

## **Results**

The first season of data collection for the DCI project was pilot study that will ideally inform future years of data collection. Although the methodologies themselves can work, additional effort needs to be invested in observational data collection for more statistically valid results. Or else, another methodology altogether needs to be pursued. The results section is broken down into two segments, statistics informed through observational data and infrared technology, and results of the survey. Again, the results from observational data and infrared technology should just be viewed as preliminary results.

### **Observational and Infrared Technology Results**

The first section of the results was compiled from a visitation counter mounted at the Slate River Winter Trailhead from February 4<sup>th</sup> – April 5<sup>th</sup>, 2017. A total of 11 observational periods were used to calibrate the raw data of the infrared counter (a total of 26 hours of monitoring). Unfortunately, there was not reliable assistance for collecting observational data this season, leading to an inadequate amount of monitoring. Further, a standardized schedule was not applied to further increase the validity of results. As such, the results need to be analyzed and digested with that information in mind. However, these results can still highlight some trends from the winter season including an idea of the types of winter use at the Slate River Trail Head and general visitation trends regarding days of the week, times of the day, and visitation throughout the season. All results in this section have been calibrated from the limited observational data collected.

The total number of users during the study period was 2,057 recreationists. Figure 14 includes some descriptive statistics on visitation during the study period. The average number of users per day at the Slate River Winter Trailhead, minimum and maximum daily users, and the standard deviation of the data set are exhibited. It is possible that the infrared counter was clogged with snow on the 6 days that reported 0 recreationists accessing the backcountry from this trailhead.

**Descriptive Statistics of the number of recreationists per day at  
the Slate River Winter Trailhead**

<b>Average per day</b>	34 recreationists
<b>Maximum</b>	103 recreationists (2/18/17)
<b>Minimum</b>	0 recreationists (on 6 days)
<b>Standard Deviation</b>	26.31
<b>Entire study period total</b>	2,057 recreationists

Figure 14: Statistics describing the average number of users per day at the Slate River Winter Trailhead, minimum and maximum daily users, and the standard deviation of the data set. The total number of recreationists during the entire study period is also included.

Figure 15 illustrates visitation at the Slate River Winter Trailhead during the study period. The study period this season was not defined by any specific parameters, rather was set up with the availability of resources.

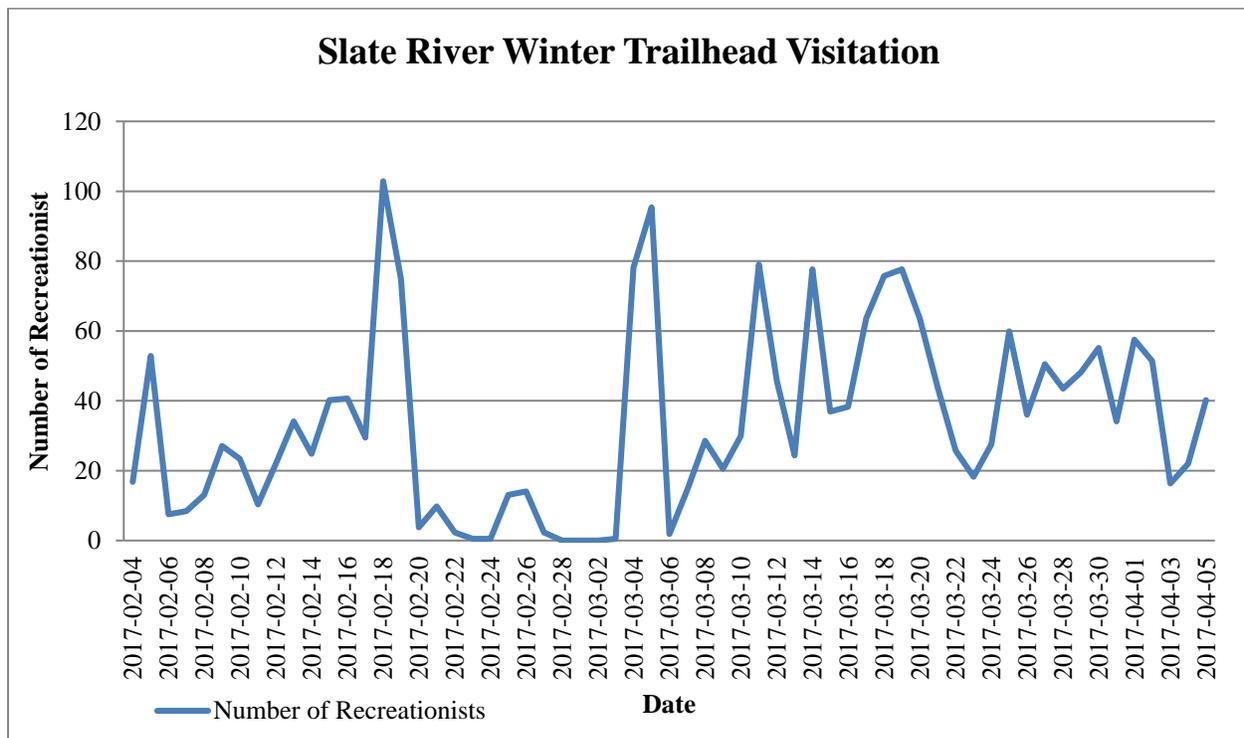


Figure 15: Trend of daily recreational users at the Slate River Winter Trailhead from February 4<sup>th</sup>- April 5<sup>th</sup>, 2017.

Figure 16 portrays the average amount of recreationists accessing the backcountry according to the time of the day. Although the data has been calibrated, this figure still includes out and back use. Unfortunately, the counter cannot detect which direction recreationists are going. Consequently, we cannot identify if these recreationists were accessing the backcountry, or returning from their trip. However, this figure still provides useful information on when the trailhead generally sees the most traffic.

