each day. All 25 sites were scheduled to be monitored at least once each month, and three of the sites were scheduled to be monitored twice during the month. Additional details on the project's sampling design can be found in the project protocol (OSMP 2010).

When each monitoring period began, the staff conducting the monitoring observed all visitor parties⁷ with a dog that entered the observation zone. Staff continued to observe each visitor party until that party left the observation zone. For each observed visitor party, staff recorded the visitor party characteristics and whether any member of the party engaged in specific dog and guardian behaviors considered conflictive⁸. Appendix A contains a copy of the monitoring data sheet.

Monitoring staff employed several measures to reduce the likelihood that visitors might alter their behavior due to the presence of an OSMP staff member. Staff conducting the observations did not wear clothing that would identify them as OSMP employees. Additionally, at study sites where it was feasible, staff conducted observations from a location that was out of sight to most trail visitors. Finally, OSMP rangers and education staff were informed of the monitoring schedule and avoided study sites during scheduled monitoring periods.

3.2 Guardian interviews

OSMP interviewed dog guardians during a six-week period in the spring of 2006. OSMP selected 28 three-hour interview periods during the six-week period using a sampling design similar to the one described above in section 3.1. OSMP conducted interviews at approximately the same 25 locations that were monitored during the observational component of study. During the interviews, staff wore clothing that identified them as an OSMP employee.

When the interview period began, the staff member conducting the interviews (i.e. the interviewer) observed all visitor parties with a dog that entered the observation zone. For many visitor parties, the leashes for each dog being managed under voice and sight were often visible in the guardians' hands or on their bodies. When all leashes were visible, the interviewer documented that all leashes were visible and did not attempt to contact the visitor party. When no leash was visible or the number of visible leashes was less than the number of dogs being managed under voice and sight, the interviewer asked the guardian if she had a leash for each dog in her party. In these situations, the interviewer recorded whether the visitor party with leashes not visible had a leash for each dog, did not have a leash for each dog, or refused to show the leash(es) to the interviewer. Appendix B contains a copy of the interview data sheet.

⁷ A party or a visitor party is one or more individuals traveling together who, in the opinion of the observer, appears to be visiting OSMP as one unique group

⁸ In 2005, OSMP and a community group consisting of FIDOS members and other interested citizens developed an initial list of dog and guardian behaviors that could be observed by an individual and had the potential to create a conflict for OSMP visitors. In 2006, Vaske and Donnelly (2007a and 2007b) surveyed OSMP visitors to establish which behaviors on the initial list truly created a conflict for OSMP visitors. OSMP used Vaske and Donnelly's results to finalize a list of observable, conflictive behaviors. Conflictive behaviors evaluated in this monitoring were all found by Vaske and Donnelly (2007a and 2007b) to create a conflict for OSMP visitors.

3.3 Analysis

For the purposes of this study, the visitor party was the sampling unit; results are reported as percentages of visitor parties complying with the regulations or exhibiting at least one conflictive behavior while in the observation zone. Differences among percentages observed during each of the study years were compared using the χ^2 test statistic in SAS v. 9.2. For all tests, $\alpha=0.05$. Confidence limits reported in this document were calculated using exact methods (Zar 1999).

4.0 RESULTS

4.1 Observable Voice and Sight requirements

During the observational portion of the monitoring, we studied three specific components of voice and sight control:

1. Whether the visitor party was attempting to manage more than two dogs off-leash per guardian using voice and sight control,
2. Whether all dogs in the visitor party were within the guardian's sight, and
3. Whether all dogs in the visitor party responded appropriately to the guardian's commands.

While few visitor parties had more than two dogs per guardian, compliance with this part of the voice and sight rules was poorest. In 2006, only one (6%) of the 18 visitor parties with more than two dogs per guardian complied with the requirement that only two dogs may be managed off-leash, under voice and sight by a single guardian. Following implementation of the Voice and Sight Tag program, the percentage of visitor parties complying with this requirement increased to about 40% and this level of compliance was maintained in 2010 (Figure 2).

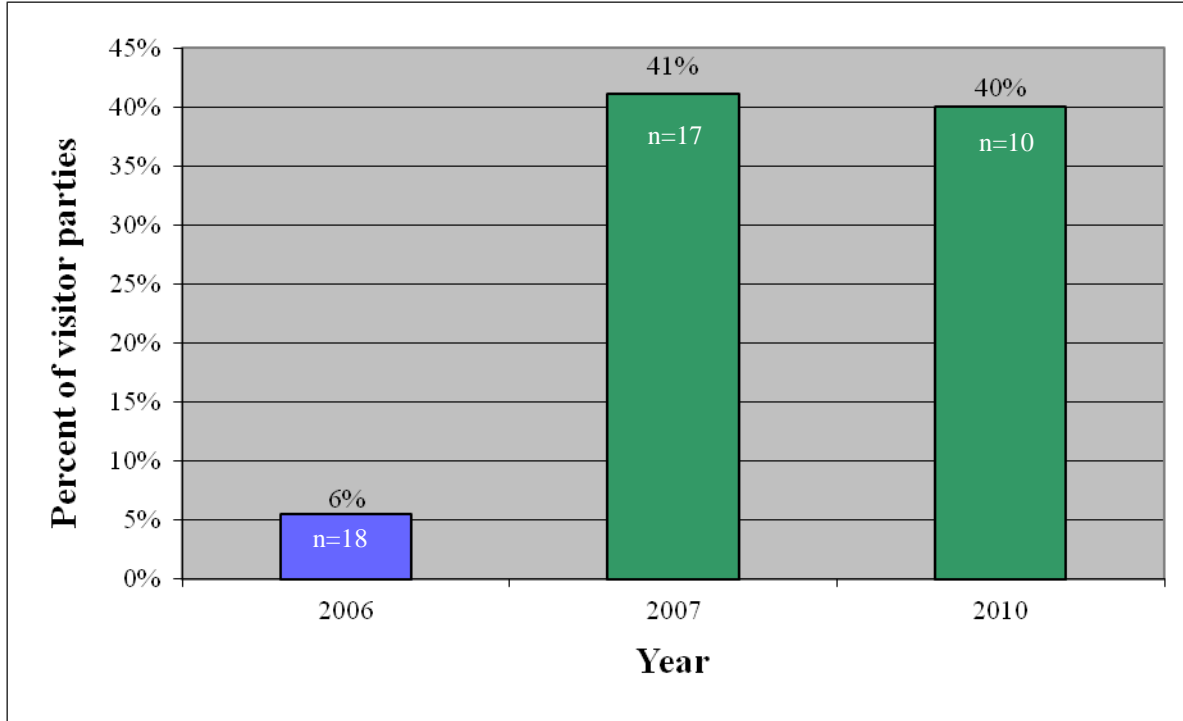


Figure 2: Percentage of visitor parties that complied with the requirement that only two dogs may be managed off-leash, under voice and sight by a single guardian. Different colored bars indicate statistically different percentages.

Visitor party compliance with the provision of the voice and sight rules requiring that dogs remain within the guardian's field of vision improved each year of the study. Approximately 86% of the visitor parties kept their dog(s) within their field of vision⁹ in 2006 (Figure 3). This percentage increased to 92% in 2007 and 95% in 2010.

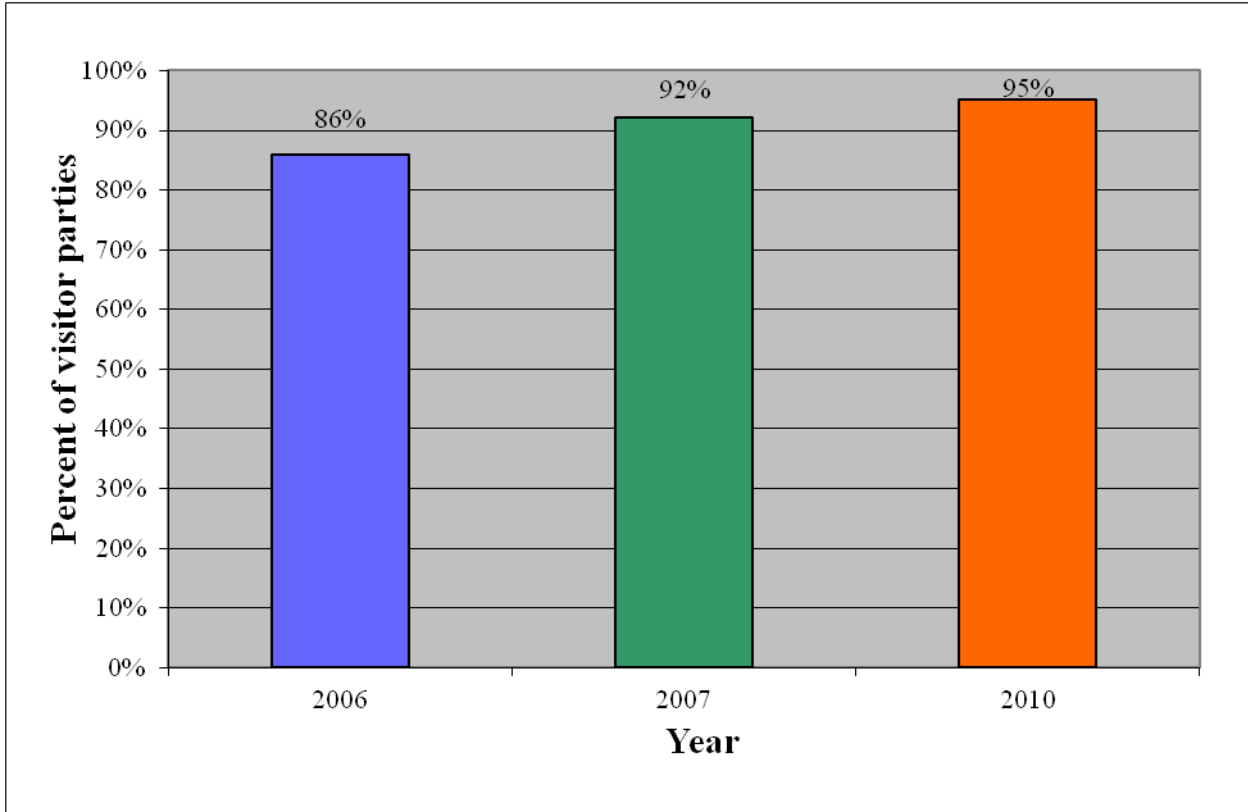


Figure 3: Percentage of visitor parties that complied with the requirement that their dog(s) must remain in their field of vision. Different colored bars indicate statistically different percentages.

