

2015-2016 Pleasant Grove Ranger District Visitor Use Study

Follow-Up Survey Report



Prepared for:

Mountainland Association of Governments and the Pleasant Grove Ranger District
of the Uinta-Wasatch-Cache National Forest

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Introduction

The purpose of this research was to collect visitor use data on the Pleasant Grove Ranger District of the Uinta-Wasatch-Cache National Forest, by conducting visitor intercept surveys (on-site interviews) at recreational sites, areas, and trailheads. Additionally, for those respondents who agreed to participate, a follow-up survey was administered. The data gathered from this study will be useful for current and future management and planning efforts focused on the recreational use of the Pleasant Grove Ranger District.

Visitor use data do exist for the Pleasant Grove Ranger District (PGRD) from the USDA Forest Service's National Visitor Use Monitoring (NVUM) program. The two goals of NVUM are 1) to estimate the number of people who use National Forests and Grasslands, and 2) to gain information about visitation, recreation activities, demographics, visit duration, visitor satisfaction, and visitor spending related to recreational use of National Forests and Grasslands (USDA Forest Service, 2013). The issue with NVUM data is the sampling design produces sample sizes too small to make inferences about sub-forest areas, such as individual ranger districts. Another issue is the NVUM survey consists of general questions about visitation, and is not specific to the current planning efforts and management issues present on the PGRD. This research addresses many of the same topics as NVUM using a similar sampling design, but sampled at a much higher frequency and asked questions specific to the PGRD.

By scaling down from the whole Uinta-Wasatch-Cache National Forest to just the PGRD, this research will provide visitor use data useful to the Forest Service and the Mountainland Association of Governments. This research was funded by the Mountainland Association of Governments, with supporting funds contributed by the PGRD.

This research had two components. The first component was the intercept survey, which gathered data pertaining to visitor use and management preferences. The results from the intercept survey can be found in the quarterly reports that present findings from each season: spring, summer, fall, and winter. The second component was the follow-up survey. This report presents the results from the follow-up survey, and also incorporates findings from the intercept survey to help present a clearer picture of recreational use and visitor attitudes. The five foci of the follow-up survey were 1) transportation, 2) benefits to visitors, 3) recreational use, 4) visitors' spending, and 5) visitors' perceived importance and satisfaction of forest conditions and amenities.

Methods

There were two parts of this study: the intercept survey and the follow-up survey. Data from the intercept survey were collected at recreation sites, areas, and trailheads throughout the PGRD. Survey sites were chosen to represent the diverse areas and use present on the PGRD. A stratified random sampling design was used to determine the dates and times survey locations were surveyed. Visitors were approached by a surveyor and asking if they were willing to participate in this study as they were leaving the PGRD. For those who agreed to participate, surveys were verbally administered and took between eight to twelve minutes to complete. No recruiting tools or incentives were used to entice study participation.

At the end of the intercept survey, respondents were asked if they were willing to complete a follow-up survey that would be emailed to them a couple of weeks later. If they agreed, their first name and email address were recorded. The follow-up survey was then emailed to respondents using *Qualtrics*, an online platform designed to create and distribute surveys.

Over the duration of this twelve-month project, 1,721 intercept surveys were completed. Of these, 523 people agreed to participate in the follow-up survey. One hundred and thirteen emails bounced and 410 emails successfully sent, and of the sent emails, 212 people completed the follow-up survey ($N = 212$). This equates to a response rate of 51.7%.

The topics covered in the follow-up survey are as follows: 1) how the PGRD impacts respondents' quality of life; 2) recreational activities and frequency of participation; 3) visitation frequency; 4) health benefits respondents gain from outdoor recreation; 5) importance of and satisfaction with national forest management; 6) transportation and parking; 7) expenditures related to visits; 8) quality of solitude; and 9) the environmental orientation of respondents.

Similarities and Differences in Follow-up and Intercept Respondents

Before examining the data from the follow-up survey, independent-samples t-tests were conducted to see if the people who completed the follow-up survey differed from the people who only completed the intercept survey. This was done to compare the two groups and identify areas where they differed. Given the sampling design, we assumed that the sample obtained from the intercept survey was representative of the people visiting and the types of recreational use on the PGRD. However, this may not be the case for the follow-up survey because those who completed the follow-up survey did so on their own volition and on their own time—follow-up survey respondents essentially selected themselves.

Running these t-tests before analyzing the data from the follow-up survey allowed us to see if/where these differences occurred. Knowing these differences is important because they can alert us to biases we may need to look out for when interpreting the results from the follow-up survey. For example, if the only people who completed the follow-up survey were hikers, then the results from the follow-up survey would only reflect the opinions and use patterns of hikers, and not the diversity of people who visit the PGRD. Below are all the variables that were and were not statistically different from each other, along with a brief interpretation of how these findings may influence the results presented in this report.

There were *no* statistically significant differences between those who took the follow-up survey and those who did not in the following demographics: race $t(233) = 1.05, p = .06$; age $t(1609) = .217, p = .828$, and annual household income $t(292.9) = -.870, p = .385$. There were no statistically significant differences in the length of time spent recreating $t(281.5) = .484, p = .629$; distance respondents traveled to reach the PGRD $t(255.7) = 1.24, p = .218$; and site preferences (developed or undeveloped sites) $t(440.7) = .062, p = .950$. There were also no statistically significant differences between those who took the follow-up survey and those who did not in their support for additional Wilderness designations $t(245.8) = -1.37, p = .171$ and their desire to use public transportation to reach sites within the PGRD $t(272.4) = -.398, p = .691$.

There *were* statistically significant differences in some other variables. For example, a higher proportion of males completed the follow-up survey $t(289.8) = -2.197, p = .029$ and people who completed the follow-up survey achieved a slightly higher level of formal education $t(303.8) = 6.09, p < .001$. Those who completed the follow-up survey were also more likely to be recreating alone at the time they completed the survey $t(266.4) = -2.34, p = .02$; they visit 15 more times per year $t(236.7) = -3.85, p < .001$; and they were more likely to have recreated in the PGRD's congressionally designated Wilderness areas $t(347.3) = -2.48, p = .014$.

There were also statistically significant difference in what motivates the two groups to visit the PGRD. For example, those who completed the follow-up survey were more motivated to experience peace and calm $t(1650) = -2.235, p = .026$; develop skills and abilities $t(288.17) = -2.522, p = .012$; exercise $t(438.2) = -4.59, p < .001$; be alone $t(259.1) = -3.816, p < .001$; escape pollution $t(269.2) = -2.799, p < .005$; and meet new people $t(1603) = -2.04, p = .041$. Those who *did not* complete the follow-up survey were more motivated by spending time with friends and family $t(243.85) = 2.614, p = .009$. Both groups were equally motivated to view scenery $t(1662) = -.933, p = .315$ and learn new things $t(1588) = -.76, p = .447$.

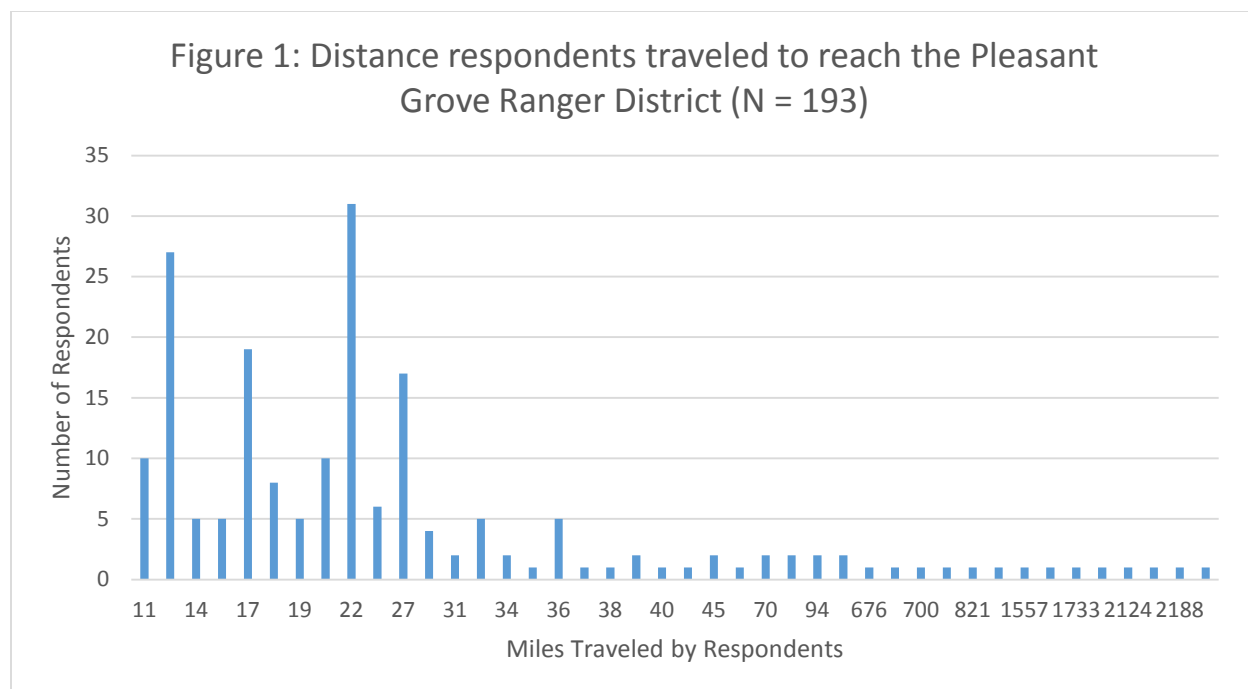
In comparing those who completed the follow-up survey and those who did not, we found that there were statistically significant differences in sex, education, frequency of visitation, group structure, and Wilderness recreation. We also found differences in what motivates them to recreate. Of these differences, one possible bias could be the attitudes of people who completed the follow-up survey toward Wilderness because they tend to visit Wilderness more often; however, we saw that there were no statistically significant differences in the two groups' support for additional Wilderness designations/expansion. Another area where the data presented in this report are not fully representative of PGRD visitors is frequency of visitation over the last 12 months. Those who completed the follow-up survey tended to visit the PGRD two to three times per month. Those who only completed the intercept survey visited about half as much.

Although many of these differences may only be slight, it is important to keep them in mind when reviewing the results presented in this report because they may account for/help explain some of the finding.

Follow-up Survey Results

Do you live in Utah County, Wasatch County, or other?

The majority of respondents who completed the follow-up survey were from Utah County (N = 153, 71.2%). Only 12 (5.6%) respondents were from Wasatch County, and 50 (23.3%) were from some other county. Of the respondents who did not live in Utah County or Wasatch County, the mean distance traveled was 360.74 miles (median = 38 miles), with a range of 16 to 2,188 miles. Miles traveled to reach the PGRD by all follow-up survey respondents are presented in Figure 1 below.



We are interested in how important American Fork Canyon and the Alpine Loop are for choosing to live where you do. Please indicate your level of agreement with the following statements.

Respondents who lived in Utah County or Wasatch County were given five statements, and asked to rank them on a scale from 1 “strongly disagree” to 10 “strongly agree.” Respondents strongly agreed with the following statements: 1) access to recreation opportunities is an important reason why I live here (mean = 8.77; median = 10); 2) I would think about moving away if there were fewer recreation opportunities nearby (mean = 7.21; median = 8); 3) I am glad there are congressionally designated Wilderness areas nearby (mean = 8.27; median = 10), and 4) being able to access American Fork Canyon/Alpine Loop is important to my lifestyle and quality of life (mean = 8.89; median = 10).

The only statement respondents did not strongly agree with is the following: “There is not enough access to public lands near my home.” The responses to this statement were widely distributed but leaning towards the “disagree” side of the scale, and the mean score was 4.75 and the median was 4. The ease of access is why many respondents love the PGRD. Later in the survey, respondents were asked to name the biggest benefits they receive from the PGRD, and the dominant theme was *access* to beauty and nature, and the benefits from the access such as peace and relaxation.

The high levels of agreement with these statements suggests the PGRD is an important factor for respondents’ quality of life and plays a large role in respondents choosing to live where they do. Figures 2 through 6 below present the distributions of responses to these statements. The title for each figure is the statement to which respondents were asked to respond.

Figure 2: Access to recreational opportunities is an important reason why I live in this area. (N =148)

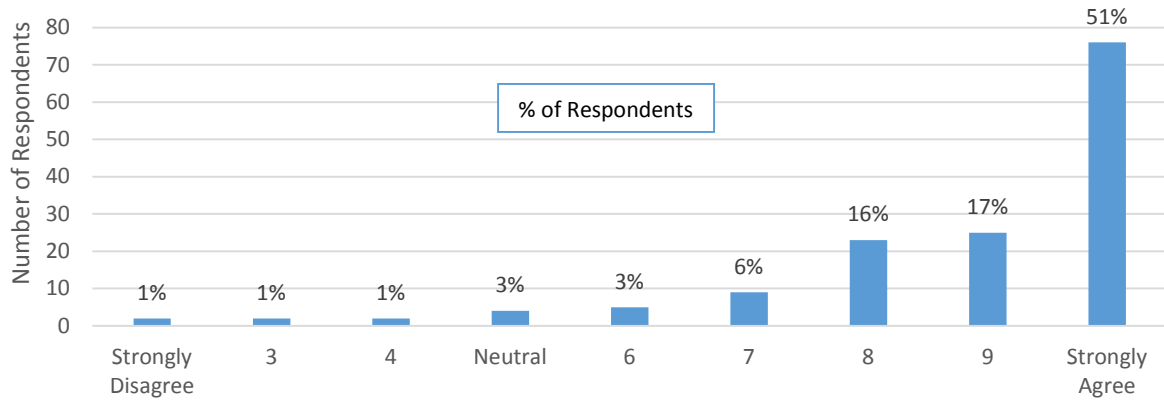


Figure 3: I would think about moving away if there were fewer outdoor recreation opportunities nearby. (N = 147)

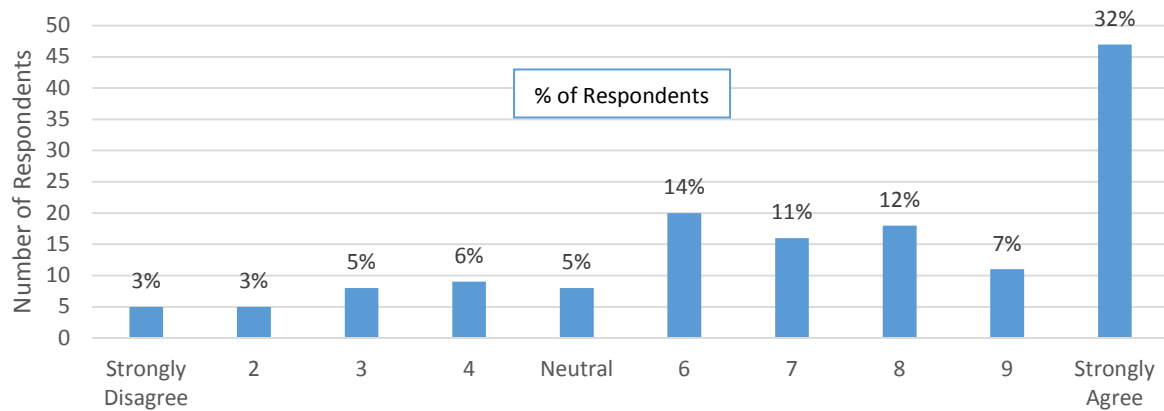


Figure 4: There is not enough access to public lands near my home. (N = 146)

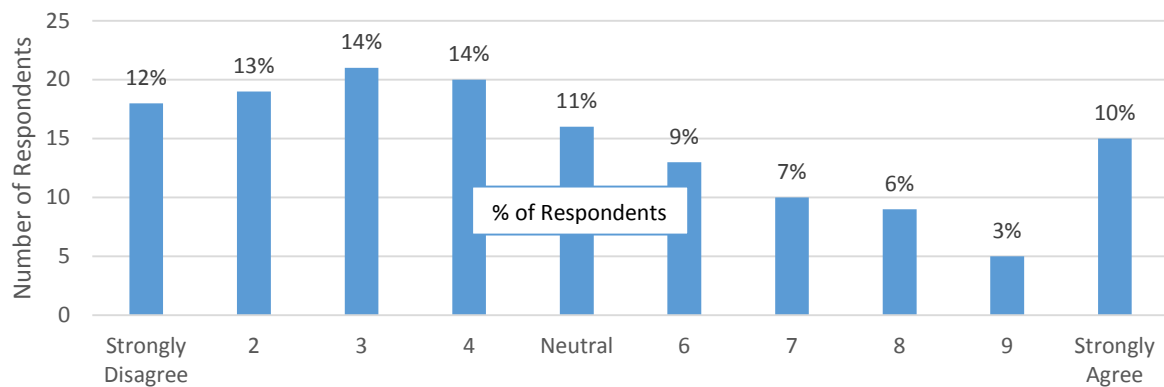


Figure 5: I am glad there are congressionally designated Wilderness areas on the Pleasant Grove Ranger District.
(N =148)

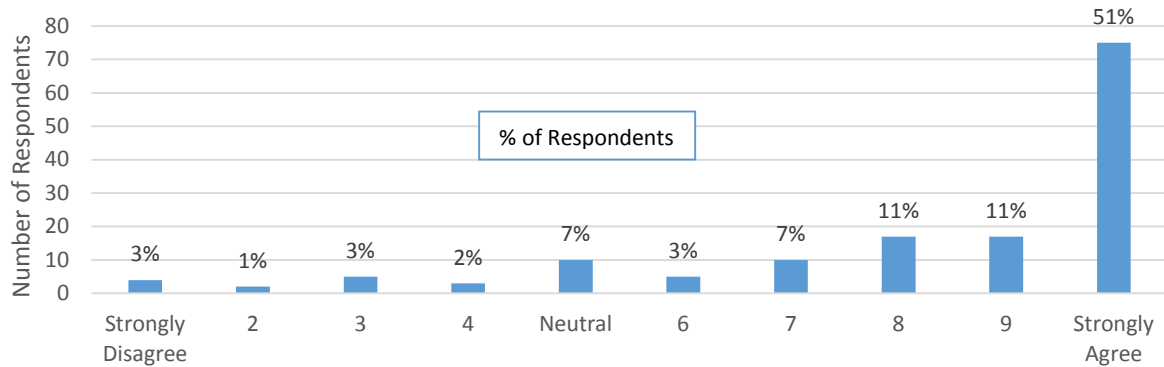
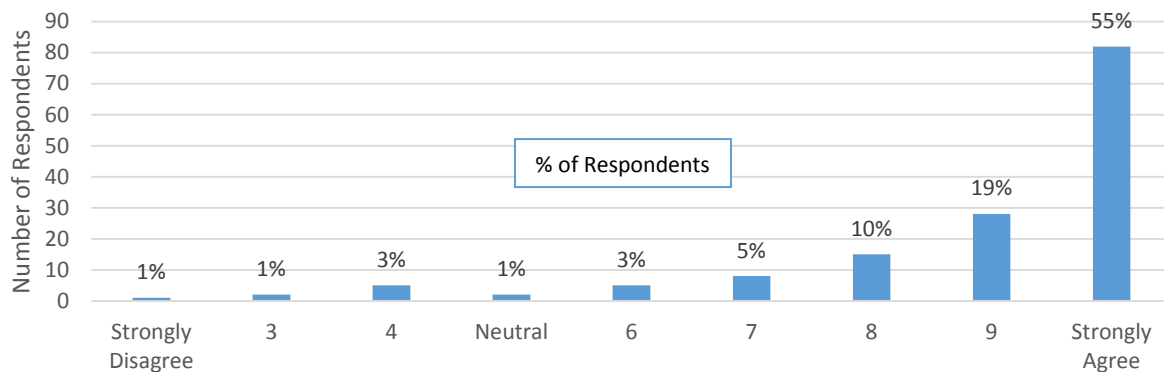


Figure 6: Being able to access the Pleasant Grove Ranger District is important to my lifestyle and quality of life. (N = 148)



Over the past 12 months in American Fork Canyon/Alpine Loop, what recreational activities have you participated in, and how often do you participate in them?