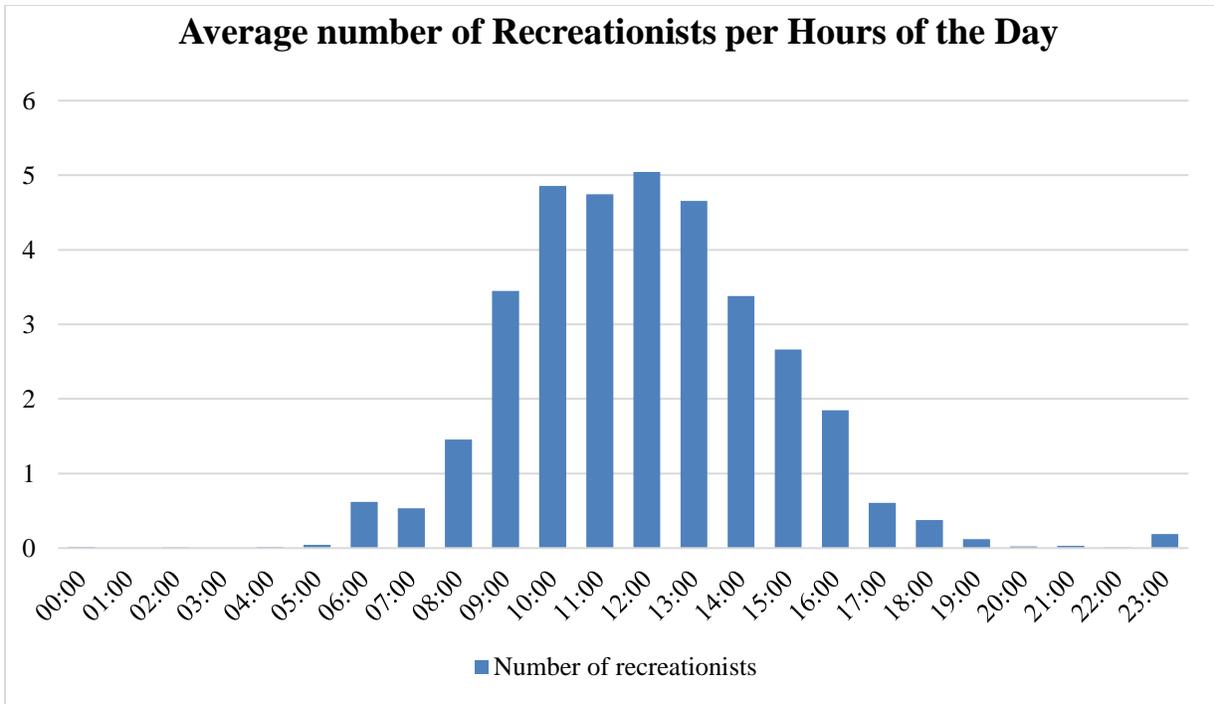


Figure 16: Average number of recreationists passing the Slater River Visitation counter per hours of the day.

Figure 17 illustrates the average number of recreationists that access the backcountry at the Slate River Winter Trailhead according to the day of the week.

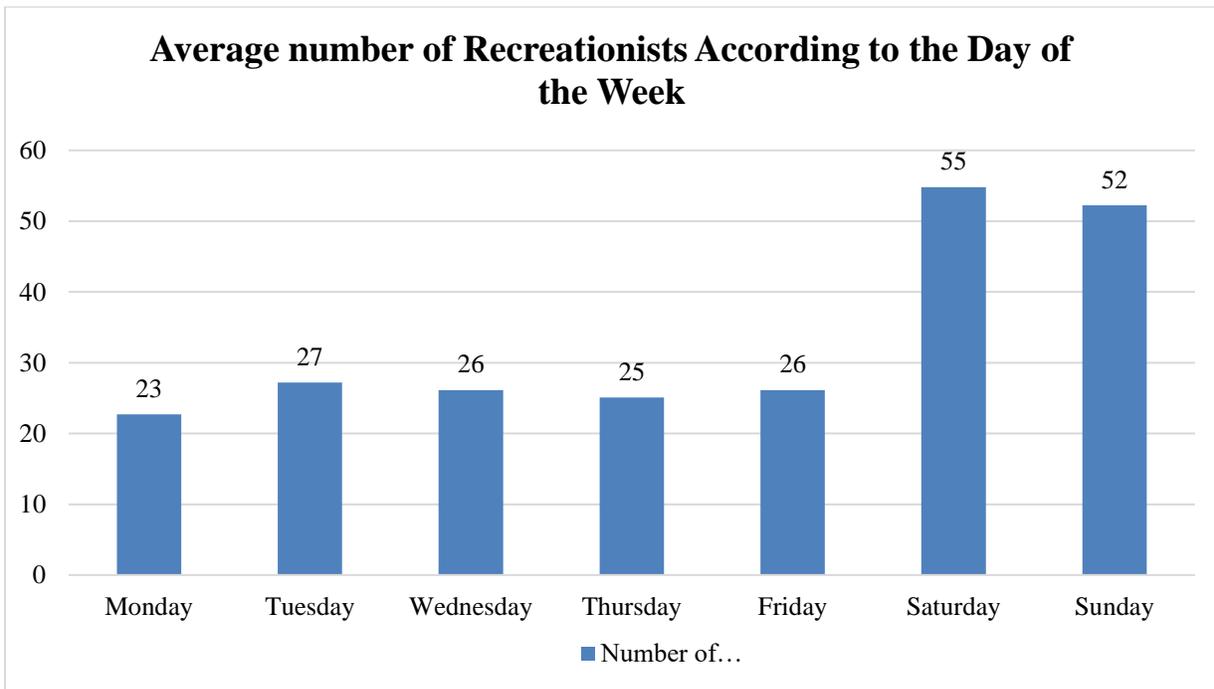


Figure 17: Average number of recreationists accessing the backcountry from the Slate River Winter Trailhead during each day of the week.