⁹ For the purposes of this monitoring project, a dog was considered within a guardian's field of vision if the dog was immediately visible to the guardian (i.e. the dog was in front of or to the side of the guardian) or if the guardian could view the dog by simply turning his or her body (i.e. the dog was behind the guardian). Dogs were considered out of sight if the guardian's sightline to the dog was blocked by an object (e.g. a bush or tree) or topography (i.e. dog is over a hill from the guardian).

Of those visitor parties that attempted to use voice control while they were in the observation zone, slightly less than 65% were successful in 2006 and 2007 (Figure 4). The percentage of visitor parties who were successful in using voice control dropped to approximately 56% in 2010, but the decline was not statistically significant ($p=0.1582$). While the B.R.C. 1981 defines voice control as the ability of guardians to have their dogs respond “immediately” to their commands, for the purpose of this monitoring, visitor parties were considered in compliance with this part of the B.R.C. 1981 or “successful”, if the dog(s) responded within *two* separate and distinct calls to the “come” or “here” commands or having its/their name(s) called by the guardian.

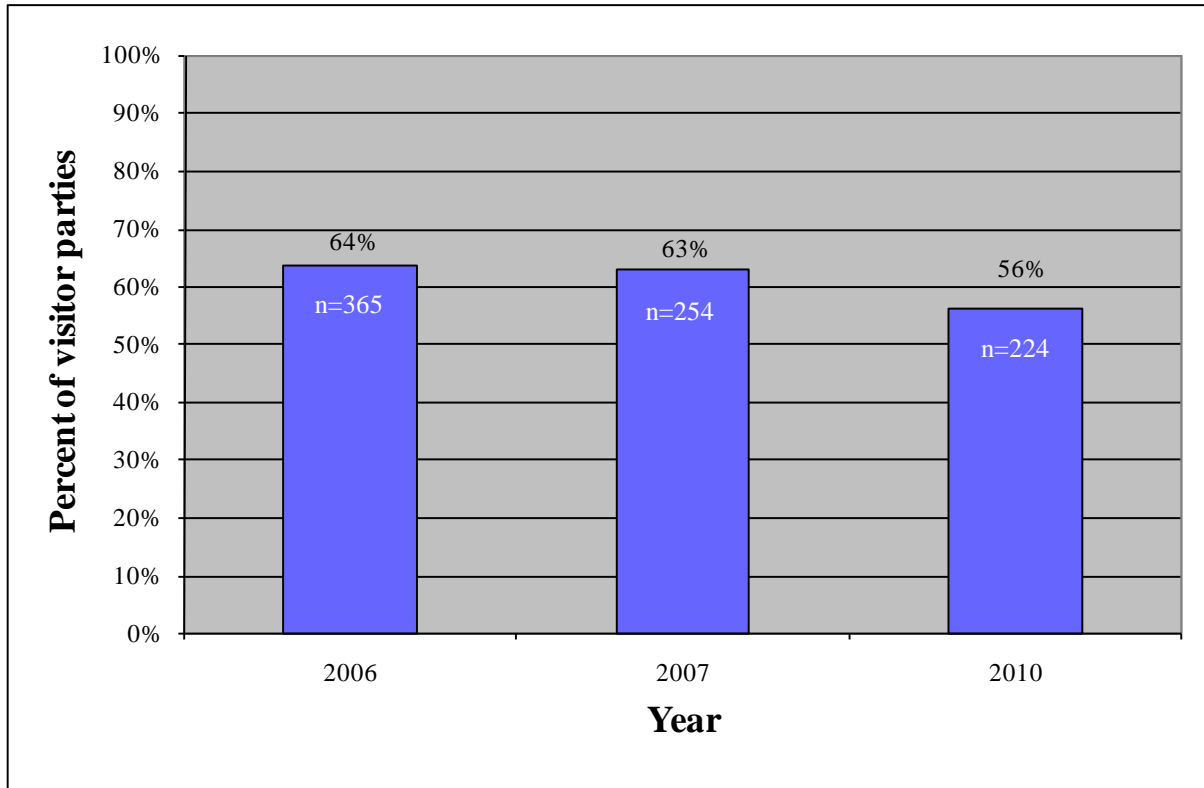


Figure 4: Percentage of visitor parties who were successful in using voice control

4.2 Leash possession requirement

As noted earlier, staff could not always determine whether a guardian had a leash for each dog being managed under voice and sight by simply observing the guardian. Some guardians carry leashes in their backpacks or coat pockets. Thus, staff needed to interview some dog guardians to determine whether the guardian had a leash for each dog being managed under voice and sight control. We observed and/or interviewed a total of 393 dog walking/hiking visitor parties during the interview portion of the study. Compliance with this portion of the voice and sight rules was good, with nearly 93% of the observed and/or interviewed visitor parties having a leash for each dog being managed under voice and sight control¹⁰.

¹⁰ Only four visitor parties refused to show the interviewer their leash(es). These four parties are not included in the estimated compliance rate provided here.

4.3 Conflict

In addition to specific requirements of the voice and sight rules, we compared the incidence of dog-related conflict among OSMP visitors for each study year. Following implementation of the Voice and Sight Tag program, there was a statistically significant reduction in the percentage of visitor parties that participated in at least one conflictive behavior. This reduction was not maintained, and in 2010, the incidence of conflictive behaviors returned to the pre-program (i.e. 2006) level (Figure 5).

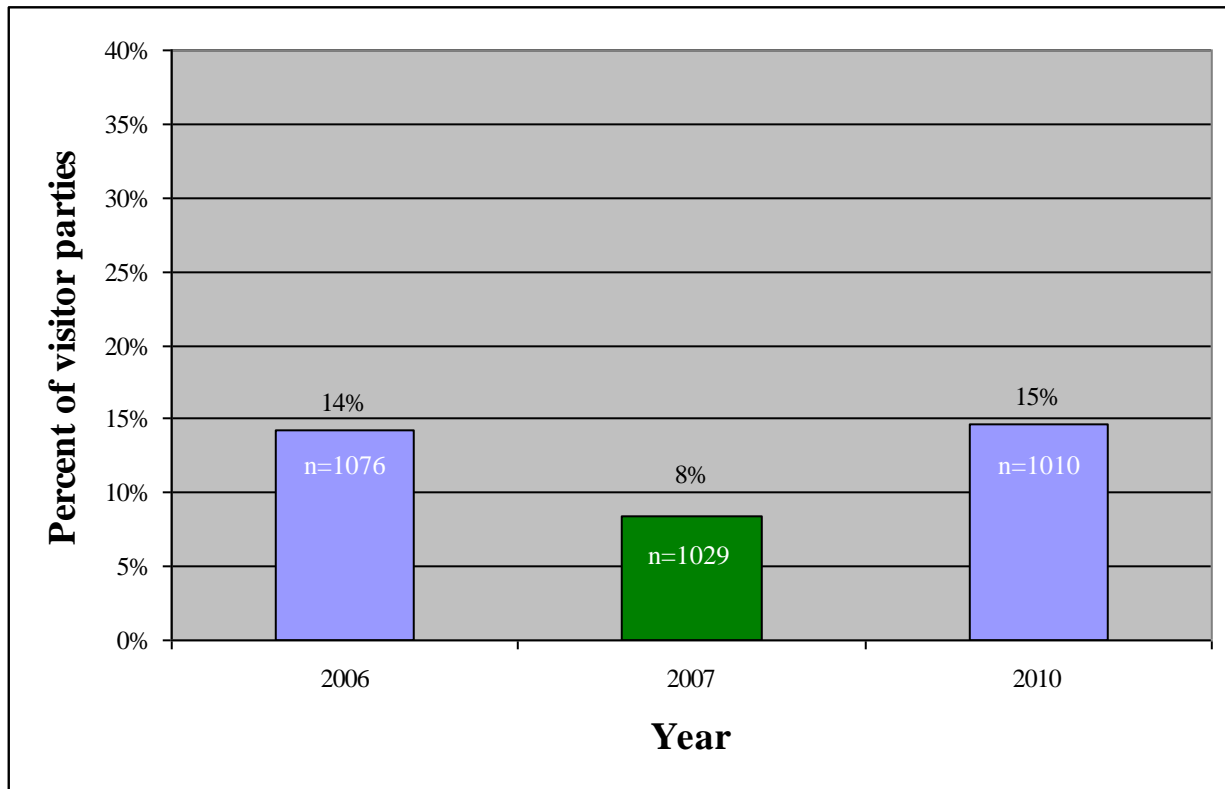


Figure 5: Percentage of visitor parties that participated in at least one conflictive behavior. Different colored bars indicate statistically different percentages.