To gain a better understanding of respondents' activities and frequency of participation in those activities, respondents were asked to identify their activities and how many times they participated in them over the last twelve-months. Respondents were given a scale to rank how frequently they participated in each activity over the last twelve months: did not participate; 1-4 times; 5-9 times; 10-14 times; 15-20 times; more than 20 times. Taking this approach, we were able to measure 1) how many respondents participated in specific recreational activities, 2) how frequently they participated in them, and 3) the total number of *activity days* for which these respondents accounted.

In Figures 7a and 7b, the green line represents the number of respondents who participated in each recreational activity in the last twelve months. The bars in Figures 7a and 7b

represent how frequently those respondents participated in each of the recreational activities identified. Note the bars are percentages of the total number of people who participated in the activity.

From Figures 7a and 7b, we can gain a better understanding of how many people participate in an activity, and we can also see how frequently those people participate in that activity. For example, in Figure 7a, there are nearly the same number of people who walked their pet(s) and visited Timpanogos Cave National Monument; however, when we look at how frequently respondents participated in these two activities, we can see that 35% of people who walked their pet(s) have done so over twenty times in the last twelve months. When we examine how frequently respondents visited Timpanogos Cave National Monument, we can see that 79% have visited only one to four times in the last twelve months.

This leads to Figures 8a and 8b: *Activity Days*. It is important to note that activity days are not synonymous with visits. This is because in one visit, a person can participate in multiple activities, such as walk their pet(s), hike, and exercise all at the same time. The frequencies in Figures 8a and 8b present an approximate number of how many times respondents participated in each activity on the PGRD over the last twelve months. To again use walking pet(s) and visiting Timpanogos Cave National Monument as an example, we can see that approximately the same number of respondents did both (107 and 105, respectively), but when we look at the frequency respondents participated in the two activities we can calculate the number of activity days. These 107 respondents who walked their pet(s) did so 1,289 times over the last twelve months—1,289 activity days—and the 105 respondents who visited Timpanogos Cave National Monument accounted for 478 activity days. This is because respondents tend to walk their pet(s) on the PGRD many times over the year, and only visit Timpanogos Cave National Monument once or twice a year.

Activity days are calculated by taking the total number of respondents who participated in an activity, separating them out into how frequently they participated in the activity, and multiplying the respondents in each subgroup by the frequency used to define these subgroups. For example, 107 respondents reported walking their pet(s) on the PGRD in the last twelve months. When stratifying these 107 respondents into their frequency subgroups, we see that 33 have walked their pet(s) 1-4 times, 15 have walked their pet(s) 5-9 times, 8 have walked their pet(s) 10-14 times, 14 walked their pet(s) 15-20 times, and 37 have walked their pet(s) more than 20 times. By taking the number of respondents in each frequency subgroup and multiplying it by the median of each frequency subgroup (i.e., 1-4 times = median 2.5 times; 5-9 times = median 7 times; 10-14 times = median 12 times; 15-20 times = median 17.5 times; and more than 20 times = 21 times), we get the number of activity days in each group (e.g., 33 respondents multiplied by 2.5 (median number of times they walked their pet(s)) = 82.5 activity days for the 1-4 subgroup). The final step is adding all of the activity day subgroups together to get the total number of times these 107 respondents walked their pets on the PGRD. After all these steps are completed, we can see that these 107 respondents have walked their pets approximately 1,289 times over the last 12 months—1,289 activity days for walking pet(s). Figures 8a and 8b present the activity days for each recreational activity.

Figure 7a: Pleasant Grove Ranger District Activity Overview: Number of Respondents and Frequency of Visitation (N = 187)

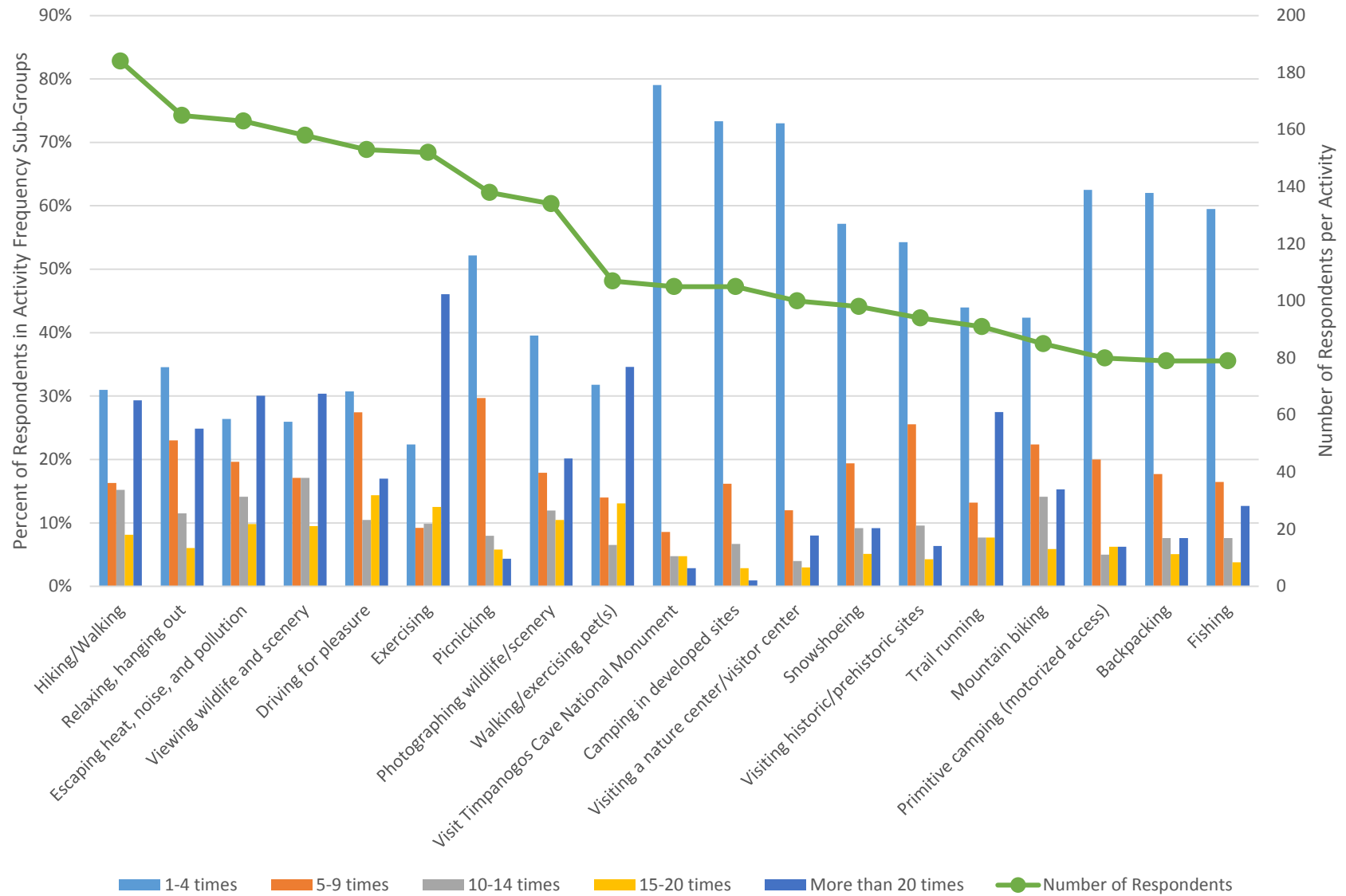


Figure 7b: Pleasant Grove Ranger District Activity Overview: Number of Respondents and Frequency of Visitation (N = 187)

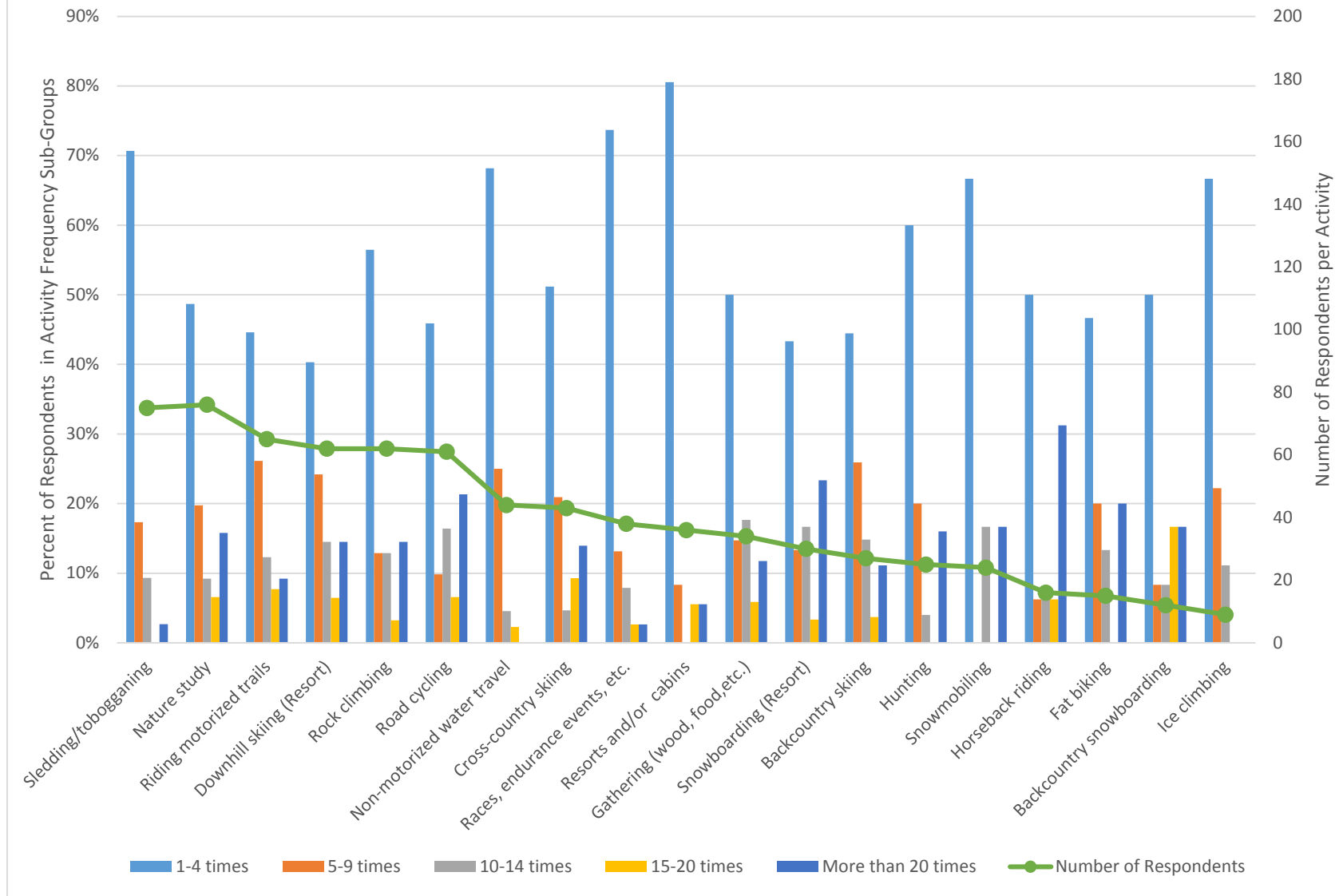


Figure 8a: Activity Days (N = 187)

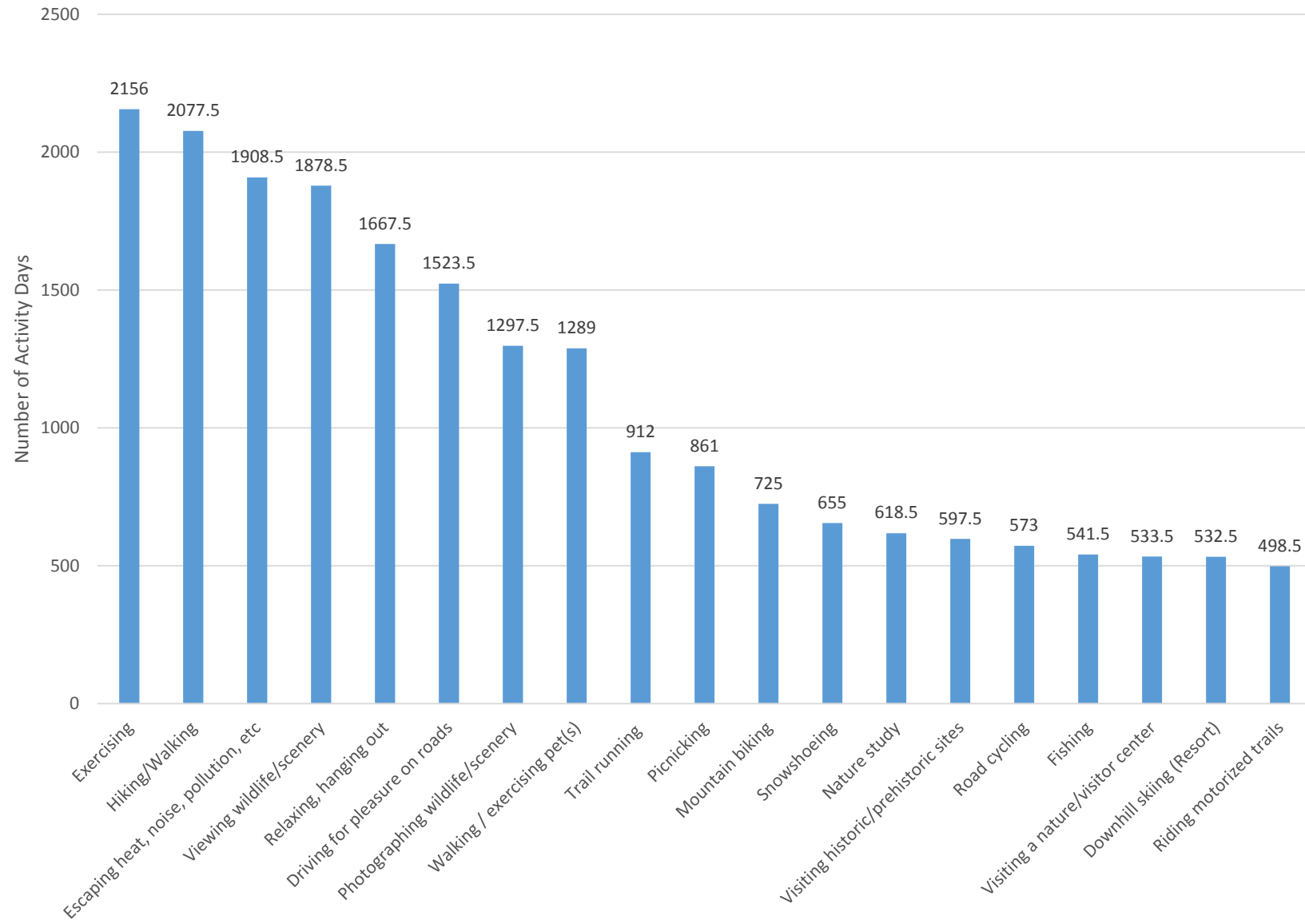
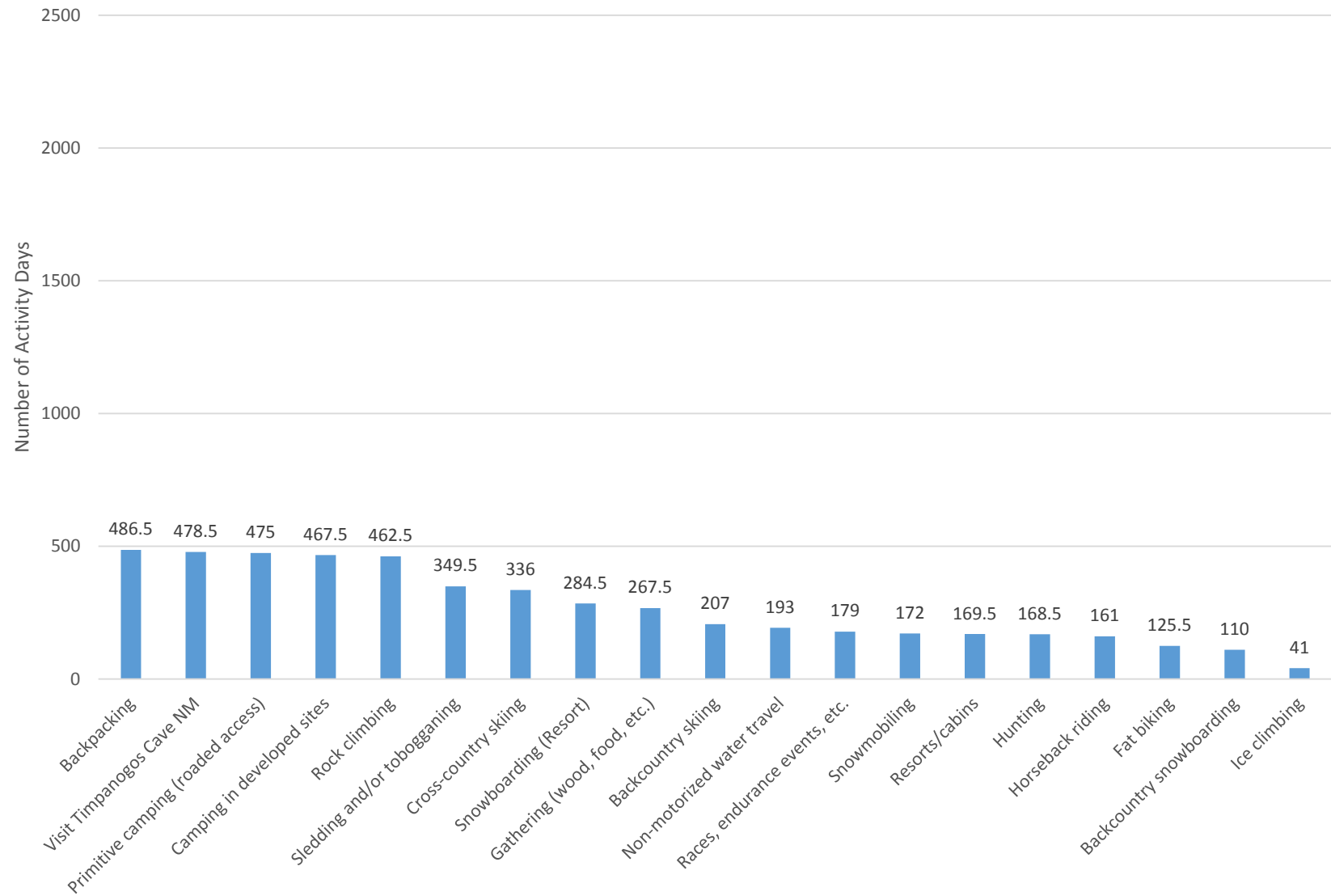
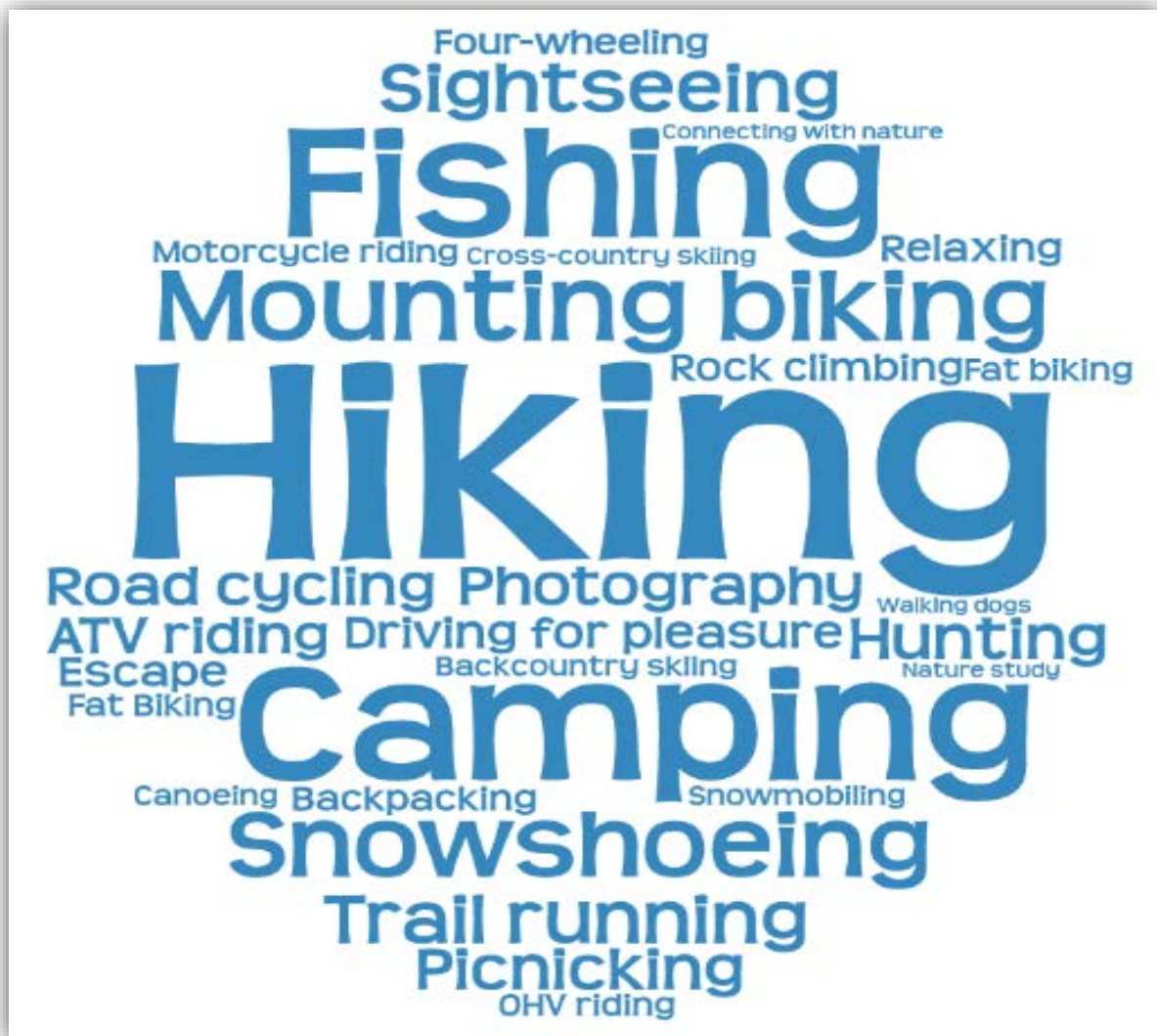