Figure 18 depicts the amount of each recreational use observed at the Slate River Winter Trailhead. During the 11 monitoring periods, a percentage of each use was recorded. All of the percentages were then averaged together to identify an average amount of recreational use throughout the season.

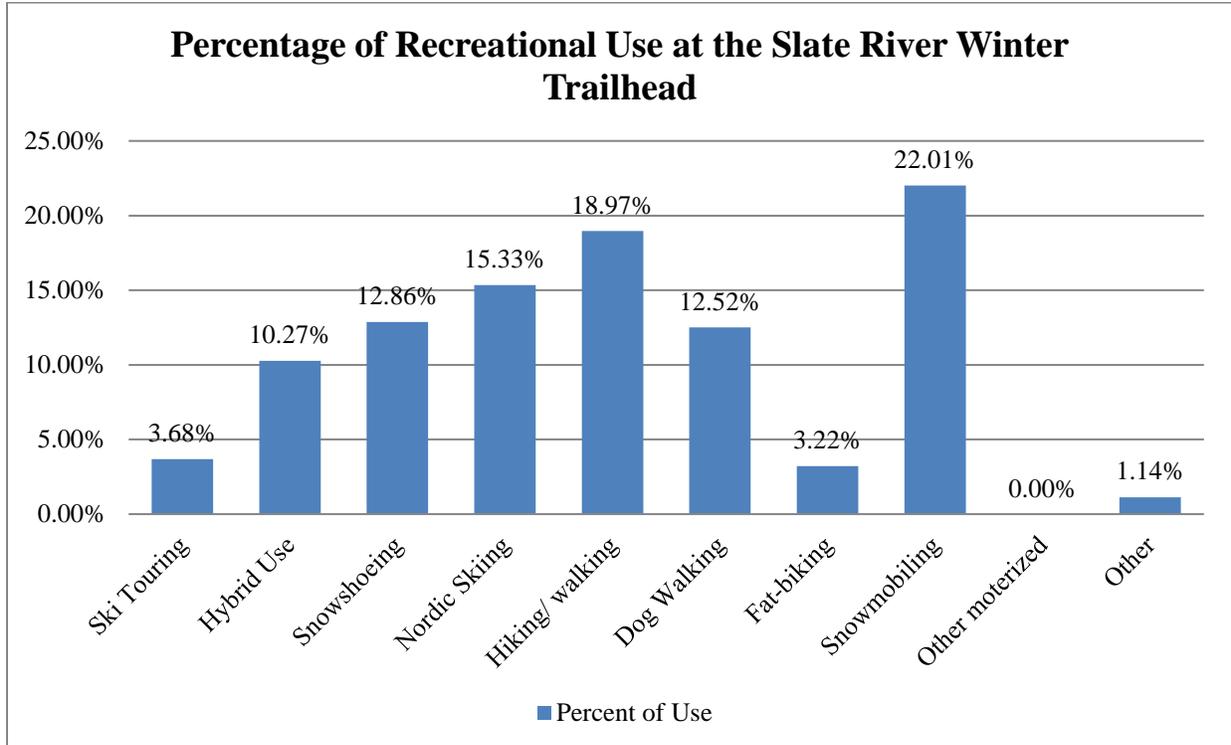


Figure 18: Percentage of use of each recreational type observed during the study period.

Figure 19 compares the amount of motorized use with non-motorized use observed at the Slate River Winter Trailhead during the study period.

Comparison of motorized and non-motorized use at the Slate River Winter Trailhead	
<b>Motorized</b>	32.27%
<b>Non-motorized</b>	67.73%

Figure 19: Comparison of motorized use and non-motorized use observed at the Slate River Winter Trailhead during the 2017 winter study period. Hybrid use, snowmobiling, other motorized use, and any use in the other category that was motorized were all included as

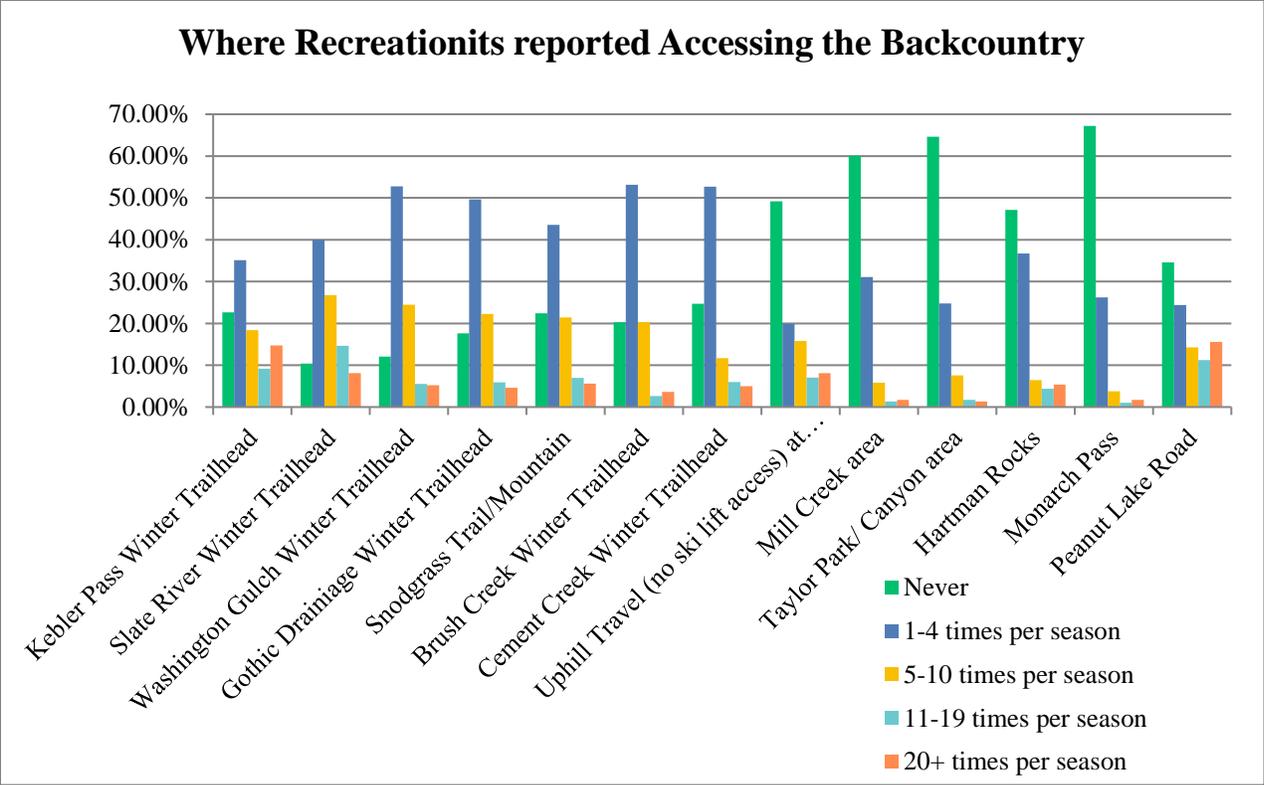
*motorized uses. Ski touring, snowshoeing, Nordic skiing, hiking/walking, dog walking, fat-biking, and additional non-motorized activities in the other section were all considered non-motorized uses.*