4.4 Excrement removal

Compliance with Boulder’s excrement removal law (B.R.C. 6-1-18) requires immediate removal of any excrement. For dog guardians on OSMP-managed lands, this generally means picking up the excrement and taking the excrement with them. As part of the monitoring, staff observed and recorded guardian behavior with respect to both elements of excrement removal. Staff considered guardians in compliance with B.R.C. 6-1-18 if they picked up their dog’s excrement and took the excrement with them. If the guardian failed to do both steps, we considered the guardian out of compliance with the law.



Compliance with the excrement removal requirement was generally low. Just over 63% of the visitor parties complied with the law in 2006 compared to 50% in 2007 and 45% in 2010 (Figure 6). The reduction in compliance from 2006 to 2007 was statistically significant, but the reduction from 2007 to 2010 was not statistically significant.

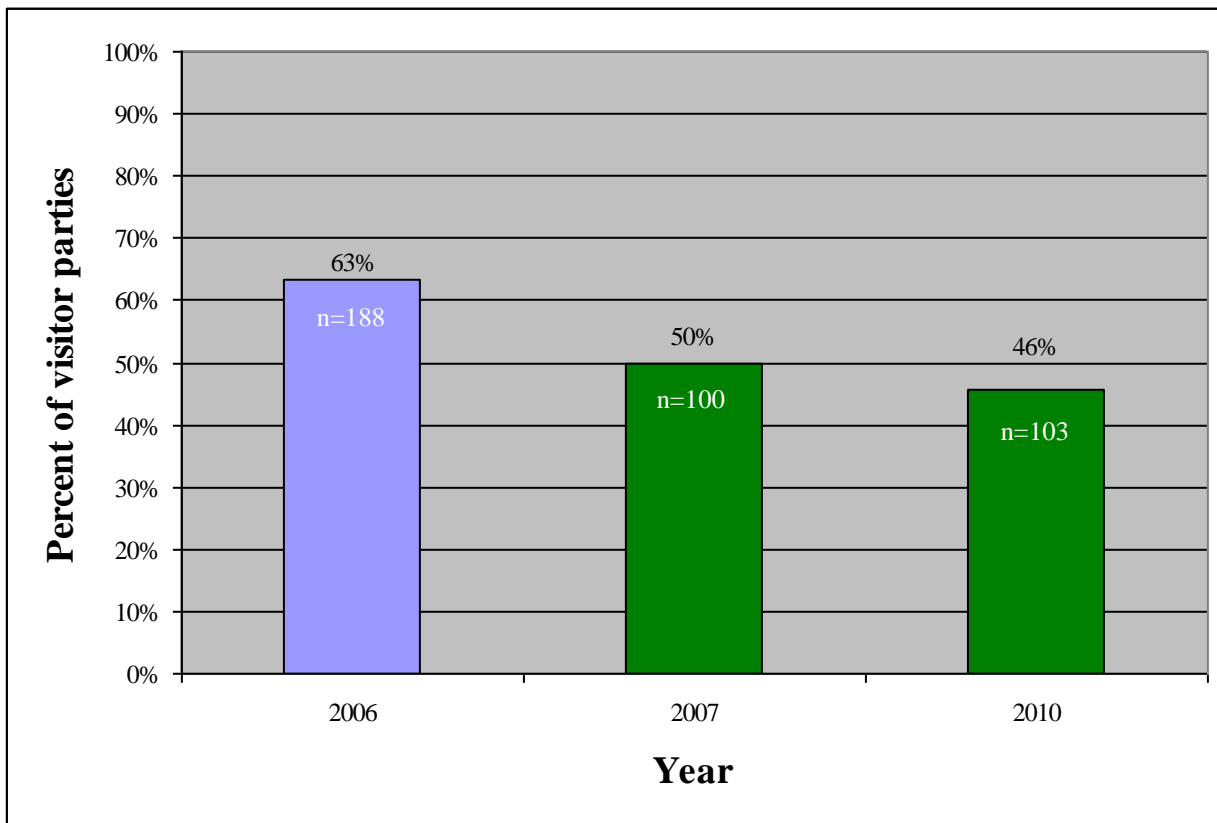


Figure 6: Percentage of visitor parties that complied with the excrement removal rules. Different colored bars indicate statistically different percentages.



In 2007, most visitor parties that failed to comply with the excrement removal law failed due to the fact that they did not take the excrement-filled bags with them (Figure 7). By comparison, in 2006 and 2010, a higher proportion of visitor parties were simply not picking up the excrement.

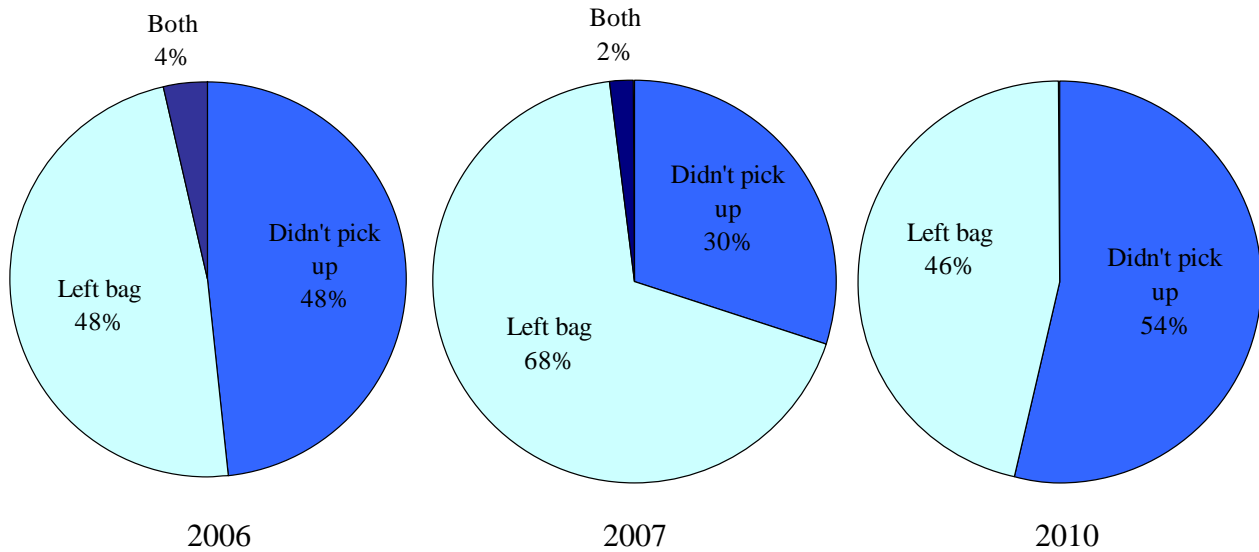


Figure 7: Distribution of visitor parties by reason for failing to comply with the excrement removal rules. Visitor parties either did not pick up the excrement or picked up the excrement but left the excrement-filled bag on the trail. In rare cases, visitor parties did both when there were multiple excrement events.

4.5 Program participation and compliance with tag requirement

Since the Voice and Sight Tag program's inception in the summer of 2006, approximately 26,000 participants from approximately 15,000 households have registered in the program. Approximately 10,000 participants registered in 2006 and the number of participants in the program has grown at a relatively steady rate, adding approximately 4,000 participants per year in 2007, 2008, 2009, and 2010 (Figure 8).