Figure 8b: Activity Days (N = 187)



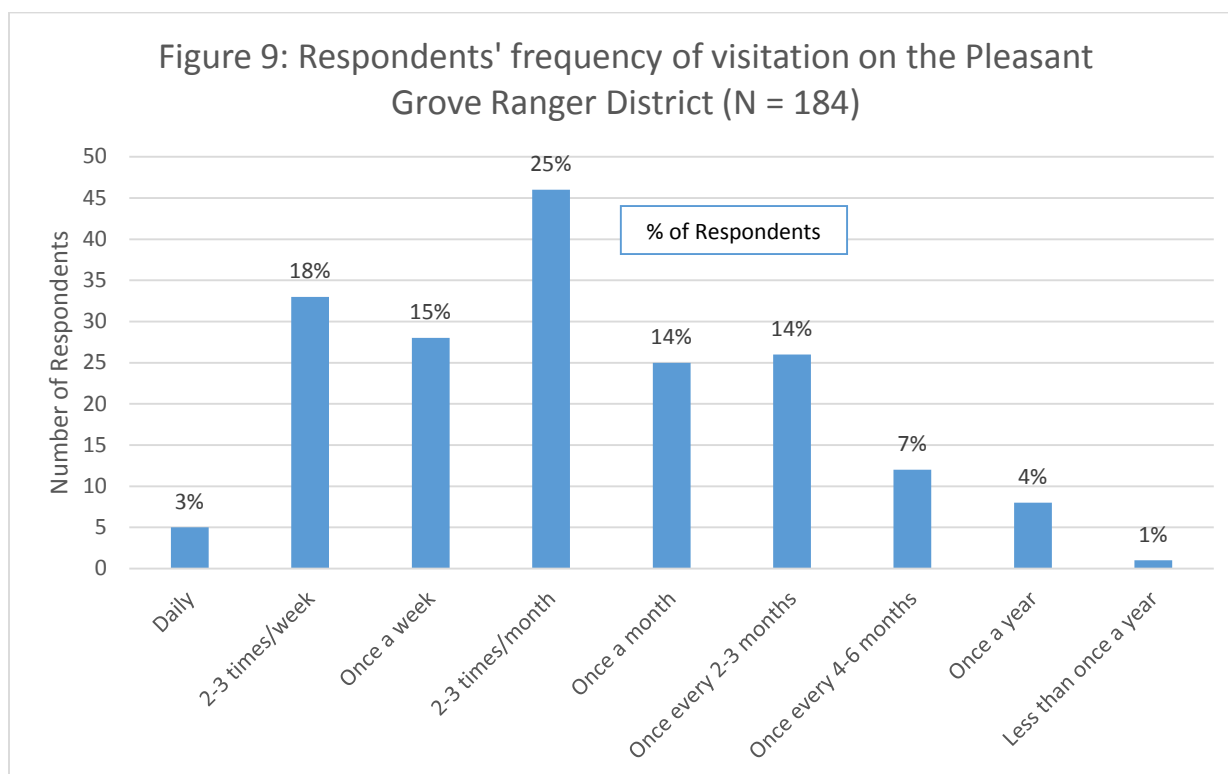
What would you say are your top 1-3 favorite recreational activities in American Fork Canyon/Alpine Loop?

The word map shown below presents the recreational activities respondents listed as being their one to three favorite on the PGRD. The size of the word is related to how often respondents mentioned it. For example, the majority of respondents said hiking was their favorite recreational activity, and therefore it is the largest. Fishing and camping were the next most mentioned activities, followed by mountain biking and snowshoeing, and a host of other activities. The website *Tagul* was used to develop the word map.



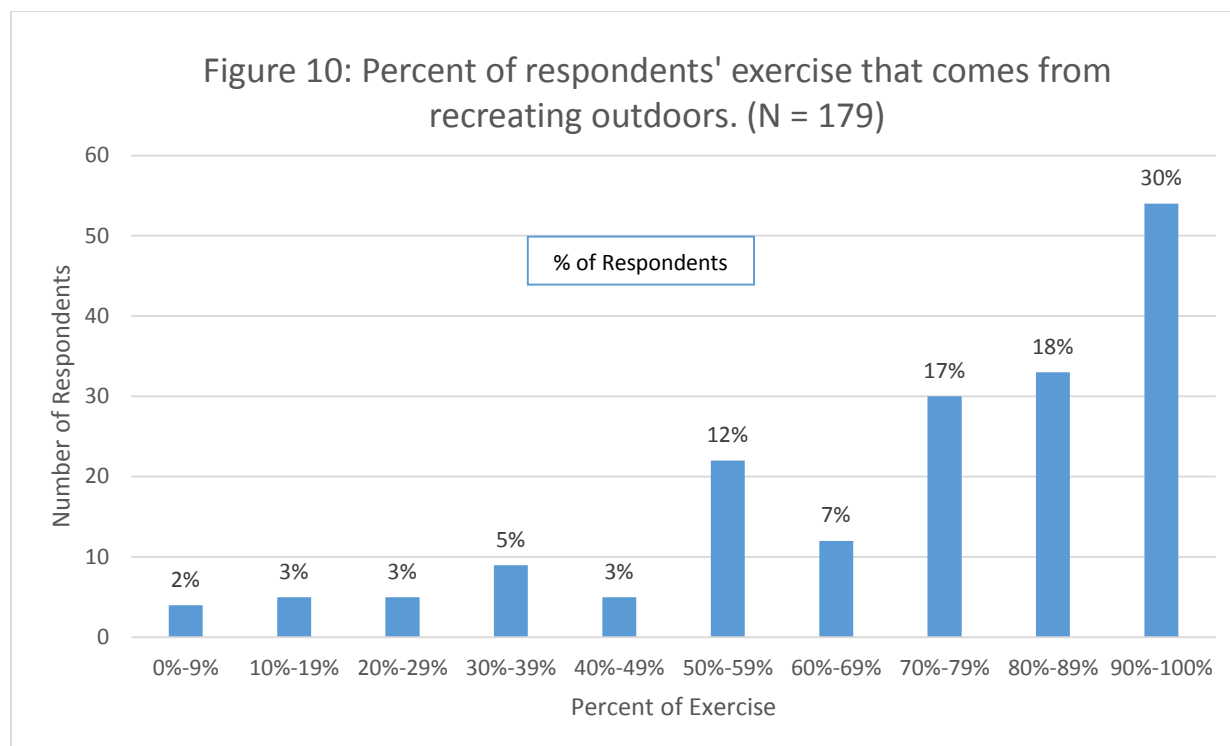
How often have you visited American Fork Canyon/Alpine Loop over the past 12 months?

Over the last twelve months, respondents visited the PGRD two to three times per month, with 36% of respondents visiting the PGRD at least once a week (mean = 35; median = 12). Note here that in the beginning of this report we looked at the similarities and differences of those who completed the follow-up survey and those who did not, and we found that those who did complete the follow-up survey visited the PGRD more often. Those who did not complete the follow-up survey visited about half as much. Figure 9 presents how often follow-up survey respondents visited the PGRD over a twelve-month period.



In the past 12 months, what percentage of your exercise has come from outdoor recreation?

Respondents were asked what percentage of their exercise comes from outdoor recreation. Of 179 respondents, 48% reported getting at least 80% of their exercise from outdoor recreation. Thirty percent of respondents said they get 90-100% of their exercise from outdoor recreation, and 18% said they get 80-89% of the exercise from outdoor recreation. These findings show that respondents get a large proportion of their exercise from recreating outdoors. Figure 10 presents the percent of exercise respondents get from outdoor recreation.



The following questions are focused on the health benefits you receive from recreating outdoors on public lands. Please indicate your level of agreement with the following statements.

To gain a better understanding of the health benefits respondents gain from recreating outdoors on public lands, they were given a series of statements and asked to rank how much they agreed with each one. Respondents highly agreed that recreating outdoors on public lands: 1) helped them feel more patient with themselves and others (mean = 8.92; median = 10); 2) eat less (mean = 7.92; median = 9); 3) think more clearly (mean = 8.85; median = 10); 4) relieve stress (mean = 8.98; median = 10); and 5) improve their mental and physical well-being (mean = 8.88; median = 10). Respondents also agreed that if there were fewer opportunities to recreate outdoors on public lands they would be less healthy (mean = 8.35; median = 9) and there should be more opportunities for children to recreate outdoors on public lands (mean = 8.62; median = 9). Figures 11 through 17 present respondents' levels of agreement with each health statement.

Figure 11: I feel more patient with myself and others after recreating outdoors. (N = 183)

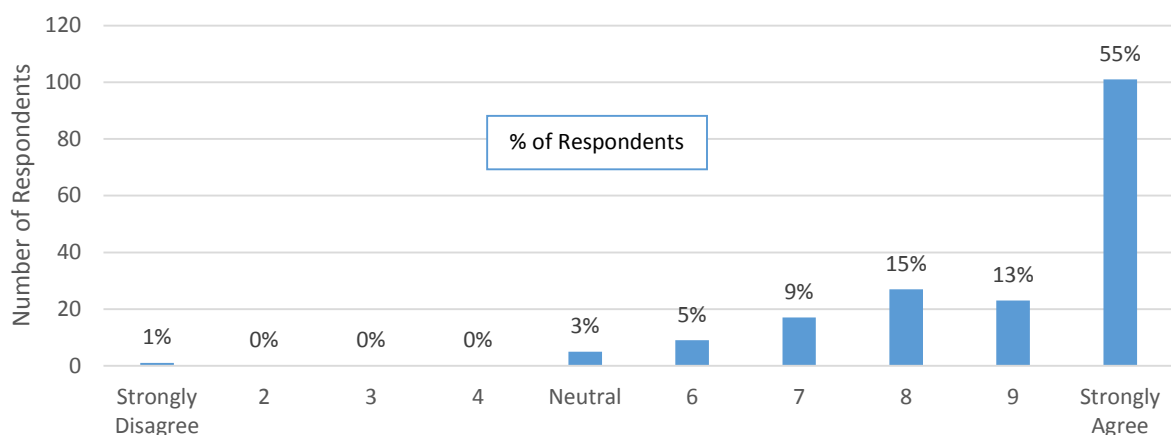


Figure 12: When I am recreating I eat less than if I stayed home. (N = 183)

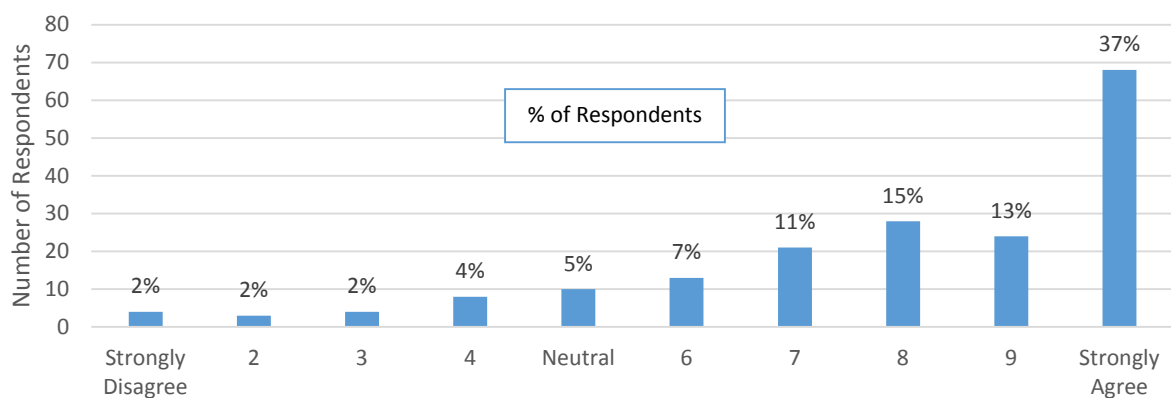


Figure 13: I do some of my best thinking when I am recreating outdoors. (N = 182)

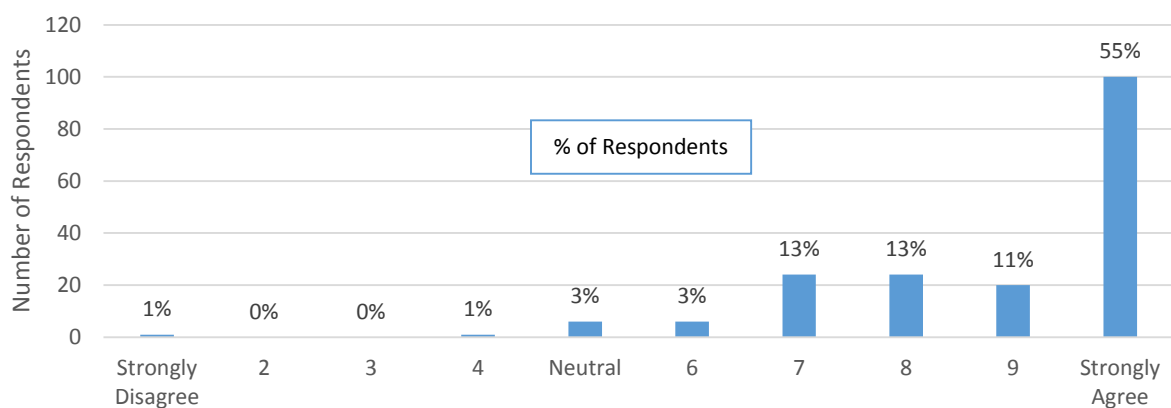


Figure 14: Outdoor recreation is the best way for me to relieve my stress. (N = 184)