## **Survey Results**

The survey was open on Survey-Monkey from March 20<sup>th</sup> through April 9<sup>th</sup>, 2017 and 313 people participated in the survey. A link to the survey was posted on three user groups websites, including Silent Tracks, Share the Slate and the Gunnison Snow-Trackers. Further, 3 local news sources posted a story about the DCI project with a link to the survey. These included the Crested Butte News, KBUT and the Gunnison Times. The survey had 20 total questions, attempting to illustrate some descriptive information on winter backcountry use and the Travel Management Plan in the Gunnison Basin. Results of some of the essential questions are listed in this results section below. See Appendix A for the results to all 20 questions. The first section of the survey analyzed survey participants responses to:

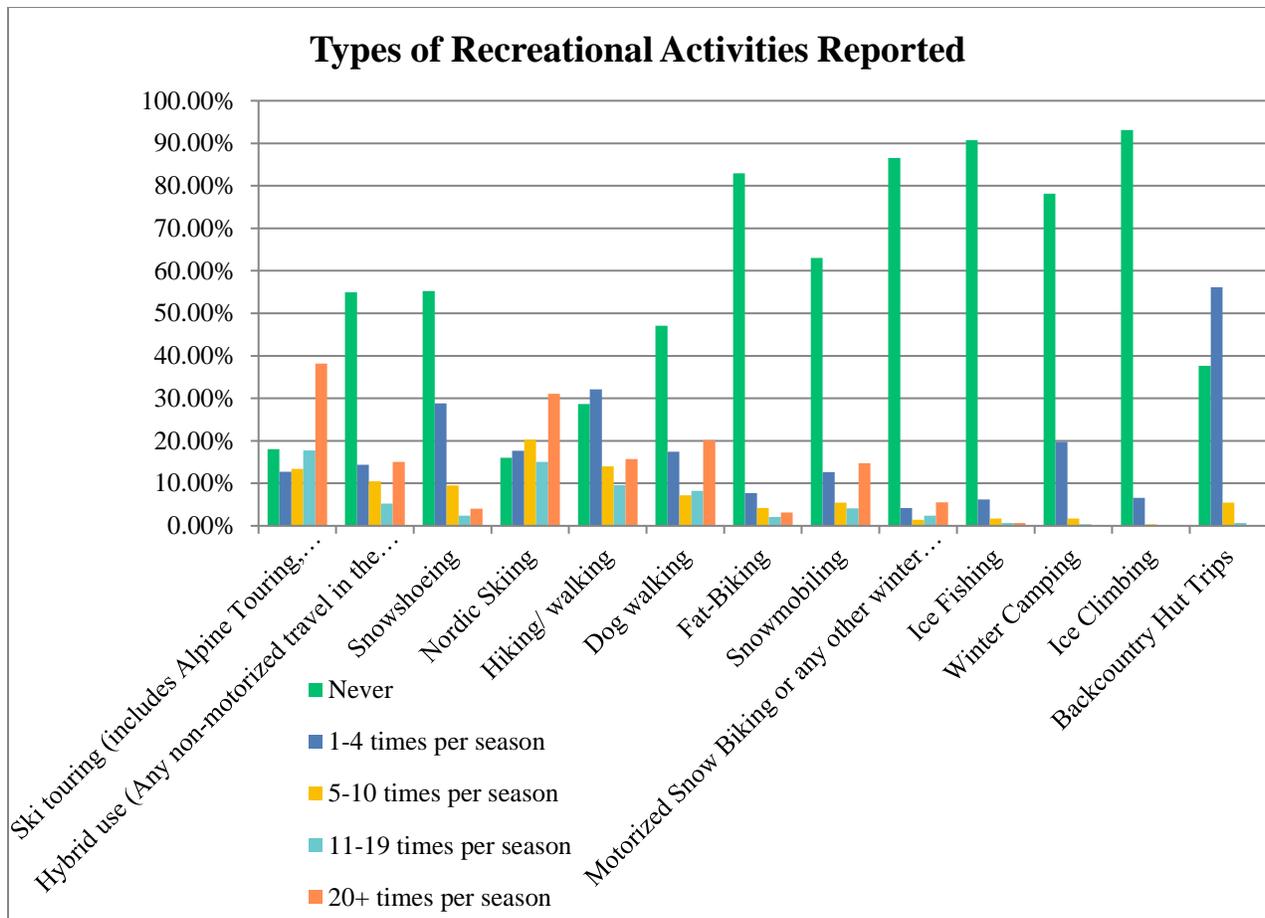
1. Types of use during the winter in the backcountry
2. Amount of use
3. Where recreationists accessed winter recreational opportunities
4. And trends in backcountry visitation.