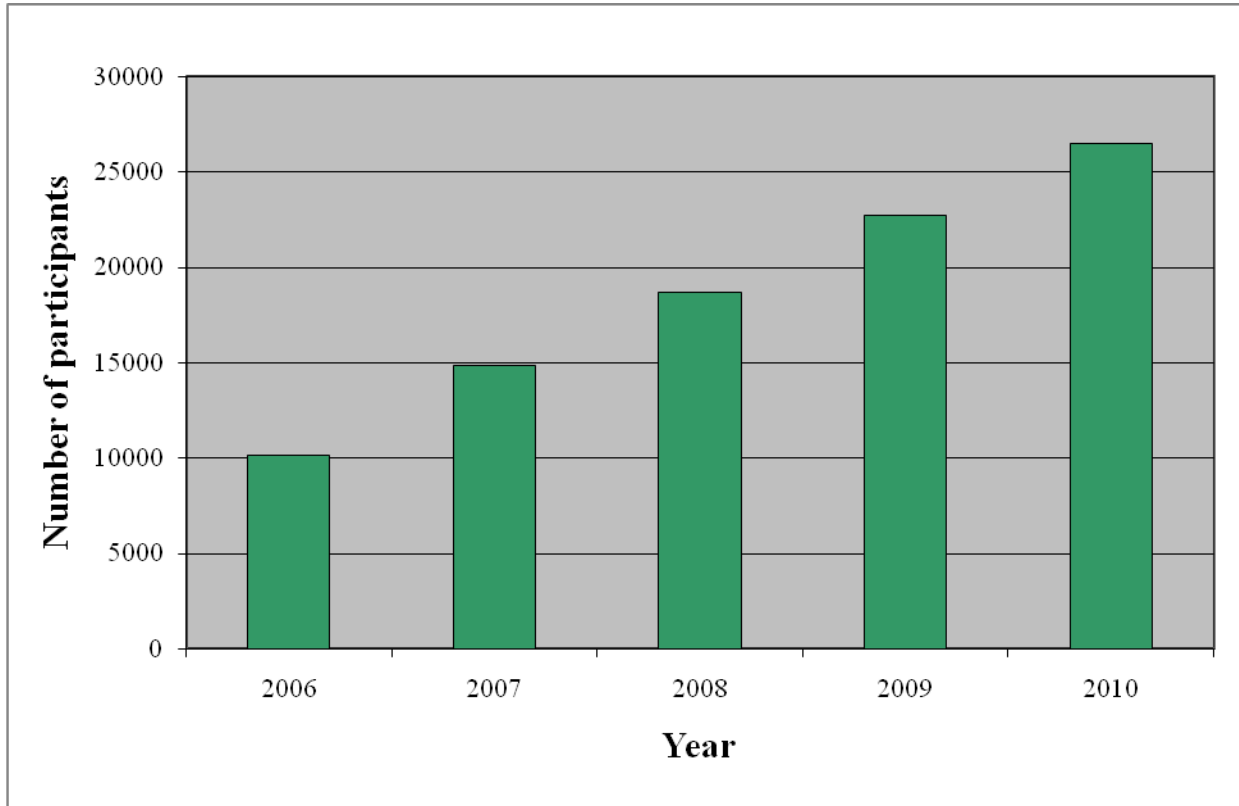


Figure 8: Cumulative number of participants in the Voice and Sight Tag program since the program inception in 2006.

Over the same time frame (i.e. program inception through December 31, 2010), OSMP has issued approximately 25,000 green tags¹¹. Fees collected for the tags have totaled just over \$300,000. Colorado residents have purchased all but 100-150 of the approximately 25,000 tags. Boulder residents have purchased many of the green tags; however, OSMP has also issued a large number of tags to program participants from Denver, Longmont, Lafayette, and Louisville.

The percentage of visitor parties complying with the requirement that off-leash dogs have a visibly displayed, green Voice and Sight tag has increased from the program's inception. In 2007, an estimated 79% of visitor parties with off-leash dogs complied with this requirement. By 2010, this percentage increased to an estimated 86% with a 95% confidence interval spanning from 83% to 88%. The observed increase is statistically significant ($p < 0.0001$).

¹¹ This does not mean that there are 25,000 dogs with green tags. Some of these 25,000 tags are likely replacements for lost or damaged tags.

5.0 DISCUSSION

5.1 Effectiveness of the program in achieving objectives

As noted in Section 1.1, the Voice and Sight Tag program has four objectives:

1. Improve understanding of voice and sight control.
2. Improve compliance with dog control rules.
3. Increase OSMP outreach to and education of the public with respect to voice and sight control.
4. Decrease conflict involving dogs on OSMP properties.

As described below, the Voice and Sight Tag program achieved some, but not all, of these objectives.

5.1.1 Objective 1: Improve understanding of voice and sight control

The monitoring described in this document was not designed to evaluate whether or not dog guardians' understanding of voice and sight control improved because of the Voice and Sight Tag program. However, results of a recent survey of Boulder residents suggests residents who visit OSMP lands are aware of the Voice and Sight Tag program and have at least a somewhat better understanding of voice and sight control as a result of the program. Nearly 70% of the respondents surveyed in 2010 said they had heard of the Voice and Sight Tag program (National Research Center 2010). Dog walkers, particularly those who have walked their dogs off-leash on OSMP lands, were very likely to be aware of the Voice and Sight Tag program; 85% of dog walkers and 93% of dog walkers who have walked their dog off-leash stated they had heard of the program. Of those who said they had heard of the program, about half indicated that they had at least a somewhat better understanding of voice and sight control as a result of the Voice and Sight Tag program.

Some ancillary data from the observational monitoring *may* suggest visitors understanding of voice and sight control has improved is the observed increase in leash use. Prior to implementation of the Voice and Sight Tag program, approximately 15% of the visitor parties had all the dogs in their party on-leash while in the observation zone, despite the fact that they were traveling in a voice and sight-allowed area. Following implementation of the Voice and Sight Tag program, the percentage of visitor parties that kept their dogs on-leash while in the observation zone jumped to 25%.

It is *possible* that the increase in leash use is due to a better understanding by dog guardians of the level of control expected by the City. Some dog guardians may have believed they could not meet the standards outlined in the video and have chosen to leash their dog rather than use voice and sight to manage their dog. Alternatively, an increased awareness of the expectations associated with voice and sight may have led some dog guardians to leash their dogs at certain times or places during their visit. For example, after seeing some of the scenarios in the Voice and Sight Tag video, some guardians may have voluntarily leashed their dogs in the presence of small children, when traveling through prairie dog colonies, or in other situations where the guardians may have felt they could not control their dog sufficiently without a leash. We do not know for sure why more guardians were leashing their dogs in the observation zone, but an improved understanding of the rules and expectations associated with voice and sight control may have contributed to the increase.

5.1.2 Objective 2: Improve compliance with dog control rules

The observational monitoring results indicate that compliance with some elements of the dog control regulations improved, and compliance with other elements did not change. The percentage of visitor parties keeping their dog(s) within view increased after implementation of the Voice and Sight Tag program. Similarly, the percentage of visitor parties with three or more dogs per guardian that only allowed two of the dogs off-leash at any given time increased after implementation of the Voice and Sight Tag program. However, compliance with this rule is generally low (an estimated 41% compliance rate), despite the fact that it has improved.

The monitoring results show there was no improvement in guardians' use of voice control to manage their dog(s). In each of the study years, 55-65% of the visitor parties were successful in having their dog(s) respond to the guardians' commands. Staff did not observe any statistical change in visitor parties' level of success in using voice commands to manage their dog(s) following implementation of the Voice and Sight Tag program.

5.1.3 Objective 3: Increase OSMP outreach to and education of the public with respect to voice and sight control

The monitoring described here was not designed to evaluate whether OSMP has *increased* outreach to and education of the public. However, staff initiated various one-time and on-going outreach efforts in addition to implementing some education related infrastructure changes as part of the Voice and Sight Tag program.

Two major outreach and educational components of the Voice and Sight Tag program were the Voice and Sight Tag video and the "Tag Wag". As described earlier, the Voice and Sight Tag video is a 15-minute, educational video that reviews the City of Boulder's expectations of guardians who use voice and sight control, the rules regarding dog waste, and general trail etiquette. The goal of the Voice and Sight Tag video is to establish a shared understanding of what voice and sight control means and the expectations of dog guardians who choose to manage their companion animals under voice and sight control.



The Tag Wag was a community outreach event designed to showcase the new Voice and Sight Tag program and provide dog guardians an opportunity to register in the program. Held on Saturday July 22, 2006 from 9 AM to 3 PM in downtown Boulder, the Tag Wag included demonstrations by the Humane Society of Boulder Valley, Guide Dogs for the Blind, Boulder County Sheriff's Department K-9 unit, Front Range Rescue Dogs, and STORM – Scent Trackers of the Rocky Mountains; free dog massages; and sing-alongs with OSMP staff (see Appendix C for a flyer advertising the Tag Wag).

OSMP staff were available throughout the day to explain the new program and assist dog guardians with online and paper registration. During the event and 30 days immediately

following the Tag Wag, more participants (approximately 4,500 individuals) registered in the program than any other 30-day period to date.

In addition to specific Voice and Sight Tag outreach and education, voice and sight control was often the focus of many on-going outreach and educational efforts. OSMP's on-going outreach efforts include trailhead outreach, in which an outreach specialist staffs a small table at the most popular trailheads during busy times of day providing information and communicating specific messages to OSMP visitors. In addition OSMP also staffed outreach booths at the Boulder Farmers' Market and various Boulder community festivals such as Creek Fest. Finally, the Voice and Sight Tag program was a focus of conversation at OSMP "visitor centers" (i.e. the Ranger Cottage and Flagstaff Summit Visitor Center). Education and Outreach Coordinator, Steve Mertz (personal communication), estimates that, in 2005 and 2006, voice and sight control was the focus of approximately 70% of these on-going outreach efforts.

Efforts to educate visitors about the Voice and Sight Tag program and voice and sight control were not limited to educational or outreach programs or contacts. As part of the effort to increase awareness of and compliance with voice and sight rules, OSMP increased the number of signs and sign structures on OSMP-managed lands. OSMP placed approximately 50 "dog stations" at major access locations that are popular with dog walkers. A "dog station" consists of four 4-inch x 4-inch posts bolted together (Figure 9). Signs conveying dog-specific rules are posted on dog stations. Dog stations also have brochure holders that are typically stocked with the Voice and Sight Tag program brochures (Appendix D) and maps showing dog-specific regulations in the area. Additionally, dog stations have bag dispensers (the bags are used by visitors to collect dog excrement) attached to them. OSMP designed dog stations to serve as "one-stop" locations for obtaining dog-related information. Each dog station cost approximately \$225-\$250 to construct and install for a total cost of approximately \$11,250 to \$12,500 for all 50 stations.