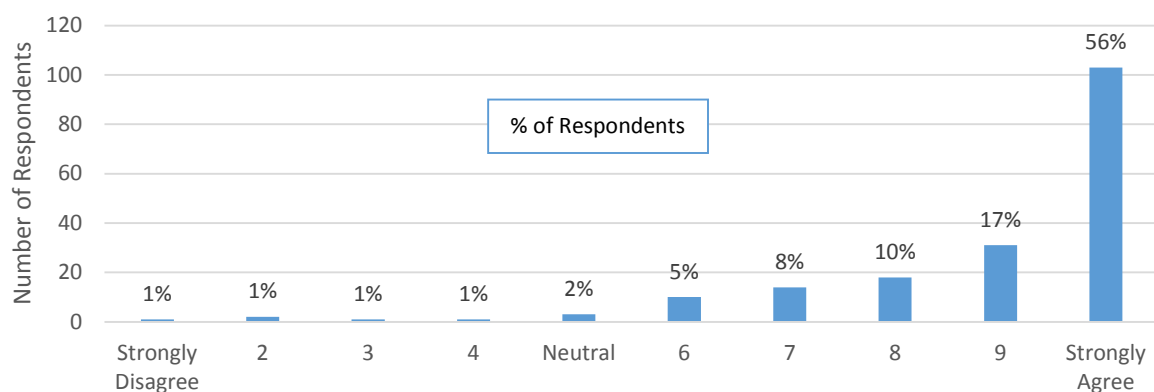


Figure 15: Recreating on public lands plays a large role in my mental and physical well-being. (N = 182)

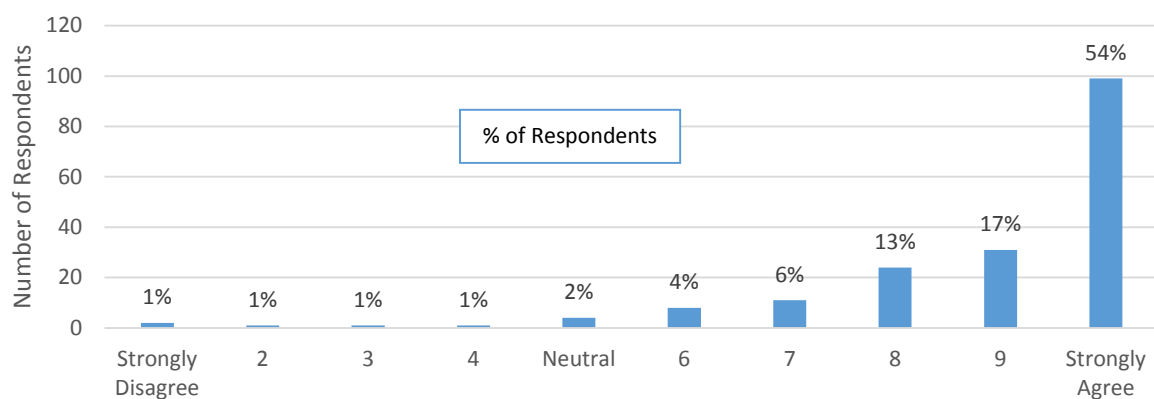
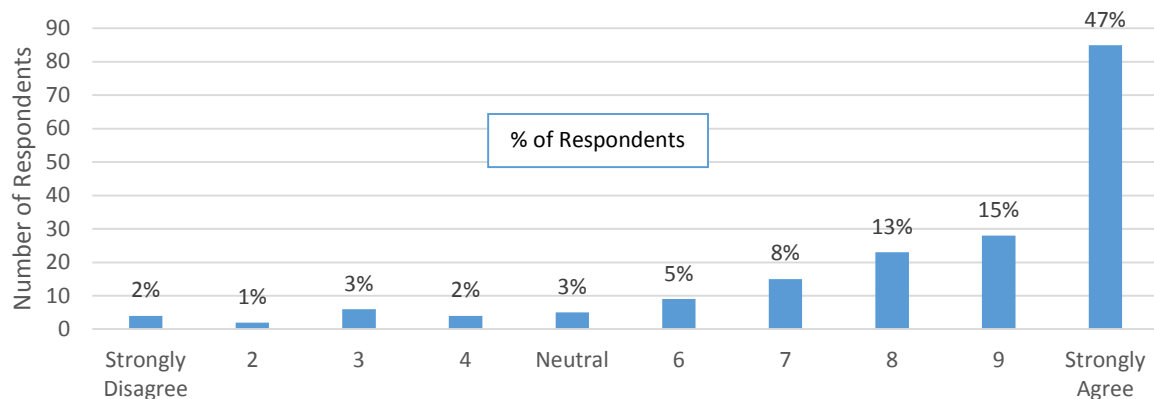
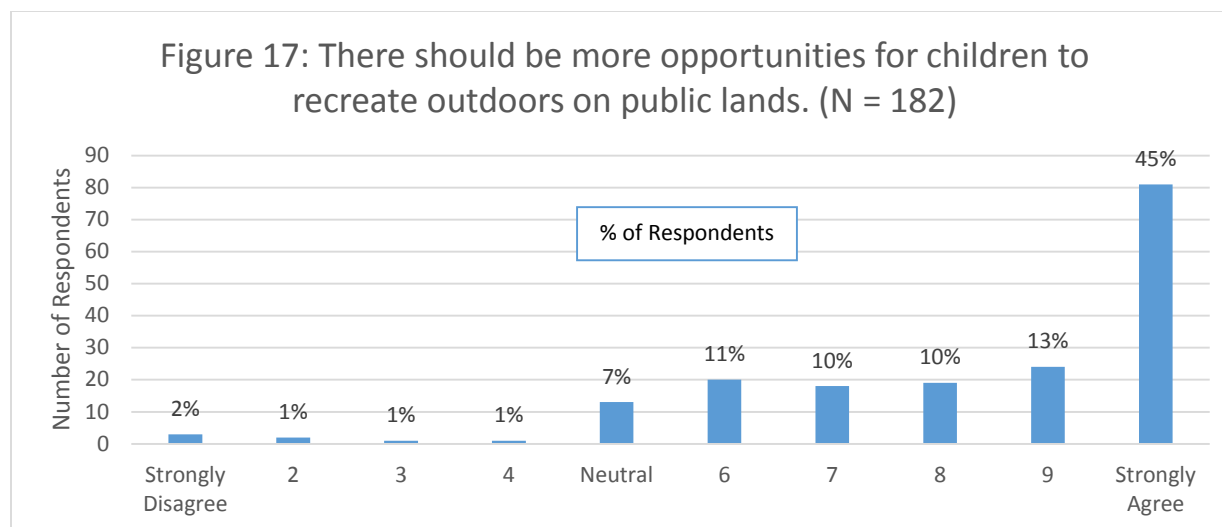


Figure 16: If there were fewer opportunities to recreate outdoors on nearby public lands I would be less healthy. (N = 181)





For American Fork Canyon/Alpine Loop, please rate how satisfied/dissatisfied you are with the following items, and then rate how important those items are to you.

Respondents were asked to rank how satisfied they were with a variety of aspects related to forest management and forest conditions, and then they were asked to rank how important each item was to them. Both satisfaction and importance were measured using a five-point Likert scale: very dissatisfied—very satisfied and very unimportant—very important. Data are presented in Figure 18.

These data are helpful in understanding what respondents see as most important. In this case, the top three most important aspects for respondents regarding the PGRD are 1) scenery, 2) environmental conditions, and 3) trail conditions. When examining these data, it is also important to note areas where importance is higher than satisfaction. This can indicate areas where the needs and expectations of people are not being met, and perhaps management can respond and improve these conditions. For example, 1) road conditions, 2) environmental conditions, 3) availability of parking, and 4) cleanliness of restrooms were all areas where respondents' level of importance exceeded their level of satisfaction. There were also areas where respondents' perceived importance and satisfaction were the same, and these are areas that should be monitored so levels of satisfaction do not decline further: 1) trail conditions, 2) trail signage, and 3) the availability of information about recreation on the PGRD.

The condition of roads was the first area where importance exceeded respondents' satisfaction. To gain a better understanding of why respondents' satisfaction with road conditions was lower than importance, we reviewed the comments left by respondents at the end of the survey. In reviewing the comments, it became clear that road safety was the issue many respondents were concerned about, especially when talking about cyclists and pedestrians. One respondent said, "I am always scared that I am going to hit a biker!!!" Another respondents said, "I think they could make the roads wider. In some spots two cars passing by are very tight and

dangerous. Some cars going too fast for conditions tend to cut into the other lane. That was our experience. I thought we were going to crash, not a very nice drive through the canyon.”

Wider roads and/or a separate bike/hiking path were both mentioned as ways to remedy this issue. In another part of the survey we specifically asked if a bike path should be built to help improve safety, and respondents agreed with this more than any other topic covered concerning transportation in this survey.

Busses or shuttle systems have also been discussed as a way to decrease congestion and improve safety, but respondents had very negative attitudes toward implementing any kind of shuttle system on the PGRD, and some respondents said a shuttle system would increase the danger to cyclists and pedestrians and that is why it should not be implemented. We also asked questions about public transportation options in this survey, and there were very low levels of support among respondents.

Also concerning roads, respondents asked that the roads be open longer, and not gated closed long before the snow arrives and long after the snow is gone.

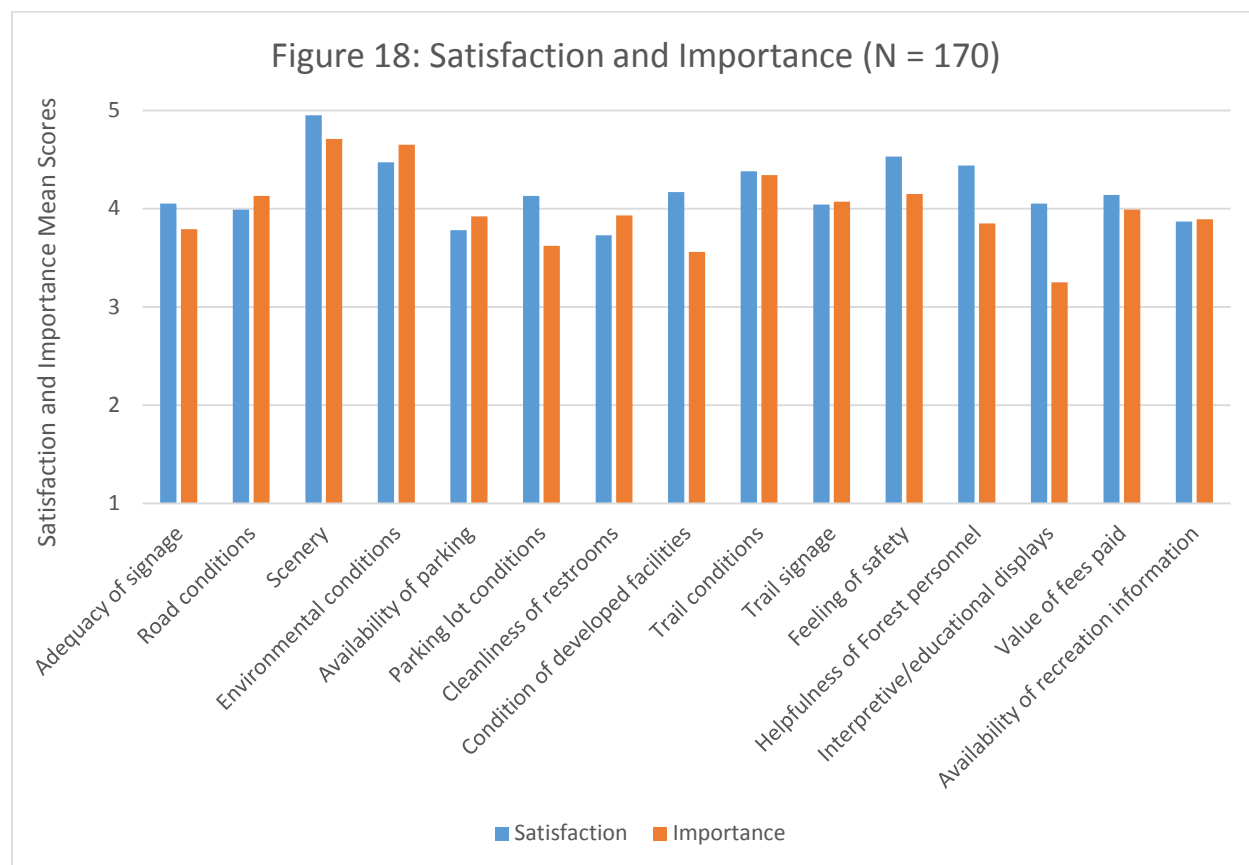
Environmental conditions were also an area where importance exceeded satisfaction. Environmental conditions were ranked as the second most important component of the PGRD. Environmental conditions also ranked third in satisfaction. Even though environmental conditions ranked so highly in satisfaction, it seems respondents still feel there is some room for improvement. When reviewing the comments, it was hard to find specific circumstances where respondents were dissatisfied with the conditions of the natural environment besides litter and trail erosion. Mostly respondents talked about how amazing the PGRD is as a place to experience beautiful scenery and the natural environment. However, a very common theme in the comments was the expansion of Snowbird Ski Resort into Marry Ellen Gulch, and any future development that may come along with the expansion. Not one comment was in support of this expansion. The majority of comments were in strong opposition. This proposed expansion was seemingly the main cause of respondents' anxiety about declining environmental conditions on the PGRD.

Availability of parking ranked second lowest in respondent satisfaction. There were few comments that discussed parking, but some respondents did ask for additional parking and more areas for parking trailers. In another section of this survey we specifically asked if there should be more parking in high-demand areas, and if informal parking spaces should be eliminated. Respondents mildly agreed that there should be more parking in high-demand areas, and strongly disagreed that informal parking should be eliminated.

Cleanliness of restrooms was also one of the lowest ranked in respondent satisfaction. In the comments, respondents asked for cleaner restrooms and for the toilet paper to be stocked more regularly. Not many respondents commented on restrooms, but given its low satisfaction rating, it is definitely an area that should be examined for possible improvements.

Trail conditions, trail signage, and availability of information were approaching the point of concern. There was little in the comments on availability of information, but there were comments pertaining to trails. Respondents asked for more trail maintenance. There were also

comments about how motorcycles are damaging trails and decreasing the quality of the experience because of the noise they emit and the dangers they pose to other people using the trails.



With respect to transportation and parking in American Fork Canyon/Alpine Loop, please indicate how much you agree with the following statements.

Respondents were asked to indicate their level of agreement with a variety of statements regarding transportations and parking on the PGRD. Respondents were given a ten-point Likert scale which ranged from strongly disagree to strongly agree.

To start off, let us first look at the statements in which there were high levels of consistency in respondents' attitudes. First, respondents strongly disagreed that informal parking spaces should be eliminated (mean = 4.12; median = 4). Second, respondents strongly agreed that road shoulders should be widened to increase pedestrian and bicycle safety (mean = 7.20; median = 8). It is important to note here that there was more agreement over widening the road shoulder to increase safety than any other topic covered in the transportation section. Lastly, respondents strongly disagreed that electronic signs should be installed to help inform visitors (mean = 4.11; median = 4).

There was less consistency in respondents' attitudes towards the other statements. A common pattern was respondents would cluster on the "strongly disagree" side of the scale, and there would be another cluster in the "mildly agree" area of the scale. This is showing that a group of respondents strongly oppose any changes or development on the PGRD, and another group is more open to these changes but is not completely convinced these changes need to be made to mitigate current issues.

Public transportation is a great example of this. We asked about public transportation and Park-and-Ride transportation options, and respondents were very split, with some strongly disagreeing and others mildly agreeing. Comparing these results with the intercept survey, it becomes clear that public transportation is not a popular option among respondents. In the intercept survey, we asked if respondents would have used public transportation to access sites on the PGRD the day they were surveyed, and 83.4% said they would not have used it if it were available. The most common reasons for not using public transportation were as follows: people enjoy driving themselves; no control over when they come and go; could not bring dogs, ATVs, OHVs, gear, etc.; and some said they just do not like public transportation, would not use it, and do not want to see it in the mountains. It was also asked in the intercept survey if respondents would like to see public transportation implemented for any sites/areas on the PGRD, and most said they would not like to see public transportation anywhere. Timpanogos Cave National Monument had the highest level of support, 33%, and Tibble Fork had the next highest level of support, but only 10% of respondents said they would like to see public transportation there.

We asked if the management strategy of redirecting use from high-demand areas to low-demand areas to spread people out more evenly across the PGRD should be implemented, and again respondents were split. Thirty-nine percent said they disagreed with this strategy, and 46% agreed (mean = 4.93; median = 5). Respondents were also split on the topic of implementing additional fees or parking passes (mean = 5.09; median = 5).

To see respondents' levels of agreement with the statements related to parking and transportation on the PGRD, please refer to Figures 19 through 26.