Question 1 assessed where backcountry recreationists typical reported accessing the backcountry. Each survey participant was permitted to select one of the answers in the legend for each location, and the graph expresses the average response to each. This question had an “other” category where respondents could indicate other areas they typically recreate during the winter. Some of the “other” responses to this question included Ohio Pass, Signal Peak, Pitkin, Gold Creek and Lost Canyon.



*Figure 20: Where recreationists reported accessing the backcountry for winter recreation. Survey participants were able to rank their use at each access area according to the scale listed in the legend.*

Question 2 addresses what types of winter recreational uses survey participants report doing in the backcountry in the Gunnison region. Again, survey participants were able to select one of the answers in the legend for each location, and the graph expresses the average responses. The graph also provides an idea of what type of recreationists responded to the survey. In the “other” section, some uses reported: running, hunting and equestrian use as other winter backcountry uses.



*Figure 21: Types of recreational activities reported by survey respondents. Participants could rank their participation from each recreational activity according to the ledged.*

Question 3 asked survey participants how often they typically reported recreating in the backcountry per week. Results are expressed as a percentage of respondents selecting each category. Survey participants were only permitted to select 1 answer.

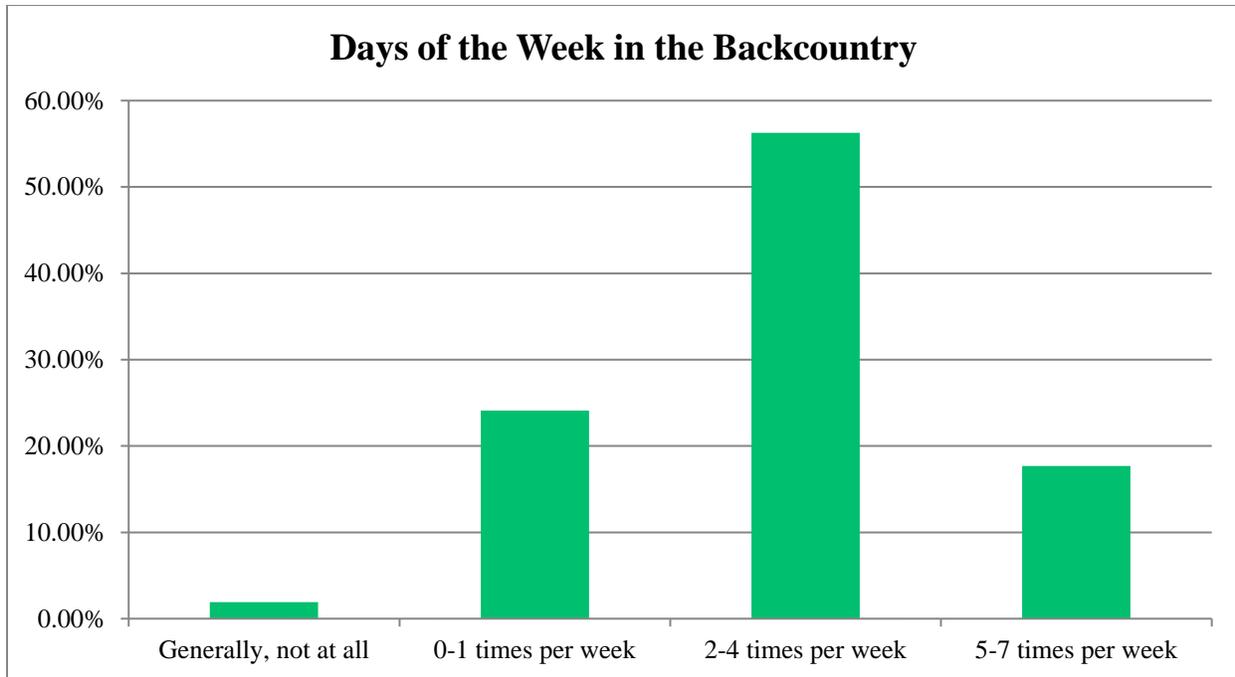


Figure 22: Number of times recreationists reported typically recreating in the backcountry per week.

Question 4 was a follow up to the previous questions, assessing how many days’ recreationists reported recreating in the backcountry during 1 season. A season was defined from November – May, and recreationists were asked to consider their typical season.