Figure 9: Dog station

OSMP's staff created the Voice and Sight Tag program brochure to convey information to visitors regarding voice and sight control using yet another medium, (Appendix D). The brochure describes voice and sight control and outlines the Voice and Sight Tag program. It also answers some frequently asked questions about the Voice and Sight Tag program. To increase the reach of the brochure, OSMP printed versions in English and Spanish. To date, OSMP has printed and distributed 50,000 brochures at a cost of approximately \$10,000 (Lauri Weaver, Estey Printing Company, personal communication).

OSMP extended outreach efforts to the internet as well, creating the Voice and Sight Tag Program web page

(www.bouldercolorado.gov/index.php?option=com_content&task=view&id=5562&Itemid=411)

The page includes information on the program as well as links to the Voice and Sight Tag video and online registration for the program. The Voice and Sight Tag program web page is one of the most popular pages on OSMP's web site, and consistently ranks as one of the top ten pages viewed on the OSMP web site.

One way to measure the outreach and educational efforts is to consider the number of hours staff spent on the project. In 2006, the year OSMP launched the program to the public, OSMP Education and Outreach Specialists logged over 2,000 hours in outreach efforts associated with the Voice and Sight Tag program. These hours largely reflect time spent directly on Voice and Sight Tag outreach, such as planning for and holding the Tag Wag. Similarly, OSMP's Ranger/Naturalists focused over 3,000 hours of their time in 2006 on the Voice and Sight Tag program, with most of their time spent making educational contacts with visitors on OSMP-managed lands immediately following formal implementation of the Voice and Sight Tag program. Over 50 individual staff members devoted at least some time to the development and implementation of the Tag Program. In total, OSMP staff spent nearly 7,500 hours on tasks directly related to the Voice and Sight Tag program in 2006, making it the most labor intensive project of the year. By comparison, in 2006, staff spent approximately 6,300 hours on trail maintenance, 5,200 hours on development of the Eldorado Mountain Dowdy Draw Trail Study Area Plan, and 1,500 hours on development and implementation of the Off-trail Permit Program. Collectively, these data suggest OSMP may have achieved the program objective of increasing outreach to and education of the public with respect to voice and sight control.

5.1.4 Objective 4: Decrease conflict involving dogs on OSMP properties

The observational monitoring results suggest the Voice and Sight Tag program was not effective in achieving this objective. We observed an initial decline in the incidence of dog-related conflict in 2007 following implementation of the Voice and Sight Tag program. However, in 2010, the incidence of dog-related conflict had returned to the pre-Voice and Sight Tag program level.

5.1.5 Summary of program effectiveness in achieving its objectives

In summary, the available evidence suggests that the Voice and Sight Tag program improved visitors understanding of voice and sight control (Objective 1) and enabled OSMP to increase its outreach to and education of the public with respect to voice and sight control (Objective 3). The program failed to decrease conflict involving dogs on OSMP properties (Objective 4) and achieved mixed results with respect to improving visitors' compliance with dog control rules (Objective 2).

5.2 Meeting established standards

OSMP's Visitor Master Plan (VMP) (OSMP 2005) contains two standards that are relevant to the visitor behavior observed during this study. Under the Resource Protection Initiative, the VMP proposes a standard of at least 90% compliance with dog control requirements. Similarly, the VMP proposes a standard of at least 90% of off-leash dogs "participating" in the Voice and Sight Tag program under the User Conflict Reduction Initiative. The available data suggest dog

guardians are not meeting either standard. Staff only observed compliance with **four specific components** of the voice and sight rule rather than compliance with the rule in its entirety. Monitoring results indicated that an estimated 95% of visitor parties complied with the requirement to keep dogs within their vision and an estimated 93% of the dog guardians surveyed had a leash with them. However, compliance with the other two components measured (whether the visitor party was attempting to manage more than two dogs off-leash per guardian using voice and sight control and whether all dogs in the visitor party responded appropriately to the guardian's commands) was well below the 90% standard (2010 estimates were 40% and 56% in 2010 respectively). With respect to the participation in the Tag program, the 2010 estimated percentage of participation (86%) was below the 90% standard proposed in the VMP.

The VMP does not propose a standard for compliance with dog excrement removal rules. However, a survey of OSMP visitors suggests visitors have very low to no tolerance for non-compliance with dog excrement removal rules. Only 9% of respondents in a 2006 survey indicated that it wasn't a problem to them if dog owners did not pick up after their dog(s). Conversely, 57% of respondents labeled owners not picking up after their dog an "extreme problem" (Vaske and Donnelly 2007a, 2007b). These data suggest the excrement removal compliance rate observed in this study of 46%-63% likely does not meet the typical OSMP visitor's personal norms regarding excrement removal.

5.3 Barriers to compliance with Voice and Sight rules

The data collected over the past several years and described above indicate that, while there has been some improvement in compliance with voice and sight rules, compliance does not meet the standards established in the VMP. In order to improve compliance with voice and sight rules, OSMP could work to understand what barriers to compliance exist for some dog guardians. Once the barriers to compliance are understood, OSMP, working together with dog guardians and the community, can develop and implement management strategies that remove these barriers.

The scientific literature examining human dimensions of natural resources has highlighted some of the barriers visitors face in trying to comply with park rules and suggestion management actions to remove the barriers. Several researchers have proposed frameworks to classify reasons why visitors engage in depreciative behavior such as failing to remove their dog's excrement (Widner-Ward and Roggenbuck 2003) or violating park rules (Gramann and Vander Stoeppe 1986, Nesbitt 2006). These researchers then offer management strategies to address the specific reasons for non-compliance. Other researchers have categorized the actions themselves rather than the reasons behind the action in an effort to explain visitor behavior and propose management strategies to change the behavior if it is unacceptable (Hendee and Dawson 2002). In trying to understand possible barriers to compliance with the voice and sight rules, it may be most useful to draw from a framework developed by Stern (2000).

Stern's framework identifies four causal factors or variables that influence behavior. Stern applies this framework to understanding why people engage or do not engage in environmentally significant behavior, which may include behaviors such as compliance with rules and regulations. However, the variables Stern identifies are broad in nature and could help explain why people engage in any type of behavior. Stern's four variables are:

1. **Personal capabilities:** A person's ability to perform the action or behavior
2. **Contextual factors:** Factors, such as regulations or enforcement of those regulations, which may be operating in the environment or background while a person is performing an action or behavior.
3. **Attitudinal factors:** A person's beliefs and attitudes about a behavior or action as well as any personal norms related to the behavior.
4. **Habit and routine:** A person's standard operating procedure with respect to an action or behavior as well as his or her past history performing or not performing the specific behavior.

Each of Stern's variables likely plays a role in influencing a dog guardian's compliance with voice and sight rules.

5.3.1 Personal capabilities

Stern defines personal capabilities as a person's ability to perform the action or behavior, which in this case is compliance with voice and sight rules. A significant amount of personal skill and attention is required of dog guardians to manage their dogs using voice control. Similarly, the dogs themselves must possess a certain level of skill to successfully respond to guardian commands. During the observation period, staff observed some dog guardians who exhibited a strong ability to manage their dogs using both voice control and non-verbal hand signals. However, some dog guardians did not exhibit the same skills. In 2010, 70% of the dog guardians who failed to comply with voice and sight rules while within in the observation zone failed, at least in part, because they did not successfully use voice control to manage their dog. This observation suggests that some dog guardians may not have the personal skills necessary to comply with voice and sight rules.¹²

In contrast, no specialized skill is required to comply with some of the other components of the voice and sight rules. Nearly all dog guardians are physically capable of keeping their dogs within view, managing only two off-leash dogs at a given time, and having a leash available for each dog they are managing under voice and sight. Guardians who fail to comply with these components of voice and sight likely do so for reasons other than a lack of personal capabilities.

5.3.2 Contextual factors

Contextual factors that may be relevant to shaping dog guardian behavior with respect to voice and sight are the presence of OSMP rangers, the cost of fines¹³ associated with violations of voice and sight rules, and social norms held by dog guardians and other visitors. The presence of these factors may encourage compliance with voice and sight rules; however, the absence of these factors may serve as a barrier to improving compliance with voice and sight rules.

¹² We do not know why the dog guardians did not succeed in calling their dog. It is possible that some dog guardians have greater skill than was represented by their actions in the observation zone.

¹³ For most dog-related violations of the Boulder Revised Code 1981, only municipal judges, not OSMP, may set "fines" associated with the violation. When an OSMP ranger issues a summons (to appear in court) for most dog-related violations of the B.R.C. 1981, the summons has a bond associated with it. If the violation is minor, the person receiving the violation may resolve the issue by mailing the amount of the bond to the municipal court. In that sense, the bond amount may be considered a "fine" by most visitors and it is in this sense that the term fine is used here.