Figure 19: There should be more opportunities to use public transportation to access recreation sites in American Fork Canyon/Alpine Loop. (N = 162)

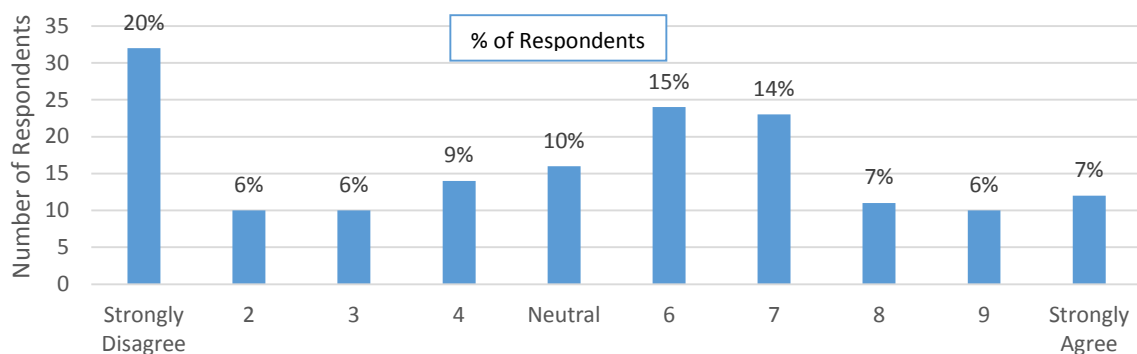


Figure 20: Recreational use should be redirected from high-use to low-use areas to spread people out more evenly. (N = 162)

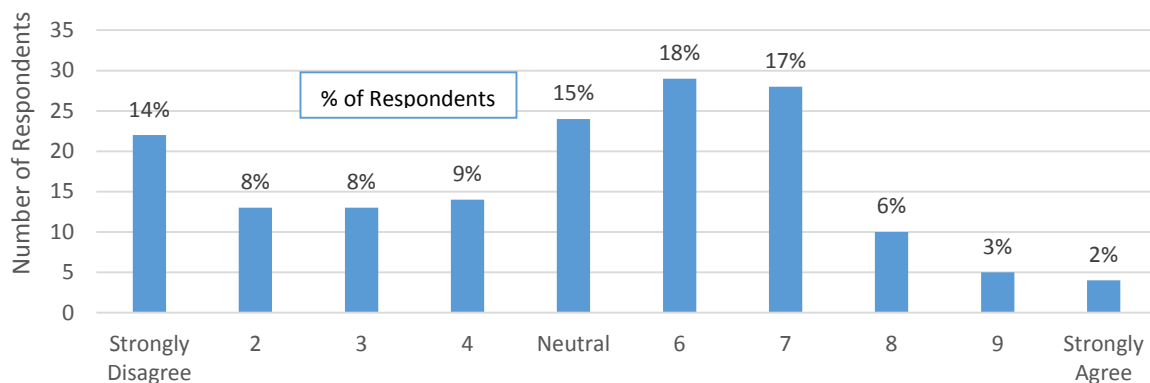


Figure 21: Park-and-Ride transportation opportunities should be developed for canyon users. (N = 161)

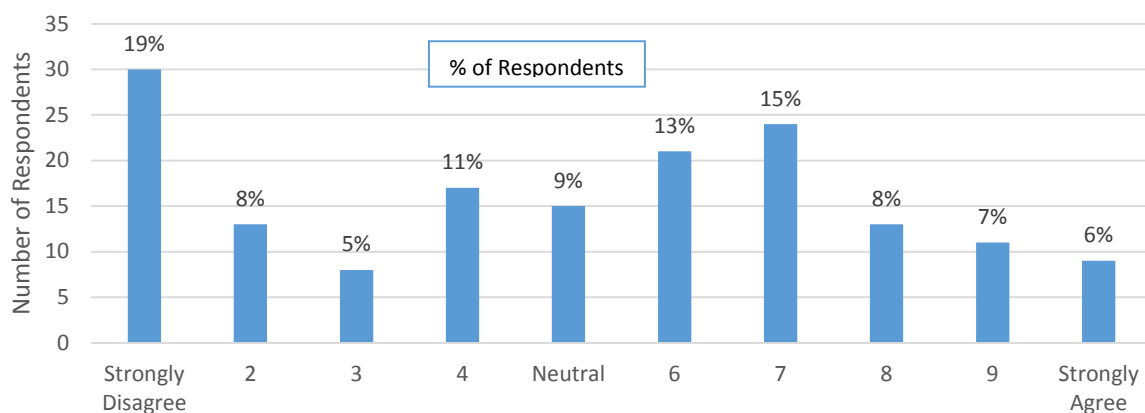


Figure 22: There should be more parking in high-demand recreation areas. (N = 161)

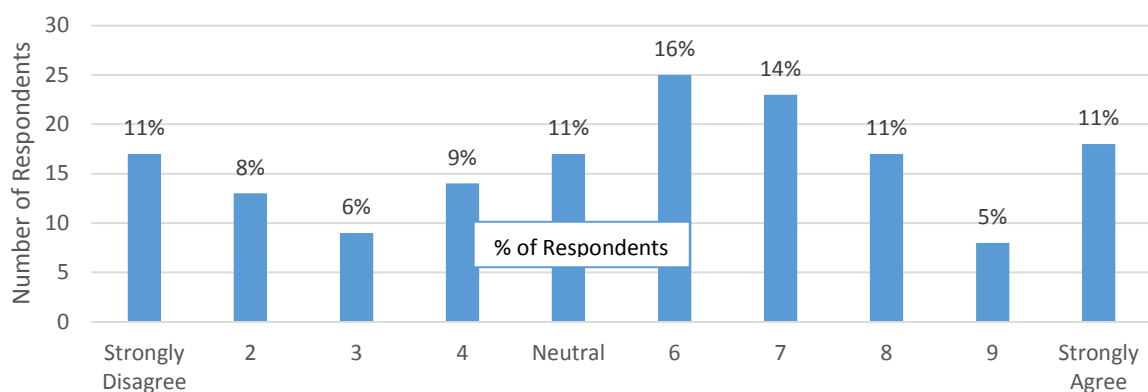


Figure 23: Informal parking spaces on road shoulders should be eliminated. (N = 153)

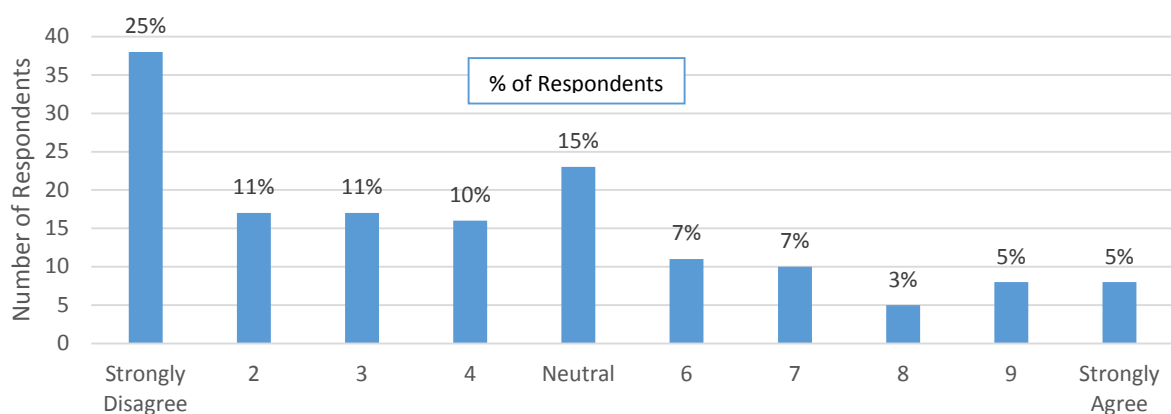


Figure 24: Road shoulders should be widened to increase bicycle and pedestrian safety. (N = 163)

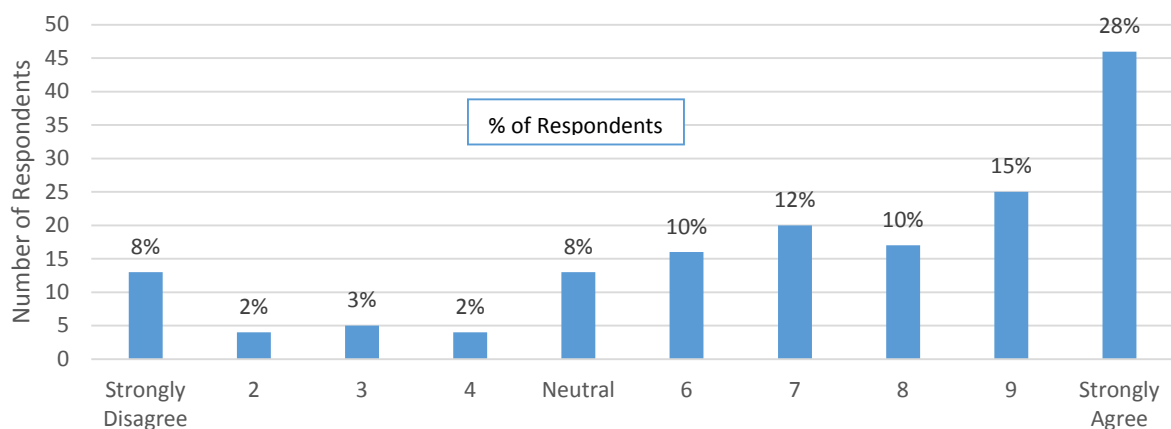


Figure 25: More electronic signs should be installed to help inform canyon users. (N = 155)

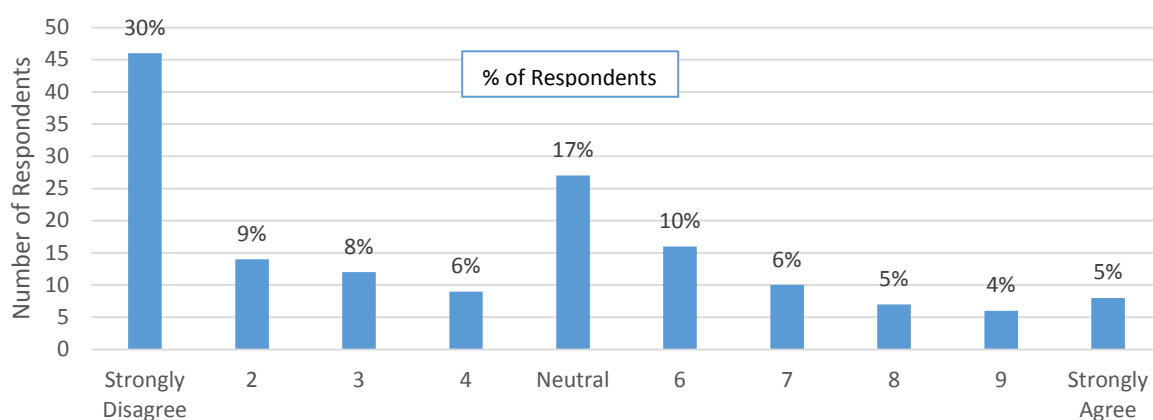
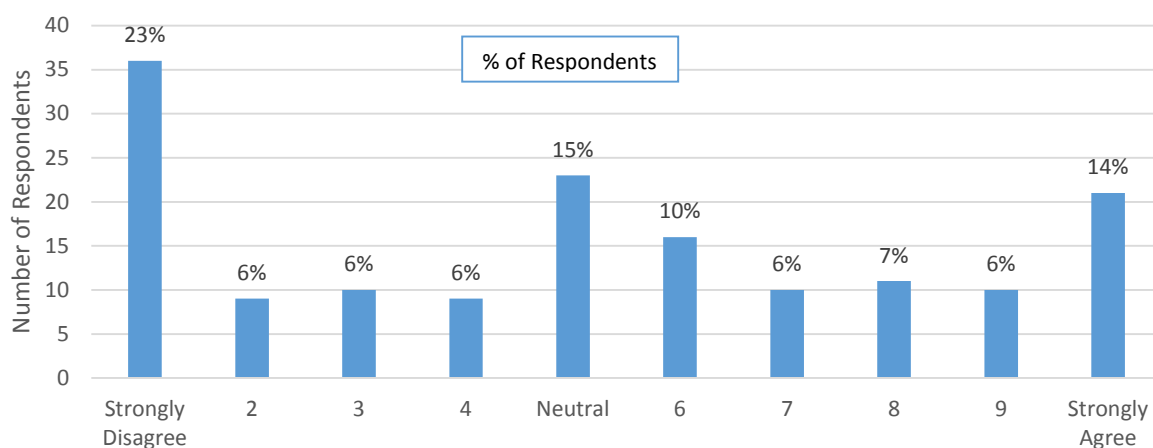


Figure 26: Parking fees or canyon passes should be considered for canyon users. (N = 155)



Please indicate your level of agreement with the following statements with respect to your experience with solitude in American Fork Canyon/Alpine Loop.

Being able to experience solitude is an important motivation for people using public lands, and it is also something that public land managers strive to provide when managing these lands. To gain a better understanding of how PGRD visitors value solitude, and are able to experience solitude, we asked them to rank multiple statements addressing the importance of solitude, their ability to experience solitude, and if actions should be taken to increase the possibility of experiencing solitude on the PGRD.

As seen in Figure 27, being able to get away from people and experience solitude is *very* important to respondents (mean = 8.66, median = 10). Respondents were generally neutral when

asked if it is hard for them to experience solitude on the PGRD (mean = 5.08, median = 5), and if there were too many people recreating on the PGRD (mean = 5.12, median = 5). Respondents were also asked if the quality of recreation would be improved if actions were taken to reduce the number of people that can recreate at a given time on the PGRD, and most respondents disagreed (mean = 4.01, median = 4). Respondents were asked if there are occasions when they are not able to participate in their desired recreational activity because there were too many people, and the majority of respondents disagreed (mean = 4.16, median = 4).

Lastly, and not necessarily related to solitude, is the topic of investing in recreation infrastructure. Respondents were asked if the quality of their recreational experience would be enhanced if more was invested into recreation infrastructure, and respondents were split with many strongly disagreeing and some mildly agreeing, (mean = 4.94, median = 5).

From this series of statements, we can see solitude is very important to respondents, but when asked if their ability to experience solitude is impeded by the number of people recreating on the PGRD, most respondents did not have strong feelings either way, and were mostly neutral. We can also see the number of people recreating on the PGRD is not deterring respondents from participating in their desired recreational activities, and 62% disagree that actions should be taken to reduce the number of people who can recreate on the PGRD at a given time. Figures 27 through 32 present respondents' level of agreement to the statements regarding solitude on the PGRD.

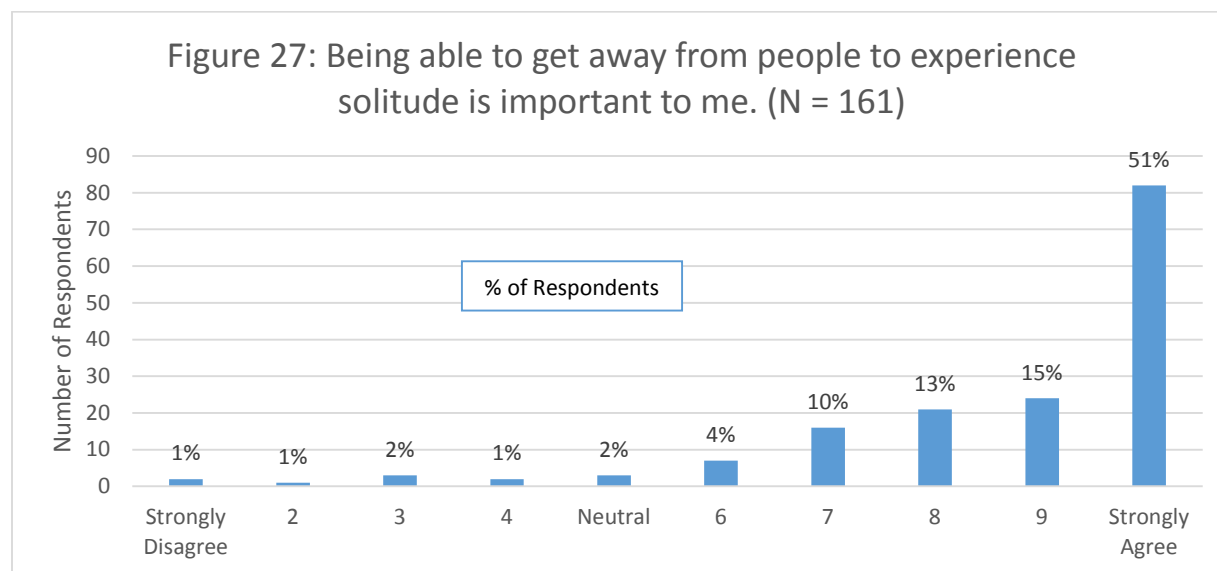


Figure 28: It is hard for me to get away from people and experience solitude when recreating in American Fork Canyon/Alpine Loop. (N = 158)

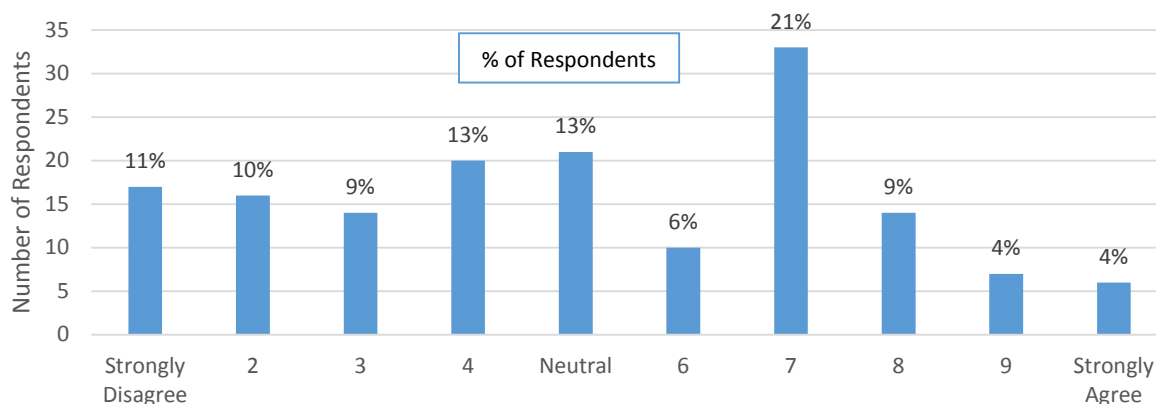


Figure 29: Too many people recreate in American Fork Canyon/Alpine Loop. (N = 158)

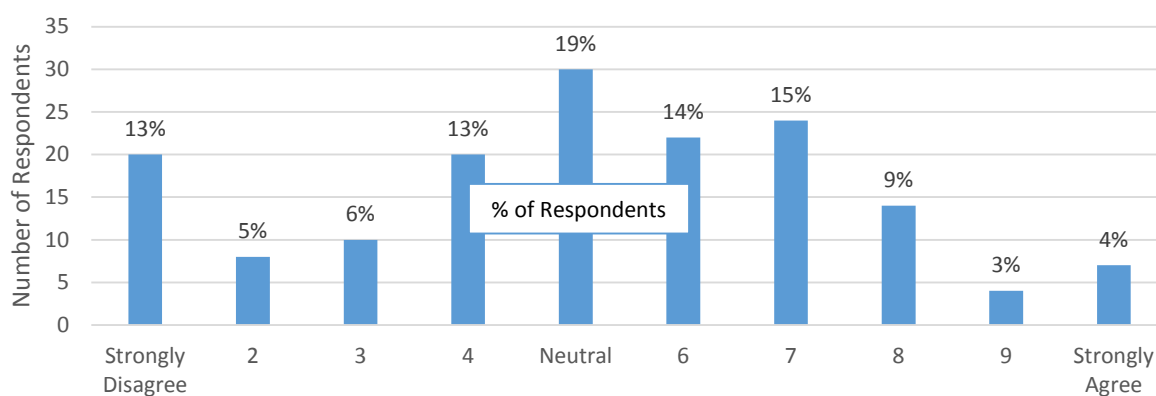


Figure 30: The quality of experience would be best improved by reducing the number of people allowed to recreate. (N = 158)