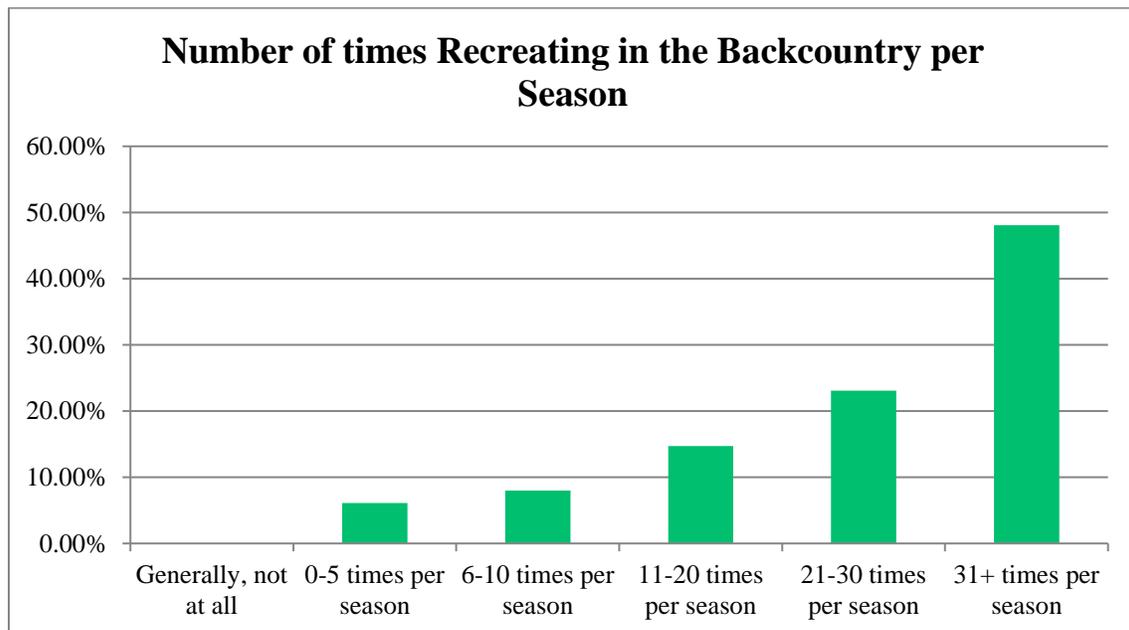
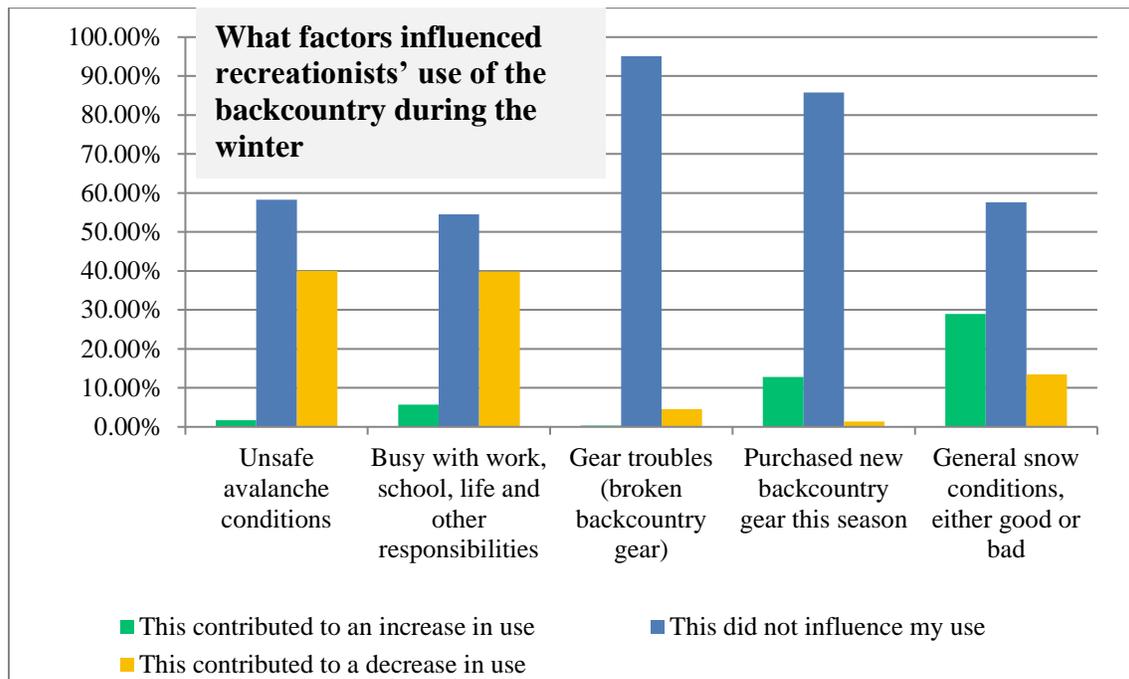


Figure 23: Number of times recreationists reported recreating in the backcountry during 1 season. A season spanned from November- May.

Question 5 measured participants' reported use in the backcountry during the 2016/17 season as compared to the previous 2 seasons. The question asked, on a scale of 1 to 10, with 1 being a significant decrease in use and 10 being significant increase in use, how would you rank your use of the backcountry this season? Participants' responses averaged at 5.33, indicating their perceived use of the backcountry has generally remained static over the past 2 season for these 313 survey participants.

Question 6 attempted to identify if there was any trends to explain a decrease, increase or static use of the backcountry as compared to the previous seasons.



*Figure 24: Indications if selected criteria had an influence on survey participants use of the backcountry in comparison to the past two seasons. Participants were permitted to select 1 response from the legend to each criterion.*

The second section of the survey addressed management of winter backcountry trailheads, and what, if any, management actions could improve recreationists' experience. Question 8 asked if a list of identified issues detracted from the participants' experience. Survey participants were asked to check all that applied to them. The results in Figure 25 are expressed in the percentage of survey participants that did indicate the described issue detracted from their experience.