Although there is no data to estimate how often visitors encounter an OSMP ranger, the odds of a visitor party encountering a ranger on a given visit are small. There are few rangers on patrol relative to the number of acres managed by OSMP. In addition there are few rangers relative to the number of visitors on OSMP-managed lands. OSMP currently employs 14 full-time rangers. Approximately half of these rangers work during the first part of the week and half cover the second part of the week. Consequently, on a typical day, there may be only five or six OSMP rangers on duty. These five or six rangers are responsible for patrolling the approximately 43,000 acres of non-contiguous land. In addition, OSMP rangers assist with resource protection, respond to emergencies, and lead educational efforts, further minimizing their available time to conduct standard patrols and reducing the likelihood that visitors encounter a ranger on a given visit. This reduced likelihood of encountering a ranger could weaken any external pressure dog guardians may feel to comply with voice and sight rules.

Similarly, existing fines may not be large enough to effect compliance. The maximum fine established in the B.R.C. 1981 for violating Section 6-1-16 Dogs Running at Large Prohibited is \$50 when it is a first offense and the infraction occurs on park land or open space. The fine increases to \$100 for a second offense within 24 months. Given the general affluence of the Boulder community (U.S. Census Bureau 2011)¹⁴, it is reasonable to question whether a \$50 fine is a strong external factor encouraging compliance with voice and sight rules.

Social norms are a third external factor that could influence dog guardian behavior with respect to compliance with voice and sight rules. A norm is an evaluative standard that describes how a person *ought* to behave (Donnelly et al. 2000); a social norm is a social standard held by a group of people, such as dog guardians or visitors to OSMP, that describes expected behavior under specific conditions. The Voice and Sight Tag program itself attempts to establish a social norm around how dog guardians and their companion animals ought to behave on OSMP-managed lands. OSMP provides a visual demonstration of this norm with the Voice and Sight Tag video.

This study did not identify social norms among dog guardians who visit OSMP with dogs or evaluate the strength of these social norms. It is possible, however, that dog guardians may *not* believe they should maintain the level of control shown in the Voice and Sight Tag video. Dog guardians' standard for expected behavior may be more lenient than the level of control shown in video. If this is true, this social norm would be a barrier to compliance with voice and sight tag rules.

Alternatively, OSMP may have been successful in establishing a social norm proposed in the video, but the norm may simply lack strength. Heywood (2002) suggests the strength of a norm is a function of the obligation to comply with the norm and intensity of any sanctions that occur when the norm is violated. Both are positive relationships; the more strongly obliged a visitor feels to behave in a certain way and/or the higher the intensity of the sanction, the stronger the norm. In his work, Heywood found the norm against littering was strong because visitors felt a strong obligation to dispose of waste properly and would feel ashamed, guilty and/or embarrassed if they did not do so. Shame, guilt and embarrassment are internal, or self-imposed, sanctions. Conversely, cyclists in Heywood's study felt obligated to warn other visitors when

¹⁴ The U.S. Census Bureau reports the median family income from 2005-2009 in Boulder, Colorado is \$92,413 while the median family income from 2005-2009 in the U.S. is \$62,363. Both figures are 2009-inflated adjusted.

they passed, but they did not feel guilty if they didn't warn upon passing (i.e. they lacked an internal sanction). As a result, the norm to warn other visitors that a faster moving cyclist is approaching visitors from behind is a weaker social norm compared to littering.

With respect to voice and sight control, dog guardians may feel obliged to control their dogs, but maybe not to the level of control demonstrated in the video. Additionally, dog guardians may not feel guilty or ashamed if they don't achieve the level of control shown in the video. This lack of obligation and internal sanctions would lead to a weaker, or possibly, ineffective norm. The low probability of encountering an OSMP ranger on a given visit and the relatively low cost of fines for failing to comply with voice and sight rules, both of which are external sanctions, may further reduce the strength of the social norm OSMP hoped to establish.

5.3.3 Attitudinal factors

Closely related to social norms described above as contextual factors are attitudinal factors. Attitudinal factors, which include a person's beliefs and attitudes about a behavior or action as well as any personal norms related to the behavior, can play a significant role in shaping visitor behavior (Marion et al. 2008). In fact, in the absence of strong contextual factors, such as enforcement or steep fines, attitudinal factors are largely responsible for determining visitor behavior (Stern 2000, Williams et al. 2009). Given this, dog guardians' beliefs and attitudes derived from those beliefs should not be overlooked as potential barriers to compliance with the rules.

Understanding visitors' beliefs, attitudes, and norms and the role these play in shaping visitor behavior has been the subject of extensive research in the human dimensions of natural resources literature. For example, various researchers have explored visitors' attitudes and beliefs behind the reasons visitors travel off-trail in park settings (Hockett et al. 2010, Park et al. 2009). Others have focused on the role visitor attitudes and beliefs play in complying with leash laws on parkland (Nesbitt 2006, Williams et al. 2009). Marion et al. (2008) recently examined attitudes and beliefs behind feeding wildlife in parks where such behavior is prohibited.

Because of its focus on the role of dog guardians' attitudes and beliefs in influencing compliance with dog regulations, the works of Nesbitt (2006) and Williams et al. (2009) may help shed some light on how specific attitudes and beliefs, *if* held by dog guardians visiting OSMP, may shape compliance with voice and sight rules. For example, Williams and others found that dog owners felt less obliged to comply with the leash laws when the owners believed strongly in the benefits of off-leash exercise for their dogs. If some dog guardians visiting OSMP believe the benefits of off-leash recreation outweigh the benefits of maintaining OSMP's recommended level of dog control, their belief may reduce their willingness to exert control over the dogs. Conversely, Williams and others noted dog owners were more likely to feel obliged to leash their dogs if they felt their own dog could negatively impact other visitors or wildlife. If dog guardians visiting OSMP believe their dog could be viewed as threatening or scary, guardians may be more likely to ask other visitors if their dog may approach them, an expectation stated in the Voice and Sight Tag video.

In his work at William B. Umstead Park in North Carolina, Nesbitt (2006) concluded that the most significant motivation influencing park visitors to allow their dogs off-leash despite posted

leash laws was a perceived justification for why the leash law did not apply to them, in general or under specific conditions. Applying this to voice and sight control on OSMP, some dog guardians *may* believe they should not be required to be able to have their dog respond immediately upon command. They may believe it is acceptable if their dog responds to their commands *most* of the time, given the amount of training that could be required to achieve the level of control shown in the Voice and Sight Tag video and the numerous distractions that vie for their dog's attention on OSMP.

The monitoring described in this document did not include an examination of dog guardians' attitudes or beliefs making it impossible to know whether dog guardians' attitudes and beliefs serve as a barrier to or help encourage compliance with voice and sight rules. It is likely that some beliefs and attitudes held by dog guardians visiting OSMP encourage compliance while others may discourage it. Further exploration of dog guardians' attitudes or beliefs about voice and sight control may provide insight into effective outreach messages and/or management strategies that could be employed to improve voice and sight control.

5.3.4 Habit and routine

Personal habits and/or routines of dog guardians can also serve as a barrier to compliance with voice and sight rules. Dog guardians who walk their dogs on OSMP are frequent visitors to OSMP; about two-thirds of dog guardians who choose to walk their dogs on OSMP do so at least once a week or more. As regular visitors, dog guardians likely have well-developed habits associated with the level of control they exert over their off-leash dogs. In some cases, the level of control that dog guardians are in the habit of exerting may not fall short of the level of control demonstrated in the Voice and Sight Tag video. If the dog guardian does not perceive a problem with their routine way of controlling their dog, changing the habit is extremely difficult (Hendee and Dawson 2002). Even if the dog guardian believes she should exert the control demonstrated in the video, changing a habit is difficult and can serve as a significant barrier to compliance with voice and sight rules.

5.4 Barriers to compliance with dog excrement removal rules

While it is unlikely the typical dog guardian visiting OSMP lacks the skills necessary to comply with the dog excrement removal rules, each of the other variables Stern (2000) identifies may play a role in influencing dog guardian behavior with respect to excrement removal. For example, the extremely small likelihood of an OSMP ranger observing a dog guardian failing to comply with the excrement removal rules may not be sufficient external pressure to influence a dog guardian to comply with the rules. Similarly, some dog guardians may simply not be in the habit of picking up after their dog.

Among the four variables Stern outlines as influencing behavior, dog guardians' attitudes or beliefs likely have the most influence on whether the guardian will comply with the excrement removal rules. Guardians who view excrement as a "natural" part of the environment may not understand some of the reasons for the excrement removal rules and therefore lack the motivation to remove excrement. The numerous and highly visible colored bags lining some trails may suggest to uninformed dog guardians that leaving excrement filled bags is acceptable or at least justifiable since "everyone is doing it". Conversely, many dog guardians visiting

OSMP likely hold very strong attitudes and beliefs that influence them to comply with the excrement removal rules and encourage other visitors to do the same.

6.0 RECOMMENDATIONS

Stern (2000) notes that, to achieve a change in behavior, management strategies must be multi-pronged, addressing each of the four casual factors described above (personal capabilities, contextual factors, attitudinal factors, and habit/routine). In the case of compliance with voice and sight rules, different dog guardians likely face different barriers to compliance and some dog guardians may face several barriers simultaneously. Therefore, using a multi-prong management approach, including the actions below, is recommended to improve compliance with voice and sight rules on OSMP-managed lands.