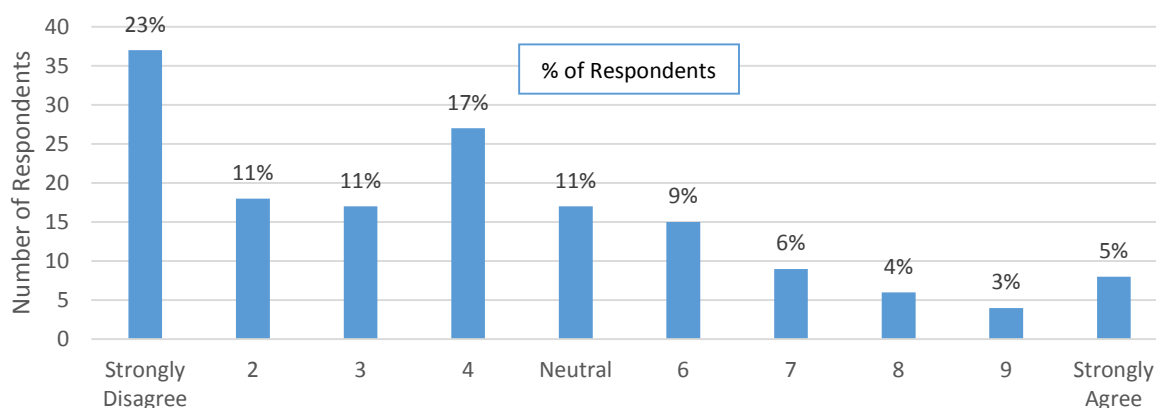


Figure 31: There have been times that I have not been able to participate in the recreational activity I wanted to because there were too many people. (N = 159)

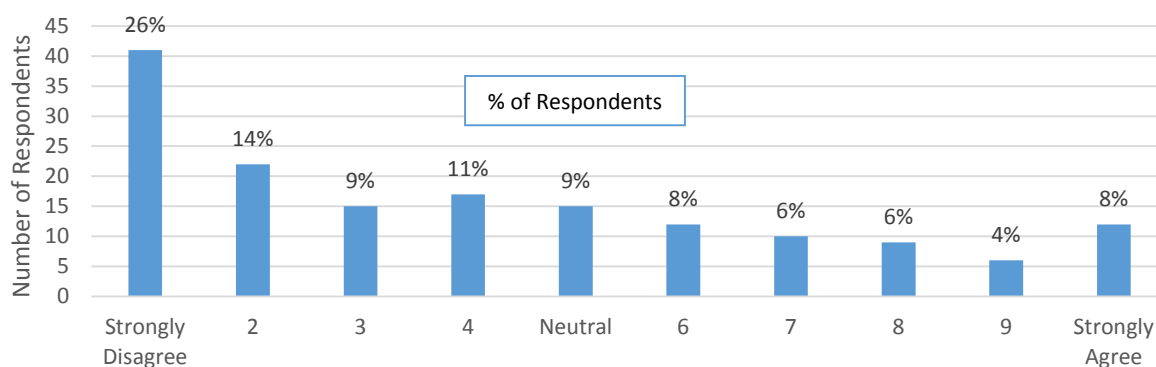
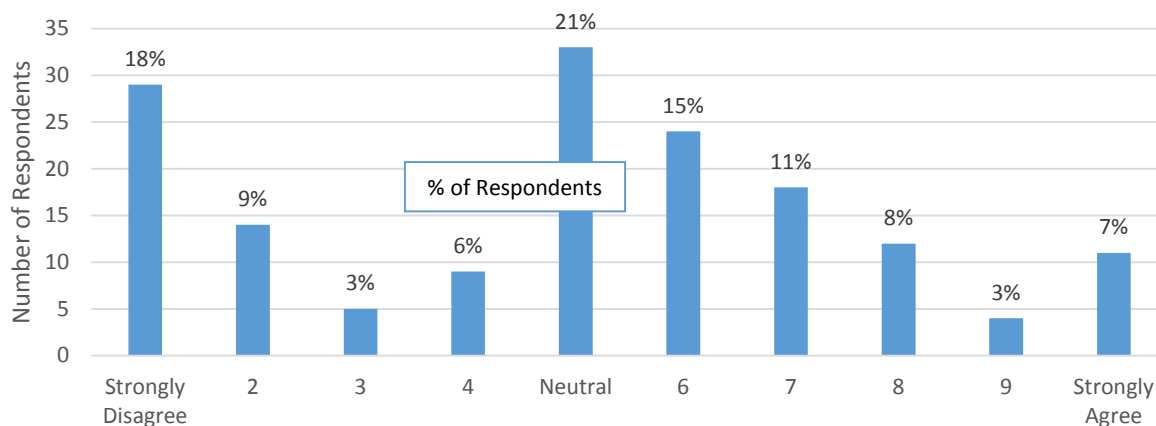


Figure 32: The quality of experience would be improved by investing in better recreation infrastructure. (N = 159)



What would you say is the biggest benefit you receive from American Fork Canyon/Alpine Loop?

In response to this statement, the most frequently used words were *beautiful, nature, close, and peace*. When looking at how these words were used by respondents when describing the benefits they receive from the PGRD, a very dominant theme emerged: the biggest benefit respondents receive is *close and easy access to beautiful, peaceful nature*. This is the core of what people see as the biggest benefit; respondents then branched out from this core into more personal benefits. For example, some enjoy the easy access to nature and beauty for experiencing solitude. Others enjoy spending time with friends and family. Some enjoy it as they are riding motorized vehicles and others enjoy hiking, hunting, or just exercising. There are many different ways people use and view the PGRD, but what is consistent among many respondents is an

appreciation for the beautiful and easily accessible forestlands on the PGRD. To see all benefits please refer to Appendix A.

Environmental Orientation

The statements found in Figures 33 through 36 are used to determine respondents' environmental orientation, i.e., biocentric or anthropocentric (Dunlap & Van Liere, 1978). The terms biocentric and anthropocentric are used to define how people view nature. Gagnon-Thompson and Barton (1994) define people who are biocentric as "individuals [who] value nature for its own sake and, therefore, judge that it deserves protection because of its intrinsic value" (p.1). In contrast, the people with an anthropocentric orientation are individuals who feel "the environment...has value in maintaining or enhancing *the quality of life for humans*" (emphasis added) (p.1).

Measuring environmental orientation provides a view of respondents' underlining values, which can be used to help better understand and interpret the data provided by the survey. These values are deeply held and are connected to people's experiences, beliefs, and culture. By exploring these values we can gain a better understanding of the people who are using an area, and how their values influence their attitudes toward management. This information can also aid in predicting how visitors may perceive a proposed management action.

For the sake of respondents' time, only four of the original fifteen statements developed by Dunlap and Van Liere were included in this survey. Even with fewer statements used, we can gain an understanding of respondents' environmental orientation.

Generally speaking, a biocentric person responds to the statements in a predictable manner that is in line with biocentric values, and the same goes for an anthropocentric person. However, respondents answered these questions as both a biocentric and anthropocentric person. For example, if we look at Figures 35 and 36, we see that respondents answered these questions in a biocentric fashion, i.e., respondents strongly agreed that "the balance of nature is easily upset" and strongly disagreed that "humans will eventually learn enough about how nature works to be able to control it." But, when we look at Figure 33, biocentric people generally "strongly agree" that "we are approaching the limit of the number of people the earth can support"; however, respondents in this study strongly disagreed with this statement. Furthermore, respondents were somewhat mixed when responding to the statement "humans have the right to modify the natural environment to suit their needs"; whereas a solely biocentric person would have strongly disagreed. These results show us that respondents hold not just biocentric *or* anthropocentric values, but many hold both anthropocentric *and* biocentric values.

Both anthropocentric and biocentric values present themselves in this report. Respondents' biocentric values present themselves in the Importance-Satisfaction section, where respondents ranked "scenery" and "environmental conditions" as the two most important aspects of the PGRD. In addition, the words "nature" and "natural" are some of the most frequently used words in respondents' comments. When describing the benefits they receive from the PGRD,

respondents commonly refer to the access and exposure to nature, the natural beauty, and the ability to get away and experience solitude in a natural setting. Respondents also expressed a lot of concern about protecting the natural areas the PGRD has left. This is especially present concerning the proposed expansion of Snowbird Ski Resort, and any additional developments that may follow, such as housing and hotel developments. Not one respondent said they were in favor of this kind of development on the PGRD. The high importance placed on scenery and environmental conditions along with the strong opposition toward development lines up with respondents' biocentric values displayed in Figure 35.

Respondents also displayed anthropocentric values. One example is the many respondents who would like to see the road widened and/or a bike/pedestrian path built to increase the safety for everyone visiting the PGRD. Even though this kind of development would have some environmental impacts, many respondents put the safety of visitors above the potential impacts that widening the road or building an entirely separate path would have.

We also wanted to compare the results of Figure 33—respondents strongly disagreeing that the earth is approaching its capacity for human life—with data related to crowding, conflict, and the opportunities to find solitude on the PGRD. In terms of recreation, when there are too many people trying to “consume” a resource—a trail, view, fishing spot, etc.—issues of crowding and conflict arise. Given the results presented in Figure 33, we would expect to see low levels of crowding and conflict, and many opportunities to find solitude.

The number of people respondents encountered while they were recreating varied greatly given the location, time of year, and time of day. For example, during the winter and spring months the median number of encounters experienced by respondents was three, but over the summer and fall months this increased to ten. The number of encounters correlated with visitor conflict. During the winter and spring months when number of encounters was low, only 3% of respondents were negatively impacted by the people they encountered. During the summer, 12% of respondents had negative encounters, and during the fall months, 9% had negative encounters. A common reason respondents gave for having a negative experience was “too many people.”

We also found that solitude is extremely important to respondents, but when respondents were asked if too many people recreate on the PGRD, and if it is hard to get away from people to experience solitude, they were mostly neutral. Furthermore, when respondents were asked if actions should be taken to limit the number of people that can recreate on the PGRD at a given time, or if there have been times they have not been able to participate in the activities they wanted to because there were too many people, respondents strongly disagreed.

Given these results, it is safe to suggest that as the number of encounters increases, so does the level of crowding and conflict. During the summer, approximately one in ten visitors are negatively affected by other visitors. However, this is not the case throughout the year, as the number of negative encounters drops to just 3% during the winter and spring months. In addition, these results suggest opportunities to find solitude are still present but at times may be hard to find, and respondents strongly disagree that management actions should be taken to increase the likelihood of finding solitude and decrease crowding on the PGRD.

Overall, we saw a mix of values around development, where respondents strongly opposed the proposed expansion of Snowbird Ski Resort but were in favor of widening the road or creating a new bike and pedestrian path to increase visitor safety. We also saw the high value respondents put on environmental conditions and on the importance of nature and the exposure to natural surroundings. The levels of crowding and conflict vary greatly throughout the year, and the majority of respondents are not to the point where they feel that management action should be taken to mitigate this potential problem.

These are just a few examples of how respondents' environmental orientation can be seen influencing attitudes toward an area and its management.

Figure 33: We are approaching the limit of the number of people the earth can support. (N = 160)

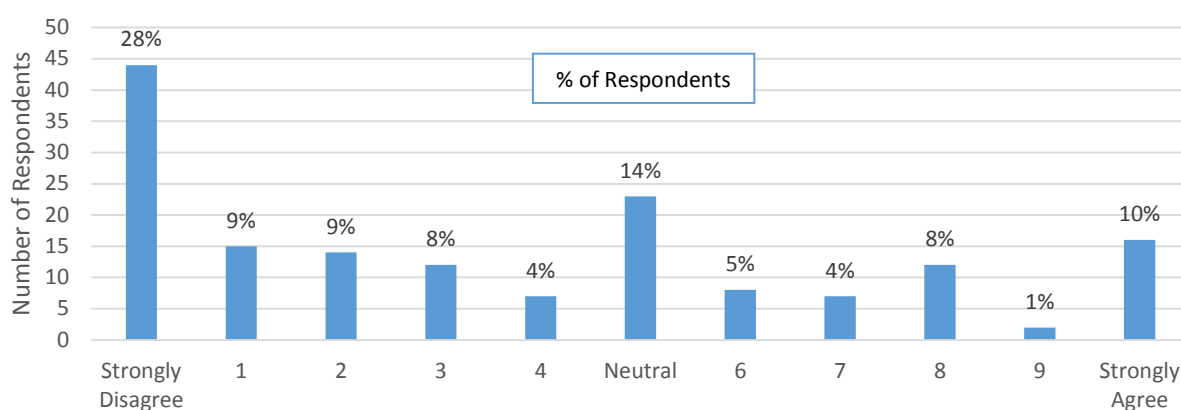


Figure 34: Humans have the right to modify the natural environment to suit their needs. (N = 159)

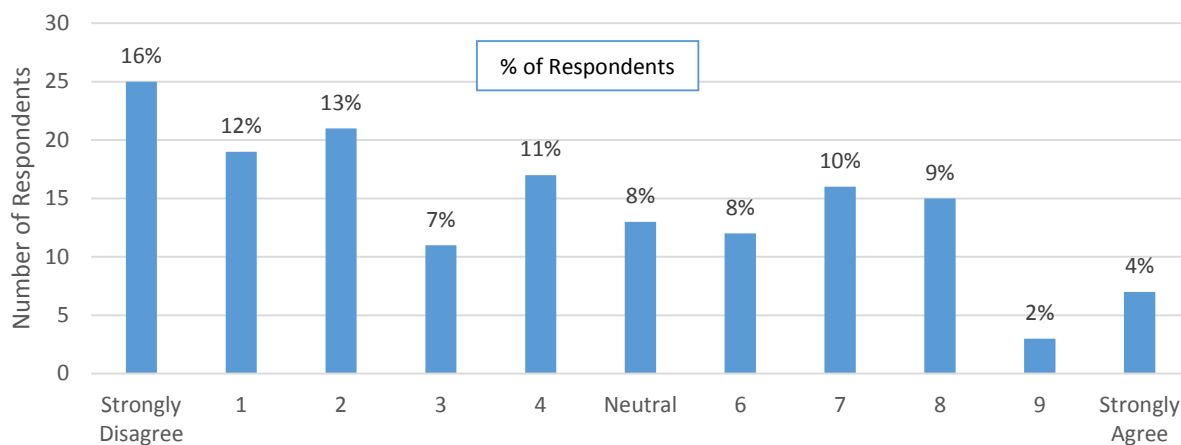


Figure 35: The balance of nature is delicate and easily upset.
(N = 161)

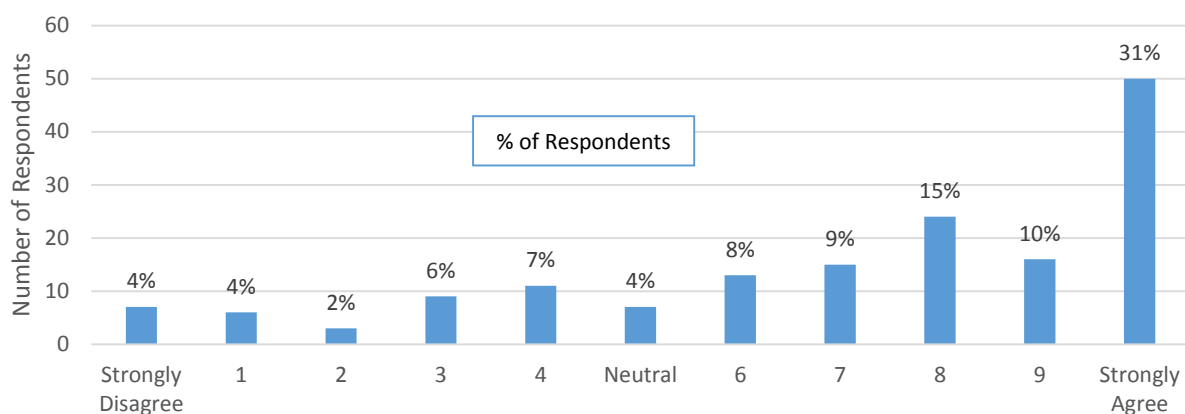
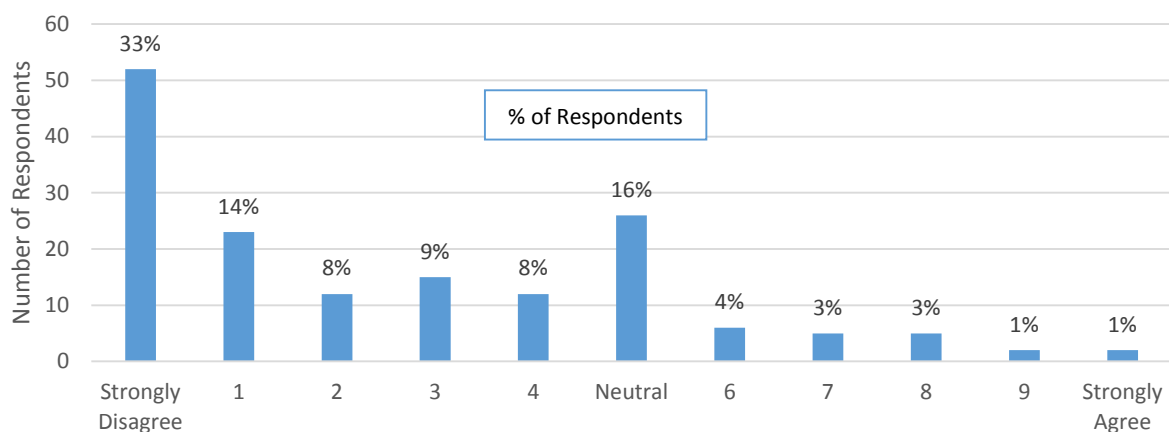


Figure 36: Humans will eventually learn enough about how nature works to be able to control it. (N = 160)



On your last visit to American Fork Canyon/Alpine Loop, how much did you spend on the following?

Respondents were given a list of spending categories and asked how much they spent in each. Respondents spent, on average, \$89.97 on their last visit to the PGRD, but because so few respondents spent money in each category, the confidence intervals are quite wide. What the 95% confidence interval portrays is that ninety-five times out of one hundred the mean will fall between the lower bound and the upper bound. So, if we did this study one hundred times, the mean visitor spending would fall between \$36.91 and \$147.57 ninety-five times. Generally, as part of this analysis we would separate locals and non-locals to examine their spending and to show how much “new money” is entering the local economy, and in which sectors. However, because of the small sample size, separating the data in this fashion increases the width of the

confidence intervals and makes the results of this analysis inaccurate and misleading. Therefore, these data were left together to show the average spending per respondent, and where that spending occurred (Table 1).