<b>Issues Detracting from Survey Participants' Backcountry Winter Experience</b>	<b>Yes</b>	<b>No</b>
<b>No concerns</b>		13.00%
<b>Trailhead parking congestion and/ or traffic</b>	61.00%	39.00%
<b>Pet and/ or human waste issues</b>	43.33%	56.67%
<b>Trash on the trails or at trailheads</b>	18.00%	82.00%
<b>Wildlife habitat destruction</b>	12.67%	87.33
<b>Noise and/ or air pollution</b>	38.33%	61.67%
<b>Safety on the trails and at the trailheads</b>	11.33%	88.67%
<b>Sense of crowdedness just at the trailheads</b>	43.00%	57.00%
<b>Sense of crowdedness in the backcountry in general</b>	25.33%	74.67%
<b>Conflict among user groups</b>	22.67%	77.33%
<b>Inadequate trailhead and user signage or maps</b>	11.00%	89.00%
<b>Lack of enforcement of the winter travel management plan user designations</b>	21.00%	79.00%
<b>Temporary closures of trails because of local events</b>	3.00%	97.00%
<b>Feeling as a "singled out user group" regarding backcountry use</b>	13.67%	86.33%

*Figure 25: Analysis of issues detracting from survey participants' backcountry experience. Participants were asked to check all issues that applied to them. About 40 survey participants' (13% of the total) said no issues on this list detracted from their winter experience. The remaining percentages for each criterion do not take these 40 participants into account, rather just the remaining 273 participants who reported that at least 1 of these issues detracted from their winter experience.*

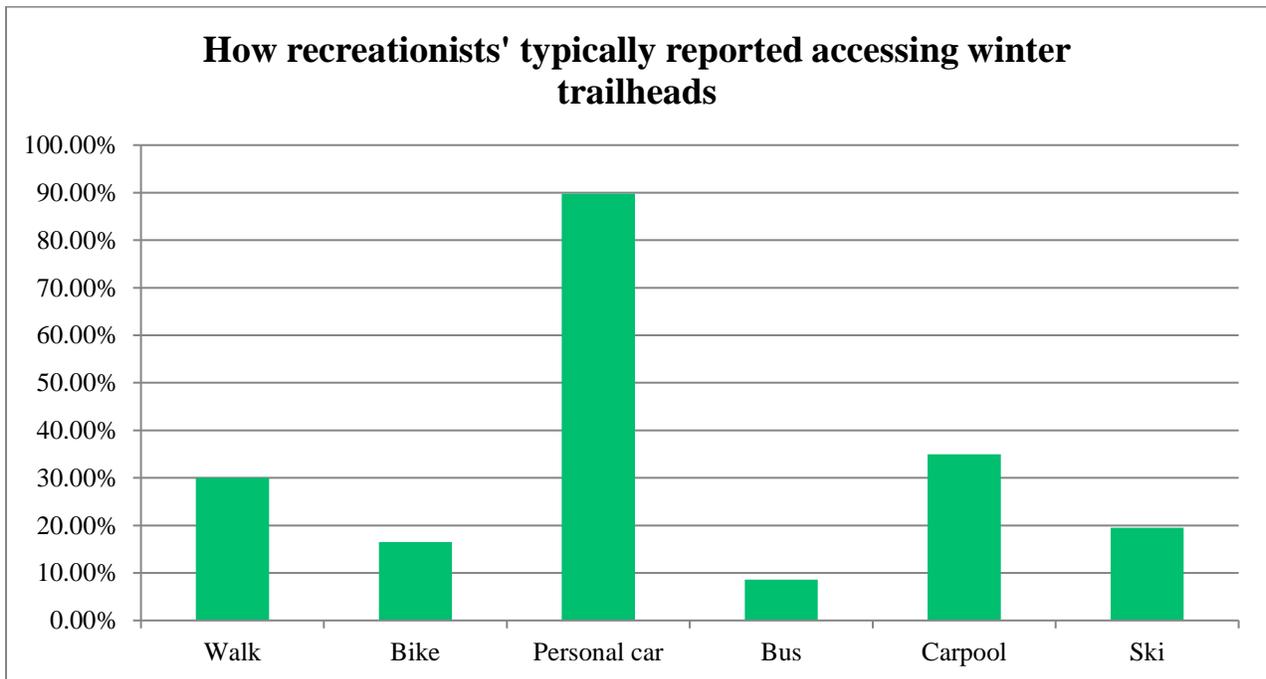
Question 9 assessed if any specific management developments would improve survey respondents' experience in the backcountry. Survey participants were asked to select if each listed improvement would improve their experience, contribute to no change, or detract from their experience.

**Effect of Proposed Management Actions on Visitor Experience**

<b>Improvement</b>	<b>Improve Experience</b>	<b>No Change</b>	<b>Detract Experience</b>
<b>Improved and /or more parking</b>	61.13%	28.24%	10.63%
<b>More trashcans</b>	52.48%	38.65%	8.87%
<b>Bags available to clean up after pets</b>	60.84%	31.12%	8.04%
<b>Trailhead restrooms</b>	47.92%	43.06%	9.03%
<b>Improved signage and user information</b>	42.05%	47.70%	10.25%
<b>Increased access to backcountry yurts and huts</b>	35.82%	52.13%	12.06%
<b>More access to Nordic groomed trails</b>	33.33%	47.77%	18.90%
<b>Availability of transportation via snow cats in the major drainages around Crested Butte</b>	10.84%	30.42%	58.74%
<b>More drainages encouraging motorized access</b>	19.38%	21.45%	59.17%
<b>More drainages encouraging human powered access</b>	50.85%	32.08%	17.06%

*Figure 26: Effect of proposed management actions on visitor experience. Survey participants were asked to select 1 of the 3 answers to each criterion. Answers are expressed in the percentage of survey respondents selecting each category.*

The third section of the survey addressed how recreationists typically access winter trailheads for recreation, and if they would consider carpooling and alternative transportation. Question 10 asked survey participants how they typically access the trailhead. They were permitted to check all that applied to them, and responses are expressed in the percentage of participants that selected each answer.



*Figure 27: How recreationists’ typically reported accessing winter trailheads in the Gunnison Basin. Respondents’ were permitted to check all that applied to them, and responses are expressed in the percentage of participants that selected each answer.*

Question 11 examined if survey respondents would be willing to take alternative transportation to winter trailheads for recreation if it were more readily available.