6.1 Verify and/or increase dog guardians' and their dogs' voice control skills

Any effort to increase compliance with voice and sight rules should include a strategy to increase some dog guardians' and their dogs' skill at using voice control. When attempting to use voice control to manage their dog, only 55-65% of the visitor parties were successful in each of the study years. In 2010, over 70% of the visitor parties that failed to comply with voice and sight rules did so because the guardians' were not successful in using voice control. These observations suggest that some dog guardians and their dogs may not have the skills necessary to comply with voice and sight rules. If this is true, increasing guardians' and their dogs' skill in using voice control should improve compliance with voice and sight rules.

Currently, the Voice and Sight Tag program requires dog guardians to confirm via a check box during registration that they have sufficient skill to use voice control as described in the video to properly manage their dogs. Increasing compliance with voice and sight rules may require a means of *ensuring* that dog guardians can manage their dog. Several options include: requiring dog guardians to take (and pass) a specific dog obedience class or requiring dog guardians to demonstrate their skills before issuing a voice and sight tag. While the idea of testing and/or certifying dog guardians' ability to use voice control may not appeal to all OSMP visitors, the majority of Boulder residents (65%) believe testing and certifying dog obedience before dogs are allowed under voice and sight control is a somewhat or very appropriate management strategy on OSMP (National Research Center 2010). The percentage of Boulder residents voicing this opinion has grown from 60% in 2004 (Public Information Corporation 2004).

In support of increasing both dog guardians' and their dogs' voice control skills, OSMP could sponsor specific dog training classes aimed at promoting control skills that could improve voice and sight control. Training sessions could be organized by OSMP as part of the department's outreach and education efforts working in conjunction with experienced dog trainers to teach and relate common control challenges and possible training techniques to improve control.

6.2 Increase external sanctions for failing to comply with voice and sight and excrement removal rules

Strong external sanctions can influence a person to change his or her behavior regardless of a person's beliefs about that behavior (Stern 2000). To strengthen external sanctions, OSMP should increase enforcement of the existing voice and sight rules, if possible. Some OSMP visitors and Boulder residents have voiced support for increased enforcement of existing rules in

various surveys. Another way to increase external pressure would be to change the fine structure outlined in the B.R.C. 1981. Increasing the fine would provide a stronger external pressure to comply with voice and sight rules. The temporary or even permanent loss of voice and sight privileges after two violations or possibly even after a single violation of voice and sight requirements would be a third way of increasing sanctions. While direct management strategies such as increasing enforcement and/or raising fine limits is not typically favored by park visitors, they are the only strategies that are successful for visitors with certain beliefs and attitudes (Hendee and Dawson 2002, Marion and Reid 2007).

Another, perhaps more palatable, way to increase external pressure would be to reinforce the social norm that OSMP hoped to establish with the Voice and Sight Tag program. OSMP could explore the development of a program in which well trained dogs provide a “live demonstration” of how dogs and their guardians ought to behave. Having more visitors modeling desired behavior may influence those dog guardians who do not meet the City’s dog management expectations to change their behavior.

Strengthening the external sanctions for failure to remove dog excrement by increasing enforcement and/or fines might also result in improved compliance with excrement removal rules.

6.3 Understand dog guardians’ underlying beliefs and attitudes about off-leash recreation, voice and sight control, and excrement removal

Because visitor behavior is at least partially driven by attitudes and beliefs (Marion et al. 2008), understanding these beliefs is a necessary precursor to any successful attempt at changing or influencing visitor behavior. OSMP could establish an understanding of dog guardian’s attitudes and beliefs about off-leash recreation, voice and sight control, and excrement removal by convening focus groups, conducting interviews, or administering surveys to dog guardians. Information learned during the interviews or surveys could be used to design targeted education and information programs, or other management strategies when education and information programs are not appropriate.

7.0 SUMMARY

OSMP launched the Voice and Sight Tag program in the summer of 2006. The program’s goal is to increase compliance with existing voice and sight rules and decrease dog-related conflict on OSMP-managed lands. By the end of the summer of 2010, over 25,000 participants had registered in the program and most (86%) off-leash dogs on OSMP-managed lands had the program’s green tag visibly displayed. Monitoring conducted before, immediately after, and almost four years after the program’s launch indicated that the program achieved some but not all of the program’s objectives. OSMP had increased its outreach to visitors regarding voice and sight control and some visitors report improved understanding of the voice and sight rules because of the program. OSMP also observed an increase in compliance with some but not all components of the voice and sight rules. In contrast, although OSMP noted an initial decrease in dog-related conflict following implementation of the Tag program, dog-related conflict rates had returned to pre-program levels by 2010. Additionally, OSMP did not detect any increase in dog guardians’ success in using voice control following implementation of the program.

Although it was not one of the objectives of the Voice and Sight Tag program, OSMP also measured compliance with dog excrement removal rules. Compliance with these rules was generally poor with 46% to 63% of the visitor parties complying with the rules.

Barriers that dog guardians may face when trying to comply with voice and sight rules include limited skills (theirs and/or their dogs), or limited willingness to use their skills, in managing their dog with voice control, weak or no external pressure, personal beliefs or attitudes, and personal habits or routines. Management attempts to improve visitor compliance with voice and sight rules should address these barriers.

Because no specialized skill is needed in order to comply with the excrement removal rules, it is likely that external pressures, personal beliefs or attitudes, and personal habits or routines play a larger role in influencing compliance with the rules. Management attempts to improve visitor compliance with excrement removal rules should address any barriers associated with these factors.

Possible management strategies to improve compliance include testing and/or certifying dog guardians' skill in using voice control, increasing enforcement, raising fines, reinforcing the desired social norm, and understanding dog guardians' beliefs and attitudes about voice and sight control and off-leash dog recreation learned via focus groups, interviews, and/or surveys to better target information and education programs or other management strategies.

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Appendix A

Voice and Sight Tag Program

Observation Data Sheet

Voice and Sight Video and Tag Project Monitoring Data Sheet (Component 2 - Observational study)

Date (mm/dd/yy): _____ Weather: _____

Time (24-hour): _____ Location: _____ Observer: _____

Obs. #	Visitor data						Presence/absence of listed behaviors involving dogs				Voice and Sight Compliance					Excrement							
	People (0-n)	Dogs (0-n)	# Leashed thru entire area (0-n)	Unleashed dogs with tag (0-n)	Unleashed dogs no tag (0-n)	Unleashed dogs unsure (0-n)	Opport for interaction (Y/N)	Other(s) present	Behavior observed	People off trail (0-n)	Leashed dog off trail (0-n)	Unleashed dog off trail (0-n)	Party on social trail (Y/N)	Out of sight (0-n)	Response to call		More than two dogs off leash (Y/N)	Poop (# of times, 0-n)	Picked up	Did not pick up	Took bag	Left bag	
															Obeys (0-n)	Does not obey (0-n)							

Notes: _____

Behavior Codes

No listed behavior observed

0. No listed behavior observed

No physical contact by dog

1. Flushing or fleeing wildlife (requires 2 of the 4 modifiers)
 - a. Dog is leashed
 - b. Dog is unleashed
 - c. Dog is within 10' of trail
 - d. Dog is more than 10' from the edge of the trail
2. Chasing
 - a. Dog on dog (requires 1 modifier)
 - i. Guardians did not intervene
 - ii. At least one guardian tried to intervene to prevent chasing
 - iii. Guardian reaction was ambiguous
 - b. Wildlife
 - c. Livestock
 - d. Person other than member of party (requires 1 modifier)
 - i. Person did not intervene
 - ii. Person tried to stop chasing or get away from the dog
 - iii. Person reaction was ambiguous
3. Repeated barking (If possible notes should describe why the dog is barking)

Physical contact by dog

5. Physical contact NOT initiated by a visitor and not resulting in injury (requires at least 1 modifier) (Notes should describe the interaction.)
 - a. Jumping on
 - b. Licking
 - c. Pawing
 - d. Sniffing
 - e. Other
6. Physical contact resulting in injury (requires at least 1 modifier)
 - a. Person,
 - b. Another dog,
 - c. Wildlife
 - d. Livestock

Incidents of the following behaviors by dog guardians or other visitors

7. Repeatedly calling the dog (more than two times)
8. Yelling/verbal confrontation
9. Kicking, hitting or "macing" of dogs by humans

Other

10. Other (Notes should describe the interaction/situation)

Appendix B

Voice and Sight Tag Program

Interview Data Sheet

Voice and Sight Tag Project Monitoring Data Sheet (Interview)

Date (mm/dd/yy): _____

Time (24-hour): _____

Location: _____

Observer: _____

Weather: _____

Dog Walkers/Hikers

Total # of dog walking parties: _____

of parties with leash visible for each dog: _____

If leash is not visible:

of parties that had leashes _____

of parties that didn't have leashes _____

of parties that refuse to show leash _____

Runners/Cyclists

Total number of parties not able to stop _____

of parties with leash visible for each dog _____

of parties with leash NOT visible for each dog _____

Notes:

Appendix C

Voice and Sight Tag Program

Tag Wag Flyer

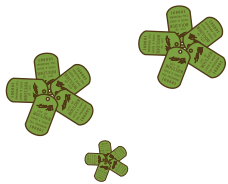
The Voice & Sight Tag Program has been designed by the City of Boulder to help dog guardians better understand Voice & Sight control standards. Understanding and meeting these standards will help reduce conflicts that occur between dogs, visitors and wildlife. Having dogs off-leash under Voice & Sight Control is a privilege earned through patient and consistent training.