Respondents spent the most on sporting goods (\$17.38) and groceries (\$17.08), followed by gas and oil (\$13.30) and camping (\$12.61). Respondents spent the least on local transportation (\$0.24) and souvenirs (\$0.34). Respondents spent little on lodging (\$8.79), which can be a large spending category, but since the vast majority of visitors are locals—living within 40 miles of Tibble Fork Reservoir—it makes sense visitors spent little in this category.

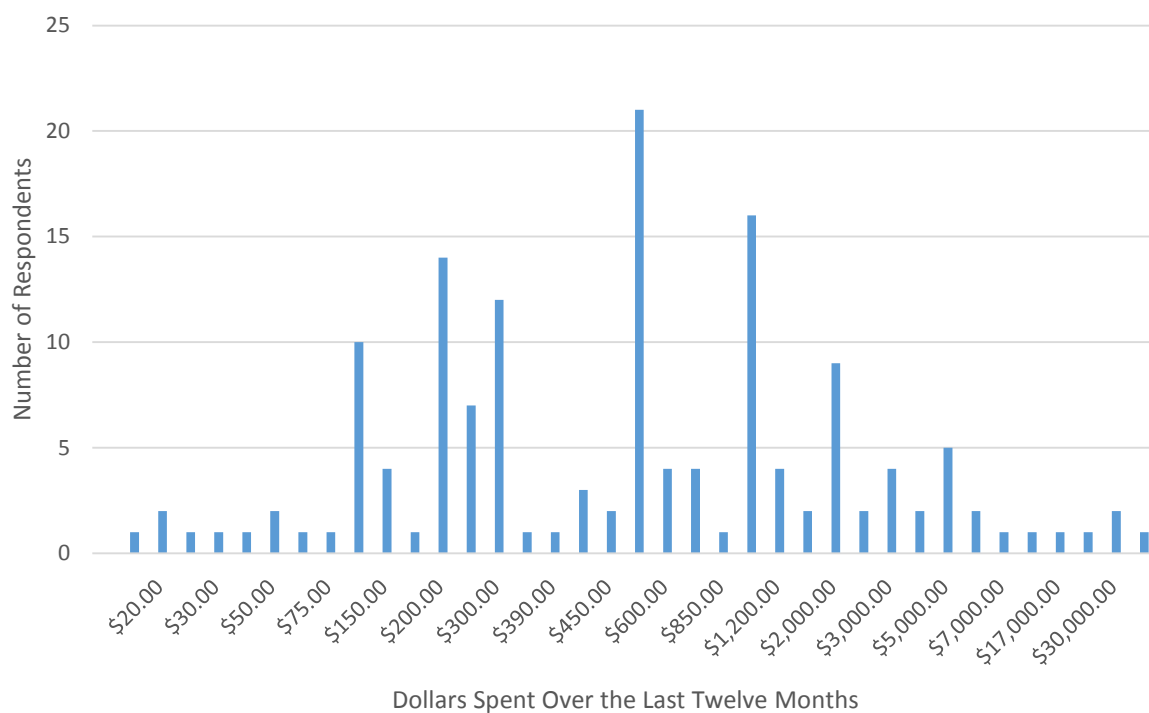
Table 1: Visitor Expenditures (Dollars)

Expenditures	Mean	95% Confidence Interval	
		Lower Bound	Upper Bound
Lodging (hotels/motels/other)	8.79	0	21.21
Camping	12.61	5.35	19.87
Restaurants and bars	6.76	3.46	10.06
Groceries	17.08	10.22	23.94
Gasoline and oil	13.3	9.53	17.07
Local transportation (bus, shuttles, etc.)	0.24	0	0.72
Entry and/or parking fees	7.75	3.48	12.02
Recreation (guides, equipment rentals, etc.)	0.94	0	2.2
Sporting good purchases	17.38	3.56	31.2
Souvenirs	0.34	0	0.76
Clothing	4.03	1.31	6.75
Other items purchased	0.75	0	1.77
Total	\$89.97	\$36.91	\$147.57

How much have you spent in the past 12 months on recreation goods such as equipment, gear, maps, supplies, etc.? (a rough estimate will suffice).

The estimated amount respondents spent annually on recreation goods ranged greatly from \$0 to \$20,000, with mean spending at \$1,244 and median spending at \$500. Although it is challenging to specifically determine and interpret the economic effect of this spending, it is evident that spending on recreation goods which enables visitors to engage in recreational activities is substantial and contributes to the recreation economy locally, regionally, nationally, and even globally. Respondents' spending on outdoor recreation goods is presented in Figure 37.

Figure 37: Last 12 months of spending on recreation goods
(N = 151)



References

- Dunlap, R. E., & Van Liere, K. D. (1978). The “new environmental paradigm”: A proposed measuring instrument and preliminary results. *Journal of Environmental Education*, 9, 10-19
- Gagnon-Thompson, S. C., & Barton, M. A. (1994). Ecocentric and anthropocentric attitudes toward the environment. *Journal of Environmental Psychology*, 14, 149-157.
- USDA Forest Service. (2013). Recreation, heritage, and wilderness programs. *USDA Forest Service*. Retrieved from: <http://www.fs.fed.us/recreation/programs/nvum/>

Appendices

Appendix A

What would you say is the biggest benefit you receive from American Fork Canyon/Alpine Loop?

Being able to get outdoors and enjoy nature.

Natural beauty of the area.

A close access to God's beautiful creations!

A nearby place to get away from the hustle and bustle of life.

A place to find peace in nature and escape the business of the city.

A place to spend time together with friends and family.

Ability to enjoy the outdoors.

Ability to experience nature and solitude.

Ability to get away from the hustle and bustle of the everyday and enjoy nature and time with my family (and dogs).

Ability to have beautiful nature so close, and much of it still in its natural state that allows me to appreciate life more.

Ability to hike and camp so close to Highland/Alpine.

Access to beautiful natural scenery and great hikes (especially Mt Timpanogos).

Access to the mountains.

American Fork is peaceful, unless it's deer season.

An amazing outdoor experience that is so close to a major metropolitan area. Easily accessible.

Appreciating nature with my family. Solitude. Exercise. Clean air.

Appreciation for the land because of the breathtaking views.

Be in better health condition.

Beautiful drive and view. Time with family.

Beautiful horseback riding trails—some of the best in the state and country. Please protect access to these trails.

Beautiful scenery and great trail to hike, bike, snowshoe.

Beautiful scenery, a place to get away from everything. Yet it is close enough that I can do it regularly, and without hassle.

Beauty of nature close to home.

Beauty, peace, relaxation, family gatherings, cool summer temps, camping experience close to home, exercise, etc.

Being able to exercise in clean air.

Being alone or with a few friends/family in nature. Peace, solitude, and exercise.

Being in nature and enjoying the great outdoors.

Building friendships by spending time together outdoors without having to spend money.

Clarity and perspective.

Close access to beautiful scenery and solitude.

Close access to great outdoor environments.

Deer and grouse hunting, fishing, and camping.

Ease of access, as I live nearby.

Easy access to relax and use off road vehicles—ATV—and feels like you get away but is really pretty much where I live.

Easy access to the outdoors.

Enjoying Mother Nature with my family.

Enjoying nature.

Enjoying the beauty and peacefulness of the outdoors.

Enjoying the natural environment while hiking.

Enjoying the scenery.

Enjoying time with my family.

Enjoyment of nature, beautiful scenery, and hiking.

Exceptional alpine scenery and geography very close to my home.

Exercise and peace for me and my family and friends.

Exercise and peace of mind.

Exercise and experiencing the outdoors and wildlife.

Exercise, solitude, and viewing wildlife.

Experiencing the beauties of nature.

Extremely close access to world class wilderness. I appreciate the fact that there is very little development in the canyon.

Family hiking.

Fishing, scenery.

Fresh air and beauty, and I love the distance from commerce and bustle of everyday city life.

Fresh air and outdoor peace.

Fun.

Fun, nature peace, and goodwill.

Getting away from civilization.

Getting away to nature & the beauty of the area.

Getting into nature and enjoy its beauty.

Getting into nature.

Getting outdoors within an hour of my front door.

Great exercise and enjoy the beauty.

Great quality outdoor recreation within a short distance from home in Salt Lake City.

Health, both physically and emotionally.

Hiking.

Hiking and running trails have not only made me physical stronger but mentally stronger too.

Hiking in the incredible beauty.

Humans can never control nature. We can learn the laws of nature and learn to obey them in ways that suit us but you can never overcome nature. However beautiful recreational areas can be destroyed by low IQ people, easily manipulated and gullible people, avarice business people, littering, overuse, and people that have no historical connection to that area. Whether discussing land or sea areas, people that are not inheritors of that area will not treat it well.

I have spent the most time on the American Fork Canyon side. The biggest benefit is the fact that it is close and accessible but still feels like getting away to a beautiful part of nature that is relatively unspoiled.

I have such a close access to everything I want.

I live out of state so have only been there once. But I definitely enjoyed the scenery and the exercise I got while hiking.

I love American Fork Canyon the way it is because there are so many options. Sure people will always crowd Timpanogos trailhead on Saturday mornings, that's not a surprise. But what I love is that I can always get away if I need to by simply taking a lesser known trail.

I love smelling the fresh air and looking at the stars, it resets my brain!

I'm a disabled Vietnam vet. I ride my UTV all over the canyon and I can enjoy the mountain up there.

I'm a local, so it's a great place to run up and get some exercise in a way that's not boring like the treadmill at the gym. Fresh air, fitness, scenery, it's a great place that helps me clear my mind. There are too many people at peak times during summer weekends though. Biggest benefit - exercise / stress relief.

Improves my overall health—mental and physical—and a great place to create family experiences.

It is a place of peace and beauty and I feel close to nature and get myself revived when I spend time up the canyon.

It is close to where we live so I have daily access to the canyon when I choose to walk, fish, etc. I do usually avoid the canyon on weekends as it is more crowded. I am glad so many are able to use the canyon but there will be a point soon at which we may be too crowded.

It is very close to where I live, and I can enjoy the beauty, and get away from the crowds and enjoy the great outdoors.

It just feels good to get out.

It's a close place to get out into nature.

It's a nice place to visit.

It's beautiful, well developed for use, and close.

It's close and easy to access.

It's good for my soul.

It's gorgeous and there are a lot of different aspects of nature to experience.

Joy to my life, Beauty, and Proximity. Let more enjoy it please.

Makes me feel good.

Mental and physical well-being, gratitude for nature.

Mental, spiritual, and physical exercise.

Mountain bike trails.

Multiple recreation opportunities.

Only having to drive 30 minutes and I am in the mountains away from everything ... technology.

Overall well-being from the beauty and solitude.

Peace.

Peace.

Peace and solitude.

Peace of mind.

Peace, happiness, and contentment.

Peace, tranquility, mental clarity, rejuvenation, exercise.

Peaceful camping close to home.

Peaceful, quiet solitude, and escape from the hustle and bustle of everyday life.

Photography.

Physical exercise and serenity.

Proximity to home.

Proximity and quality of recreational experience.

Physical and emotional well-being.

Quick and close access to trails.

Recharge.

Reduction of stress, increase in serenity.

Running trails. I love the trails. They're beautiful! Seeing wildlife is a big bonus! Hiking Timpanogos is the best!

Scenic beauty and relative solitude.

Solitude.

The unmanaged part. I like having access to the mountains but don't like them to be so managed and controlled.

The beauty.

The beauty and getting away from the busy city.

The fresh air and beauty of wilderness surroundings. I don't enjoy the mountains when there are a lot of others around. I don't enjoy it when people are loud and noisy or drunk. I would rather keep it closer to what it is like for a few reasons. 1. I don't like regulation. 2. Laws from government are generally more hurtful than helpful. 3. I don't want to be taxed for the improvements.

The health benefits from hiking.

The incredible opportunity to be able to enjoy nature in its best form.

The multitude of hiking trails that allow me to get away from all the canyon-goers.

The peace and enjoyment from outdoor recreational activities (camping, hiking, running, etc.).

The scenery.

The scenery and amazing mountains are a good change from the other canyons I visit. I like that there is a fee as well to help maintain the canyon and filter out some people.

To have the ability to dirt bike on trails so close to the city.

To know that its beautiful nature won't get destroyed.

While crowded, it is still close to home for many along the Wasatch front. While I have no issue driving farther to get away from the crowds, many of my friends and family members will not/can't. American Fork Canyon is one of the last few options for them to get out and picnic, camp, etc. on a regular basis.

Appendix B

Please write any comments you many have that are applicable to American Fork Canyon/Alpine Loop.

I am from out of state and come twice a year. I enjoy being there every time.

More truck and trailer parking is needed.

Please don't take American Fork Canyon to a commercial level which would include ski resorts, public transportation, and hundreds of buses coming up and down. This is a local canyon that I hope will stay local for Utah County users. The canyon cannot sustain much more development. Any development should be for the improvement of the current traffic flow, not to increase it. Recreational opportunities should be limited to the parking that is there. If you can't park there that day, you need to come back another day or go to another canyon. Would love to see the continuation of campsite improvement but not campsite enlargement.

A great big thanks to all the personnel who, even though poorly paid, do their best with the available resources to keep things running smoothly in Utah's great outdoors. You are appreciated.

American Fork Canyon is a rare place where multiple use is allowed. It is also an area where people of all socioeconomic status can come and affordably enjoy recreation. I believe Snowbird expansion in Mary Ellen Gulch and Mineral Basin and possible housing would be the most damaging event to happen in American Fork Canyon in the past 100+ years. Mountain Accord has not allowed Utah County representation, yet is proposing a 416 acre land swap which would fuel rapid expansion of Snowbird in the canyon and possibly drive paving of the road from Tibble Fork Reservoir to Mineral Basin, and embolden Snowbird to ask for a gondola to Tibble from their property 5 miles away. Such a gondola and the public land impacts and closures would be horrible for the 99% who love the Canyon as is. Resorts in the Wasatch are big enough and a public land swap of Forest Service land should not happen. Take a look at the grassroots uprising on this topic. I doubt any preservation minded website has ever caught on like this in Utah County—it shows the unprecedented desire to maintain the canyon as is and not unleash damaging development and commercial expansion into the canyon.

<https://www.facebook.com/ProtectAmericanForkCanyon?fref=photo>

American Fork Canyon definitely needs more parking, especially for vehicles with a trailer. American Fork Canyon needs more restrooms 'with toilet paper', and garbage bins since people are just leaving bags of their garbage in the restrooms.

American Fork Canyon is nowhere near capacity use. If I go up the canyon seeking solitude there are many places to find it, even on a busy weekend. If my goal for a particular trip is to experience beauty, having others around to enjoy it does not bother me at all. Natural beauty attracts people, and there is no way around that, nor can I fault others for their desire and effort to experience such. The canyon is managed well, and mostly quiet, other than two very popular trailheads, and that is fine with me.

An increase in handicap accessible recreation sites would be amazing! Please do not add too many fees. Public lands are there for all, not just those who can afford it. Finally, I LOVE historical signs, more please!

As far as it concerns my use of the area, things are fine.

Do not bring in public transportation. Things that are cheap and easy are treated as such. Things that come by sacrifice are treated as of high value. Like it or not people that heavily use public transportation have little or no respect for things around them. Take a ride on the bus in Los Angeles, Detroit, New York, or Atlanta and you will see what I mean. I have done those things. I speak from experience. If you make natural wilderness areas easier to access you will see the conditions of those areas degrade.

Don't allow Snowbird to build up American Fork Canyon.

Don't do anything drastic that will make it not what is truly is. It's nature! Not a toy, we need it to survive so please be respectful to it.

Eliminate motorized vehicles on trails. Increase payment options on weekends to eliminate wait time for entering canyon. Create bike lane along SR92.

For those buying the canyon pass I suggest making the three days good for any three days in a two week period rather than three consecutive days.

Having a ski resort in the Mineral Basin area is a complete disaster and horrible use of this land!!!!!! There are plenty of skiing opportunities already. Keeping it as it is currently is a much better option.

I always enjoy this canyon and visit it often, even though I have many other canyons closer to my home. I feel the facilities are set up just right. I would hate to see any more land taken up in these beautiful canyons for picnic or camping sites.

I am very interested in maintaining the American Fork Canyon/Alpine Loop in as much a natural state as possible. I would be very displeased if there were to be any more development in that canyon.

I do believe there needs to be a better balance between motorized activities and non-motorized. Also, I spend most of my time hiking and mountain biking where I feel there is solitude to be found. However, I have noticed Tibble Fork is always much too congested and many campgrounds feel overwhelmed. I do think better education efforts are needed around these areas, particularly around trash and everyone's responsibility to "leave-no-trace."

I feel strongly that American Fork Canyon is functioning very well in the current state. I believe it would be a mistake to increase developments and commercialization of the canyon. It's the last canyon that truly feels like you're getting out into nature.

I feel unsafe when driving in American Fork Canyon, when there are bikes and runners present and the road is so narrow. I think something needs to be done about this. Perhaps certain times

when bicyclist and runners are permitted to use the area, so that drivers are aware and a slower speed is adhered to.

I grew up in American Fork and have visited American Fork Canyon all my life. It is now much busier than it used to be. I believe that it is important to manage this beautiful canyon in a way that we preserve its beauty. I am not sure how to accomplish this and still accommodate the demands that are being placed on it. I do not mind paying a fee for the use of the canyon and I think that this should be continued especially if the money is used for improvements in the canyon. I would not oppose a fee increase. I currently have a lifetime National Park pass and so I do not pay anything to visit the canyon. I would not mind paying to have access. However, I do believe that fees should be reasonable so young families can afford it.

I hated this survey... I've already given you my time for the first survey. This one just frustrated me more...

I have lived in the area since 1987. American Fork Canyon has been a great source of solace to me and my family. We have greatly enjoyed the canyon and what it now has to offer. I would not like to see the canyon changed to accommodate more people. The beauty of the canyon is in the way that it was created by nature and I would not like to see man make it different just to accommodate the whims of man.

I have many mixed feelings about adding buses and such for the canyon. I understand why it is necessary (like what has been done with Zion National Park) because it is the way to protect the land. However, many of the main trails are now like being in a museum ... buses, gift shops, paved trails, rangers saying not to put your feet in the water. It is no longer like being in the outdoors. This intervention helps protect nature but now makes it seem like we are in a museum and the ruggedness of the experience is greatly diminished.