<b>Would you take alternative transportation to winter trailheads for recreation?</b>	
<b>Yes, I definitely would</b>	24.17%
<b>I likely would</b>	23.51%
<b>I’m on the fence</b>	12.58%
<b>I likely would not</b>	27.81%
<b>I definitely would not</b>	10.60%
<b>No answer</b>	1.32%

*Figure 28: Chart examining if recreationists would be interested in taking alternative transportation to winter trailheads for recreation. Survey respondents were only permitted to select 1 answer.*

The fourth section of the survey addressed recreationists’ familiarity and perceptions with the current Winter Travel Management for the Gunnison Basin. Question 14 specifically addressed recreationists’ reported familiarity with the current Winter Travel Management Plan. Participants were asked to rank their familiarity on a scale of 1 to 10, with 1 being not familiar at all and 10 being very familiar. The average result was 6.25, suggesting, on average, survey participants said they were somewhat - fairly familiar with the plan and its regulations.

Question 15 looked at how recreationists’ typically became familiar with the Winter Travel Management Plan.

<b>How recreationists reported becoming familiar with the Winter Travel Management Plan</b>	
<b>The Gunnison National Forest “Winter Around Crested Butte” maps available around the county</b>	37.08%
<b>The Crested Butte/ Gunnison Chamber of Commerce</b>	11.99%
<b>Signs and maps at winter trailheads</b>	56.18%
<b>U.S. Forest Service office in Gunnison</b>	11.24%
<b>From friends</b>	55.06%
<b>By exploring</b>	29.96%
<b>Local winter user group websites</b>	28.84%
<b>U.S. Forest Service website</b>	11.24%

<b>I am not familiar with the winter travel management plan user designations</b>	6.74%
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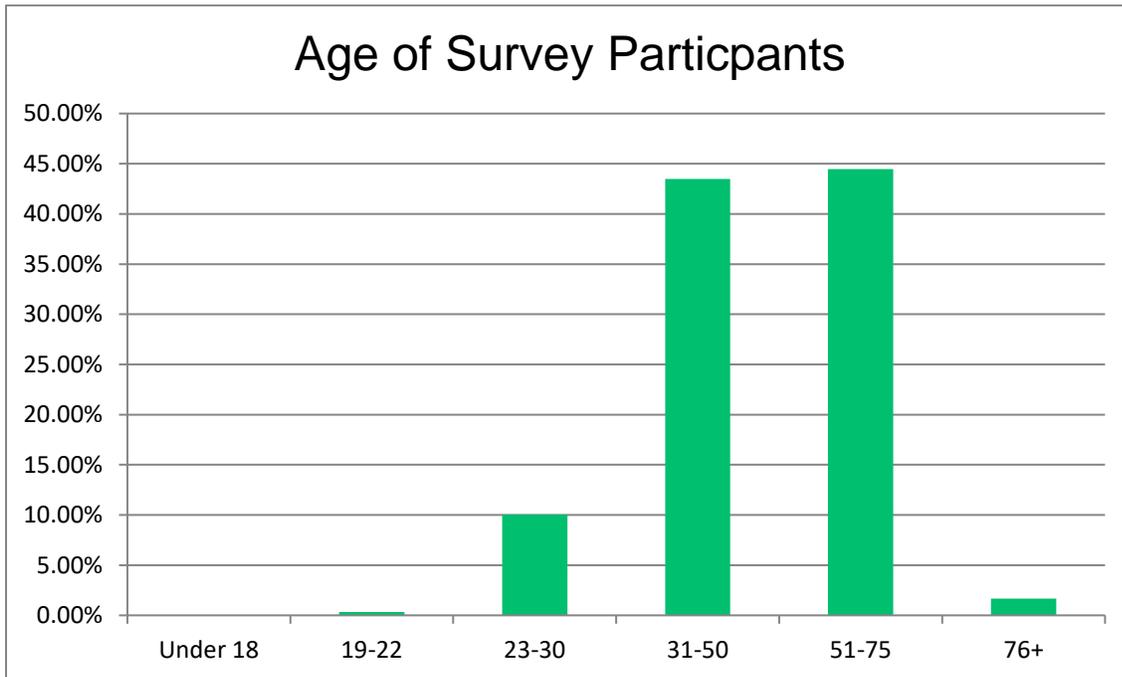
*Figure 29: Chart detailing how survey participants reported becoming familiar with the Winter Travel Management Plan. Survey participants were permitted to select 1 answer, and could indicate the last option if they were not familiar at all with the travel management plan.*

Question 16 assessed survey participants’ perception of the current Winter Travel Management plan. In Figure 30, respondents were asked to rank a statement about the plan in an effort to get a basic understanding of recreationists’ perceptions.

<b>Perception of the Winter Travel Management Plan</b>	
<i>“The current winter travel management plan user designations in the Gunnison National Forest surrounding Crested Butte is meeting the needs of the backcountry users in Gunnison County”</i>	
<b>I strongly agree with this statement</b>	13.95%
<b>I agree with this statement, but there is still room for improvement in the winter travel management plan</b>	28.91%
<b>I'm neutral about this statement</b>	15.31%
<b>I disagree with this statement, but do not think the current plan is a total failure</b>	20.07%
<b>I strongly disagree with this statement</b>	11.56%
<b>I am not familiar with the winter user designations, and therefore cannot provide an answer</b>	5.44%
<b>I have no comment</b>	4.76%

*Figure 30: Survey participants’ perceptions of the current Winter Travel Management Plan. Participants were asked to rank the sentence in the second row according to the 7 metrics listed below the sentence. Responses are the percent of participants that selected each metric. Participants could only select 1 answer.*

The last section of the survey collected some basic information on survey participants including age, familiarity with backcountry travel and avalanche assessment, and where their primary residence was. Question 19, age of survey participants, was included in the results section as an important indicator for the rest of the survey questions.



*Figure 31: Age of survey participants.*