To participate in this program, dog guardians must:

1. Watch the Voice & Sight Control video;
2. Register with City of Boulder Open Space & Mountain Parks and purchase tags;
3. Display Voice & Sight tags on dogs under Voice & Sight Control

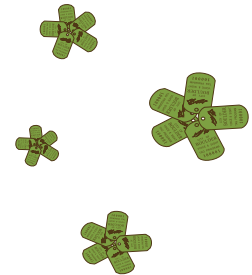


Thank you for coming to the Tag Wag. We are proud to work with everyone to help make our Open Spaces and Mountain Parks special, safe and fun!



Tips of the Tail for a Great Tag Wag

- All dogs must be leashed.
- Dogs displaying aggression towards people or animals will be asked to leave the event.
- Dog guardians must pick up after their pets.
- Please leave puppies under 6 months old at home.
- Have a waggity good time!



Schedule of Events

9:00
Guide Dogs for the Blind
Ruff Flyball Demonstration

9:30
STORM -- Scent Trackers of the Rockies

10:00
Dog Songs & Howl-a-longs!
Ruff Flyball Demonstration

10:30
Humane Society Training Demonstration

11:00
Ruff Flyball Demonstration

11:30
Dog & Guardian Look-a-like Contest

12:00
Boulder County Sheriff's K-9
Ruff Flyball Demonstration

12:30
Boulder County Sheriff's K-9
Ruff Flyball Demonstration

1:00
Front Range Rescue Dogs

1:30
Tail Wagging Contest



And don't miss the tail wagging contest!

Other fun events include:
Meeting Coyote Bob and Ranger Paula
The OSMP Voice and Sight Video!
Free and Fun Canine Caricatures
All Day Dog Free Massages

Appendix D

Voice and Sight Tag Program

Program Brochure

Is the tag a "license" or unique to a specific dog?

The tag signifies that the dog guardian has registered and is participating in the program. The tag is not specific to a dog.

Do I have to renew my registration at some point?

No.

What if I change my mind and no longer want to be registered?

Dog guardians who no longer wish to participate in the program may call OSMP at (303) 441-3440 to have their registration discontinued.

How can I find out more about the program?

Dog guardians can learn more about the Voice and Sight Dog Tag program by visiting our website at www.osmp.org or calling (303) 441-3440.

Voice and Sight Dog Tag Program

City of Boulder



Properly trained, a man can be dog's best friend.

— Corey Ford

City of Boulder Voice and Sight Dog Tag Program

The city of Boulder is one of only a few systems on the Colorado Front Range which allow dog guardians to walk dogs off-leash. This opportunity is possible only if dogs are not required to be on-leash and are responsibly controlled under voice and sight control. It is a tough standard for both dogs and guardians.

A new Voice and Sight Dog Tag Program has been designed by the city of Boulder to help dog guardians understand voice and sight control standards and to reduce conflicts which can occur with visitors, other dogs and wildlife.

What is the Dog Tag program?

The new city of Boulder Voice and Sight Dog Tag program requires dog guardians to watch a video about voice and sight control, register with OSMP and display a special program tag on dogs they wish to walk off-leash. This program only applies to City of Boulder properties where voice and sight control is allowed.

Is this a requirement or just a request?

It is the law. Participation in the program is a new requirement of voice and sight control as stated in city ordinance Boulder Revised Code (BRC) 6-1-16 and 6-13-2 through 6-13-5. Dog guardians may review these ordinances by visiting the OSMP website at www.osmp.org or the City of Boulder website at www.ci.boulder.co.us. Violations include not registering for the program and/or having a dog under voice and sight control without displaying a tag.

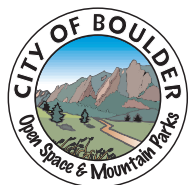


What is voice and sight control?

Voice and sight control means the dogs you are responsible for must be within your sight and under your verbal command at all times, regardless of distractions which can occur during a walk. If your dog cannot immediately obey verbal command, your dog must remain on-leash. Also, keep in mind that dogs under voice and sight control are not allowed to charge, chase or display aggression towards other people or dogs or chase, harass, or disturb wildlife and livestock.

How do I participate in the program?

For your convenience, the City of Boulder is offering several methods of registration, including registration through our website or visiting the OSMP administrative offices in person.



For information visit: www.osmp.org
or call (303) 441-3440
or write
Open Space & Mountain Parks
P.O. Box 791
Boulder, CO 80306



January, 2006-??M

ENJOY.  PROTECT.

Frequently Asked Questions about the Voice and Sight Dog Tag Program

STEP 1.

The city of Boulder has produced a video which illustrates the requirements of voice and sight control and realistic, enforceable dog management behaviors.

The short, instructional video can be viewed on the OSMP website, www.osmp.org, on Channel 8, or by acquiring a copy of the video on DVD.

Watching the video is a required step in the registration process. After watching the video, dog guardians are expected to know the regulation and understand how it applies to managing dogs using voice and sight control.

Before registering for the program, you will be asked to affirm that you watched the video and agree to control your dogs off-leash under voice and sight control in the manner described in the video.

STEP 2.

Dog guardians can either register for the program on-line or by visiting the OSMP Administration building at 66 South Cherryvale Road. You and every member of your household who wishes to walk your dogs under voice and sight control must register for the program.

STEP 3.

After you and other members of your household have seen the video and registered in the program, you may purchase the voice and sight dog tag in a couple of ways. You may purchase tags through the OSMP website with your credit card. The OSMP staff will process your order the next business day (please allow 3-5 business days for arrival). You may also come to the OSMP Administration building at 66 South Cherryvale Road to purchase your tags with check, cash or credit card and you will be issued the tags upon payment.

STEP 4.

Ensure that voice and sight program tags are displayed on all dogs when using voice and sight control on City of Boulder lands where voice and sight control is allowed.

Does everyone in the family or household have to register?

Yes. Every member of the family who wishes to walk a dog under voice and sight control must register in the program. The first registrant must be an adult (over 18). Minors may register as part of the same household. Each participant must watch the instructional video and agree to manage off-leash dogs under voice and sight control on City of Boulder lands where voice and sight control is permitted. There is no extra charge for registering additional members of the household.



What if I don't agree to register and get a dog tag?

If a dog guardian chooses not to register with the voice and sight tag program and display voice and sight dog tags, dogs must be kept on-leash at all times.

Am I protected from getting a ticket if my dog has a voice and sight dog tag?

No. A dog guardian who participates in the program and walks a dog under voice and sight control in areas where it is allowed may still be issued for any violation of the following standards:

- The dog guardian is walking more than two dogs under voice and sight control;
- The dog guardian is not carrying a leash for each dog being walked under voice and sight control;

- The dog guardian fails to display voice and sight tag on dog;
- The dog is not within the guardian's sight and under voice control at all times;
- The dog does not come to and stay with the guardian immediately upon command;
- The dog charges, chases or otherwise displays aggression towards any person, or behaves in a way that any reasonable person may find harassing or disturbing;
- The dog charges, chases or otherwise displays aggression towards any dog;
- The dog chases, harasses or disturbs wildlife or livestock.

What are the penalties?

The maximum penalty for a first violation is a fine of \$50. For a second violation within 24 months the maximum penalty is a fine of \$100. A third violation within the same 24 months will result in a fine of not less than \$200 and revocation of the privilege to use voice and sight control.

When is revocation of voice and sight privileges possible?

When an individual has three convictions of Boulder Revised Code (BRC) 6-1-16, "Dogs Running at Large Prohibited" on city OSMP or Parks and Recreation lands within 24 months based on the date of the first violation revocation will occur. Violations of voice and sight control and dogs off-leash in leash only areas are violations of BRC 6-1-16.

Can I get back the privilege to use voice and sight control?

Voice and sight control privileges may be reinstated if the dog guardian proves attendance at a city of Boulder certified training on voice and sight control, and written proof of successful completion of a voice and sight control certification course approved by the City of Boulder. Dog guardians must pay a

reinstatement fee of \$50 plus the \$15 registration fee, as well as the cost of attending the certification program. Dog guardians must also again agree to control any dog accompanying the guardian without a leash in a manner described in the voice and sight video.

In what areas does voice and sight control apply?

The new city of Boulder voice and sight tag program only applies on city Parks and Recreation and OSMP lands which do not require dogs to be on-leash. Dogs are required to be on-leash inside Boulder city limits, unless they have been specified to allow voice and sight control. Voice and sight control requirements also apply to Howard Heuston Dog Park.

What if I need to add someone to my household registry?

Dog guardians who wish to add members of the household to the dog tag program must come in person to the OSMP administration building at 66 South Cherryvale Road.

Does everyone in the household have to watch the video?

Yes. Everyone who wishes to walk the dog under voice and sight control must see the video and agree to the terms and conditions of the voice and sight control requirements. Members of the household who do not walk the dog or choose to walk the dog on-leash do not need to see the video and register as part of the household.

What if I lose a tag or need more?

Dog guardians can come in person to the OSMP administration building at 66 South Cherryvale Road to buy additional tags. Guardians will not be required to pay the registration fee again but will be charged \$5 for each new tag.