I like the loop. I love to ski, but don't think there should be additional development for Snowbird. I think there is currently a good mix of accessibility and less disturbed area in the canyon. I realize that there needs to be money for the canyon. I'm sad that that has to come from access fees because I think that makes it harder for many people who could really benefit from the canyon to use it. It's not a hardship for me, but when I was a kid growing up, we spent a lot of time in the canyon and if there had been a fee back then it would have been much more difficult for my mom to take us up there.

I lived in Utah County for most of my life. I do not wish to see the canyon dug up.

I love all the open space in and around Alpine and the Wasatch Front. More people should use it. I wish there was more space available for 4 wheeling and riding our dirt bikes. It is sad that communities like Draper make everything off-limits now, when in 10 or less years, they are going to put houses everywhere. Why not use the land we have as long as people stay on established trails? Thanks for taking the time to do this survey. When I was in college at BYU I studied Range Management, and the open places have kept me happy and healthy my whole life. I am now 62, and still feel like I am in my 20's when in the canyons. Just hiked Timpanogos, what a great mountain. Do it every year.

I love American Fork Canyon. It is the most beautiful canyon I have visited. The one thing that drives me crazy when travelling in the canyon are the bikers. I believe that for the benefit of all canyon users there should be a bike trail that runs through the whole canyon, like what they have done in Provo Canyon. I am always scared that I am going to hit a biker!!!

I love how I can drive up the canyon at a moment's notice to meet friends for a trail run. It's easily accessible to all of us at any time of day. That's very important to me and my friends. I would hate for that to be taken away from us. There are times that we start long before sunrise - we don't want to have to wait for public transportation to access our trails.

I love it and do not want it changed. Except keep the Alpine Loop road open as long as possible. Why does UDOT close it before the snow hits?? We pay for access up there! And open it before Memorial Day when snow permits, please.

I love the Timpanogos hike, but it is getting very crowded. There can be over 100 people at the saddle and big groups (entire football teams) going up the trail. I love to see so many people using it, but it is not enjoyable to me because of the crowded trail. I think we could use more places to hike. I try to find places not many people know about. Motorized vehicles need to be respectful of people. Noise pollution is really bad in areas.

I raised my children going to this canyon. I hope my grandchildren and my great grandchildren will still be able to enjoy it.

I really appreciate all the work you guys are doing to help protect and preserve this amazing canyon! The one and only complaint I have is that I do not believe that motorcycles should be allowed on the single-track trails. I feel this way for several reasons #1 It is dangerous. They are going fast and if they come around a blind corner and I am on my mountain bike it is just asking for a head on collision. #2 they are extremely loud. It really ruins the peaceful energy that the mountain provides when there is a constant hum of a motorcycle everywhere you go. #3 They chew up the trail. #4 It makes mountain biking much less enjoyable when you have to stop every few minutes to let a motorcyclist go past. Thank you for your time and concern in making it a great place to retreat for years to come.

I really hope Snowbird is NOT allowed to put ski lifts and expand into American Fork Canyon. That would absolutely ruin it for me. That is probably my biggest concern at this point.

I spend a lot of time exploring trails in the canyons and wilderness areas. Even on the developed trails, it's easy for someone who has never been on the trail to get lost. I'd like to see more unobtrusive marking of trails, better maps at trailheads, and detailed trail maps available online.

I strongly oppose Snowbird's planned expansion in American Fork Canyon. Thanks for asking!

I think it would be highly beneficial to create a trail systems that allows for easy up to expert trails. This would keep different skill levels on the correct trails to avoid damage off trail. Also have more trails with these different levels would reduce congestion and chance of injury.

I think the most detrimental use in American Fork Canyon is the use of dirt bikes on trails. They make a tremendous amount of noise and tear up the trails more than any other user. Maybe there could be specific days for motorbike use. Thank you for the survey.

I think they could make the roads wider. In some spots two cars passing by are very tight and dangerous. Some cars going too fast for conditions tend to cut into the other lane. That was our experience. I thought we were going to crash, not a very nice drive through the canyon. Also, I think the top section of Mount Timpanogos could use better trail markers.

I think we ought to look into rotating activities the canyon would be open for in the summer. It is scary to try cycling up the canyon with all the toy haulers, campers, etc. In 2009, my friend, Dave Collins, was nearly killed in American Fork Canyon cycling. I propose we have days open solely for cyclists, days for campers, etc. The canyon is terribly packed in the summer months.

I would like to see more water. It helps clean, cool and beautify the land. It's too bad that ALL the water in the loop has been piped out for human use.

I would like to see the use of ATVs limited. It takes away from the solitude, peace, and tranquility of being in the mountains. I would also like to see more enforcement done with people not cooperating with the fishing regulations. In addition, I have noticed a greater amount of garbage and litter. I would like to see more done with those items being enforced.

I would really like to have better access to hiking trails in American Fork Canyon. Currently, many of the gravel roads are very rough (with boulders and ruts) and make me unable to reach my favorite hiking trails without a high clearance vehicle or ATV, areas including Silver Lake Flat, Holman Flat, and Dutchman Flat. I would like to be able to access the less popular areas with my car. I think many other people would also enjoy hiking the trails from these locations if they were more accessible. In addition, I think the canyon could benefit from a larger number of established hiking trails provided there is better access.

I wouldn't like a bus service in American Fork, that would suck because it would take forever to get around with slow buses in front of you, I think wider roads would help, but it's not that big of a deal. I like going up Timpooneke, but if that one road is closed I can't get up there, but I get it if it's closed during the winter.

If people are worried about crowds then go during off times. We have never had a problem.

Invest in overlooks maybe? While I dislike the idea of more development up the canyon I would like to have places to take pictures rather than leaving my car on the side of the road and endanger other drivers and myself.

It is a beautiful place! I don't want to see public transportation however. That would be very dangerous for the bikers!!! Those who want to use the canyon can drive their own cars.

It is beautiful! I wish there were free days every once in a while.

It's a wonderful area. I really don't mind seeing other people there. The only disappointment I have is cross-country skiing along the road when snowmobiles come by. If they were not so noisy and smokey I wouldn't care so much.

Keep it open. No more wilderness designation. Don't charge for parking. Expand parking. Expand/more ATV trails so those who are disabled or physically challenged can see more of the canyon.

Keep the ski resorts far away from expanding farther south. They are ruining the Wasatch!

Keep up the good work!

Limit commercial.

Motorized recreation (motorcycles) on single-track trails are destroying them. The trails cannot be maintained properly as long as motors are allowed on them. I put in 100 hours of trail work this past year and I see it first-hand.

My biggest concern is the encroachment of Snowbird into the canyon. I strongly oppose allowing Snowbird to expand into Mary Ellen Gulch. This expansion alone is too much. However, to me, this also indicates a desire by Snowbird to continue to expand into the canyon with the eventual (unstated, for now) goal of developing condominiums, a base area, and further lifts and trails in American Fork Canyon. I am strongly opposed to any of this development taking place.

My top issue is to keep Snowbird from encroaching their commercial development into American Fork Canyon. This would ruin the wilderness experience of American Fork Canyon. There is already an excess of skiable acreage at the existing Utah Ski Resorts. The Wasatch Range is very small with a variety of multi-use. We have already lost so much wilderness up our canyons to ski-resorts and condo developments. Please protect and preserve American Fork Canyon as wilderness first and don't allow commercial development. Thank you!

Our family of six LOVE American Fork Canyon and the Alpine Loop! We use it often year round. We enjoy hiking, picnicking, cycling, running, fishing, etc. Safety from other canyon users (ex: cycling or running in the canyon with auto traffic too close together) and safety from wildlife is important to us. We would run and cycle in the canyon much more often if there was a dedicated, protected trail for cycling / running / walking like there is in Provo Canyon. We use the dedicated Provo trail too - but it's farther from home. Thank you for taking time to find out what the residents of this area would like to have available in our wilderness areas!!

Please do not make any changes to SR-92. I love to ride over the loop or to Tibble Fork in the mornings. The snow covered trees that hang over SR-92 in the winter are beautiful. Please keep access to Snowbird in Little Cottonwood Canyon.

Please have more trail care crews, or allow more trail care crews to work on trails. To maintain them in the summer months so that we don't wear them out. Thanks for all of your hard work!

Please help stop the Snowbird expansion by any means possible.

Please leave it alone. We don't need more roads or ski resorts. We need the trails kept up and that's about it. Keep government and big business out. Why can't the government let people just enjoy things the way they are. Please leave the canyon alone and let us guys enjoy what we fought for, that's a free America.

Please look at limiting the access of OHV vehicles to small (single-track) trails. The damage and erosion they cause is terrible, and the noise reduces the quality of the experience for miles around them. Perhaps noise reducing mufflers on them or something would help.

Please outlaw motorcycles on single track trails.

Please put up more signs on the back country trails!

Please vastly expand camping opportunities, trail system for all, and recreational opportunities. The areas are under-utilized and could support many more recreational opportunities. What are we waiting for, the demand is there so let people enjoy it please.

Please, do not let Snowbird develop or expand into American Fork Canyon!! Even up by Mineral Basin, please protect it!!!!

Thank you for your efforts to assess people's needs. I am not frequently up the canyon, but any time I am there, I enjoy it!

The canyon and its environment should be left in their natural state. **THEY SHOULD BE LEFT UNDEVELOPED.**

The canyon is a fantastic place! I live in Highland close to the entrance, so I spend a lot of time there hiking / exercising / getting fresh air / etc. I know a lot of people love it, so the canyon can get pretty crowded during summer weekends / holidays / other peak times, and some popular trails get quite trafficky. Perhaps make fees more expensive for one time visitors who don't have passes, etc. and use it to build infrastructure up to handle the amount of people during these times. It also seems like the top part of the road which is gated sometimes closes earlier than is necessary in the year, and opens later - do it by weather instead of set times?

The canyon seems to be hitting its limit on the number of people it can handle. It would be nice to see a reduction in the number of ATVs and impact on the canyon. I would also like to see buses able to take people up from a park and ride to limit the number of cars driving up the canyon.

The idea that Snowbird et al. is eyeing American Fork Canyon to further their own interests at the expense of the "great unwashed" is infuriating. American Fork Canyon IS NOT for the interest of a few. It is a beautiful, natural playground/resource for everyone!

The last thing that American Fork needs is another ski resort. The facts are plain, ski resorts damage delicate, precious places for the profit of the few. We know that climate change will reduce the amount of snow in the Wasatch Front in coming decades. Do we really want to sacrifice irreplaceable wilderness and its vistas with ski slopes that may not even see snow in the future? That would be a short-sighted trade indeed.

There are portions of American Fork Canyon that are suffering extreme overuse, they are all the portions that are accessible by motor vehicle. Camp grounds overrun, parking lots overflowing, lower rivers and streams are all suffering from overuse. Timpanogos trail is a virtual highway without a trail accountability system, erosion is rampant & should be patrolled with stiff penalties for those who abuse. What is my \$3 to enter the canyon going towards????

There should be signage telling people which trails are dangerous in winter because of avalanche. Too many people snowshoe on the Stewart Falls Trail and Primrose Cirque unaware of the danger.

Too many people all the time!

Traffic in the canyon during the summer and lack of availability of picnic areas is a major issue. It may get to the point where some kind of booking system is necessary, so that people know in advance whether or not they will be able to picnic. There is nothing worse than heading up the canyon with your family, food, etc. and not being able to find a place to stop. Some of the picnic areas along the road are left in a disgraceful condition by visitors.

We moved here from Las Vegas a few years ago. Compared with the access to outdoor recreation there, we love it here. I think there is a fine balance to be made between restricting access and preserving nature. What good is nature if we can't experience it? But, on the other hand, we can't experience the beauty of nature if we don't take care of it. Good luck in your efforts to make difficult decisions.

We moved to Alpine to be able to enjoy the beauty of the area which includes American Fork Canyon. We knew from the moment we moved here 3 years ago that the canyon would be in danger from those wishing to develop the canyon for the "few". We are against changing the natural environment for condos, more cars, wider roads (except for safety of bikers). We realize we are "loving our Canyon to the extreme" and that this is a difficult and complicated issue. We would like to see a shuttle for those going to the cave and a few more pull out areas for cars driving the loop. Thanks for your survey!

We should not learn to "control" nature and it is not needed. If there are a lot of people in an area it is going to be worn down and there is little we can do to stop that. Laws enacted to "preserve" or "conserve" do little to stop that element of society who are irresponsible. They will do their damage regardless of the laws because they ignore the laws anyway. The US Federal Government should NOT own land at all. It is illegal. It is against the law of our land and we should have more rights when in the wilderness. If somebody does serious damage to an area or trashes it then prosecute, but we should be allowed to harvest from the land and to access the land as desired if we leave it in peace. Man tries too hard to regulate and control and that regulation and control only hurts in the long run. Test my thoughts. Teach good stewardship and lift the restrictions. Give the land back to the people and let them take care of it. If it is truly worse then look at restrictions as an option but I don't believe that restrictions will ever help stop the negative element of the human race.

We were only in the area of Lehi for about 2 months so please consider the number of visits in proportion to our limited time. Loved visiting the Canyon/Loop and have many lovely memories of our visit in Lehi because of the Canyon/Loop. It is a definite jewel that needs protecting and preserving.

Would be great to get more access to primitive campsites with truck pulling small trailer (dirt roads).

Would like to see greater access for non-motorized (mechanized) use. Mountain bikes have a very different impact on trails than moto-cross bikes. I'd like to see user specific trail systems.

Would love to have ATV & UTV trails linking Pleasant Grove, American Fork, and Cedar Hills to American Fork Canyon.

Appendix C

Follow-up Survey

Pleasant Grove E-Survey

Q1: Do you live in Utah County, Wasatch County, or other?

- ☐ Utah County (1)
- ☐ Wasatch County (2)
- ☐ Other (3)

Q2: We are interested in how important American Fork Canyon and the Alpine Loop are for choosing to live where you do. Please indicate your level of agreement with the following statements.

_____ Being able to access American Fork Canyon/Alpine Loop is important to my lifestyle and quality of life. (10)

_____ Access to recreational opportunities is an important reason why I live in this area. (3)

_____ I would think about moving away if there were fewer outdoor recreation opportunities nearby. (4)

_____ There is not enough access to Public Lands near my home. (6)

_____ I am glad there are Congressionally designated Wilderness Areas on the Pleasant Grove Ranger District. (8)

Q3: Over the past 12 months in American Fork Canyon/Alpine Loop, what recreational activities have you participated in, and how often did you participate in them?

Q4: What would you say are your top 1-3 favorite recreational activities in American Fork Canyon/Alpine Loop?

Q5: In the past 12 months, what percentage of your exercise has come from outdoor recreation?

_____ Percent of exercise comes from outdoor recreation. (1)

Q6: On average, how often have you visited American Fork Canyon/Alpine Loop over the past 12 months?

- ☐ Daily (9)
- ☐ 2-3 Times a Week (8)
- ☐ Once a Week (7)
- ☐ 2-3 Times a Month (17)
- ☐ Once a Month (15)
- ☐ Once Every 2-3 Months (4)
- ☐ Once Every 4-6 Months (3)
- ☐ Once a Year (2)
- ☐ Less Than Once a Year (16)

Q7: The following questions are focused on the health benefits you receive from recreating outdoors. Please indicate your level of agreement with the following statements.

- ☐ _____ I feel more patient with myself and others after recreating outdoors. (1)
- ☐ _____ When I'm recreating I eat less than if I stayed home. (2)
- ☐ _____ I do some of my best thinking when I'm recreating outdoors. (3)
- ☐ _____ Outdoor recreation is the best way for me to relieve my stress. (4)
- ☐ _____ Recreating on public lands plays a large role in my mental and physical well-being. (5)
- ☐ _____ If there were fewer opportunities to recreate outdoors on nearby public lands I would be less healthy. (6)
- ☐ _____ There should be more opportunities for children to recreate outdoors on public lands.

Q8: For American Fork Canyon/Alpine Loop, please rate how satisfied/dissatisfied you are with the following items, and then rate how important those items are to you. (Not Applicable indicates you have no experience with this item.)

Q9: With respect to transportation and parking in American Fork Canyon/Alpine Loop, please indicate how much you agree with the following statements.

- _____ There should be more opportunities to use public transportation to access recreation sites in American Fork Canyon/Alpine Loop. (1)
- _____ Recreational use should be redirected from high-use to low-use areas to spread people out more evenly. (2)
- _____ The Park-and-Ride transportation opportunities should be developed further for canyon users. (3)
- _____ There should be more parking in high-demand recreation areas. (4)
- _____ Informal parking spaces on road shoulders should be eliminated. (5)
- _____ Road shoulders should be widened to increase bicycle and pedestrian safety. (6)
- _____ More electronic signs should be installed to help inform canyon users. (7)
- _____ Parking fees or canyon passes should be considered for canyon users. (8)

Q10: For your last recreational visit to American Fork Canyon/Alpine Loop, how much did you spend on the following items?

- _____ Motel, lodge, cabin, B&B, etc. (1)
- _____ Camping (2)
- _____ Restaurants and Bars (3)
- _____ Groceries (4)
- _____ Gasoline and Oil (5)
- _____ Local Transportation (bus, shuttles, etc.) (6)
- _____ Entry, Parking, or Recreation Use Fees (7)
- _____ Recreation and Entertainment (Guides, Equipment rentals) (8)
- _____ Sporting Good Purchases (9)
- _____ Souvenirs (10)
- _____ Clothing (11)
- _____ Other items purchased for your last recreational visit (12)

Q11: How much have you spent in the past 12 months on recreation goods such as equipment, gear, maps, supplies, etc.? (a rough estimate will suffice)

12: Please indicate your level of agreement with the following statements with respect to your experience with solitude in American Fork Canyon/Alpine Loop.

- _____ Being able to get away from people to experience solitude is important to me. (1)
- _____ It's hard for me to get away from people and experience solitude when recreating in American Fork Canyon/Alpine Loop. (2)
- _____ Too many people recreate in American Fork Canyon/Alpine Loop. (3)
- _____ The quality of experience would be best improved by reducing the number of people allowed to recreate. (4)
- _____ There have been times that I have not been able to participate in the recreational activity I wanted to because there were too many people. (5)
- _____ The quality of experience would be improved by investing in better recreation infrastructure. (6)

Q13: What would you say is the biggest benefit you receive from American Fork Canyon/Alpine Loop?

Q14: Please indicate how much you agree with the following statements.

- _____ We are approaching the limit of the number of people the earth can support. (1)
- _____ Humans have the right to modify the natural environment to suit their needs. (2)
- _____ The balance of nature is delicate and easily upset. (3)
- _____ Humans will eventually learn enough about how nature works to be able to control it. (4)

Q15: Please write any comments you may have that are applicable to American Fork Canyon/Alpine Loop below. You are now finished with this survey! Thank you for your time!