

National Visitor Use Monitoring Results  
For  
PIKE & SAN ISABEL NATIONAL FORESTS  
And  
CIMARRON and COMANCHE NATIONAL GRASSLANDS

July 2007

Data collected FY 2006  
USDA Forest Service  
Region 2

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## CHAPTER 1: INTRODUCTION

### Scope and purpose of the National Visitor Use Monitoring program

The National Visitor Use Monitoring (NVUM) program provides reliable information about recreation visitors to national forest system managed lands at the national, regional, and forest level. Information about the quantity and quality of recreation visits is required for national forest plans, Executive Order 12862 (Setting Customer Service Standards), and implementation of the National Recreation Agenda. To improve public service, the agency’s Strategic and Annual Performance Plans require measuring trends in user satisfaction and use levels. NVUM information assists Congress, Forest Service leaders, and program managers in making sound decisions that best serve the public and protect valuable natural resources by providing science based, reliable information about the type, quantity, quality and location of recreation use on public lands. The information collected is also important to external customers including state agencies and private industry. NVUM methodology and analysis is explained in detail in the research paper entitled: Forest Service National Visitor Use Monitoring Process: Research Method Documentation; English, Kocis, Zarnoch, and Arnold; Southern Research Station; May 2002 (<http://www.fs.fed.us/recreation/programs/nvum>).

Prior to the implementation of the NVUM program, forest service visitation information was of unknown quality. In 1998 a group of research and forest staff developed a recreation sampling system (NVUM) that was cost effective and provided statistical recreation use information at the forest, regional, and national level. Several Forest Service staff areas including Recreation, Wilderness, Ecosystem Management, Research and Strategic Planning and Resource Assessment were involved in developing the program. From January 2000 through September 2003 every national forest implemented this methodology and collected visitor use information. Using a five year rotation, every national forest will now be collecting information for a second time.

This NVUM data is very useful for forest planning and decision making. The description of visit characteristics (age, race, ZIP code, activity participation) can help the forest identify their recreation niche. Satisfaction information can help management decide where best to place limited resources that would result in improved visitor satisfaction. Economic expenditure information can help forests show local communities the employment and income effects of tourism from forest visits. In addition, the credible use statistics can be helpful in considering visitor capacity issues.

Before the surveys begin, each forest is instructed to first group all recreation sites and areas into five basic categories called “site types”: Day Use Developed Sites (DUDS), Overnight Use Developed Sites (OUDS), Designated Wilderness Areas (Wilderness), General Forest Areas (GFA), and View Corridors (VC). Only the first four categories are considered “true” national forest recreation visits and are included in the visit estimates. Each site was given a rating of very high, high, medium, low, or no recreation visitors leaving a site or area for the last time (last exiting recreation visitation) for each day of the year. Each day on which a site or area is open is called a site day. Site day is the basic sampling unit for the survey. Results of this forest categorization are shown in Table 1.

A map showing all General Forest Exit locations and View Corridors was prepared and archived with the NVUM data for use in future sample years. NVUM also provided training materials, equipment, survey forms, funding, and the protocol necessary for the forest to gather visitor use information. NVUM has standardized measures of visitation to ensure that all national forest visit measures are comparable. These definitions are basically the same as established by the Forest Service in the 1970's, however the application of the definition is stricter. Visitors must pursue a recreation activity physically located "on" system lands managed by the Forest Service in order to be counted as "recreation visits". Visitors who are just passing through; site-seeing from roads that are not managed by the Forest Service, or just using restroom facilities are also not included as "recreation visits". The NVUM basic use measurements are *national forest visits* and *site visits*. NVUM provides estimates of both types of these visits and statistics measuring the precision of the estimates. These statistics include the standard error of the estimate, expressed as the width of the 90 percent confidence interval. The methodology used by NVUM categorizes recreation facilities and areas into specific site types and use levels in order to develop the sampling frame. Understanding the definitions of the variables used in the sample design and statistical analysis is important in order to interpret the results. Definitions of the important terms used in this report are in Appendix B.

## Limitations of the Results

The information presented here is valid and applicable at the forest, regional, and national level. It is not designed to be accurate at the district or site level. The quality of the visitation estimate is dependent on the sample design development, sampling unit selection, sample size and variability, and survey implementation. First, preliminary work conducted by forests to develop a complete list of sites and areas where recreation visitation occurs, and to correctly classify sites/areas consistently according to the type and amount of visitation influences the quality of the estimate and accuracy of visit characteristics. Second, visits sampled must be representative of the population of all visits – if portions of the forest or times of the year are not adequately sampled, then the visit characteristics may not be completely accurate. Third, the number of visits sampled must be large enough to adequately control variability. Finally, the success of the forest in accomplishing its assigned sample days, correctly filling out the interview forms, and following the sample protocol influence the variability and confidence interval width. The final confidence interval width will reflect all these factors. The smaller that the interval width is, the better is the estimate.

Wide confidence intervals (i.e. high variability) in the national forest visit (NFV), site visit (SV) and Wilderness visit estimates are primarily caused by a small sample size in a given stratum (for example General Forest Area low use days) where the use observed was beyond that stratum's normal range. For example, on the Clearwater National Forest in the General Forest Area low stratum, there were 14 sample days. Of these 14 sample days, 13 days had visitation estimates between 0-20. One observation had a visitation estimate of 440. Therefore, the stratum mean was about 37 with a standard error of 116. The 90% confidence interval width is then over 400% of the mean, a very high level of variability. Whether these types of odd observations are due to unusual weather, malfunctioning traffic counters, or a misclassification of the day (a sampled low use day that should have been categorized as a high use day) is unknown. Eliminating the unusual observation from data analysis could greatly reduce the variability. However, unless the NVUM team had reason to suspect the data was incorrect they did not eliminate these unusual cases.

The descriptive information about national forest visitors is based upon only those visitors that were interviewed. If a forest has distinct seasonal use patterns and activities that vary greatly by season, these patterns may or may not be adequately captured in this study. This study was designed to estimate total number of people during a year. Sample days were distributed based upon high, medium, and low

existing use days, not seasons. When applying these results in forest analysis, items such as activity participation should be carefully scrutinized. For example, although the Routt National Forest had over 1 million skier visits, no sample days occurred during the main ski season; they occurred at the ski area but during their high use summer season. Therefore, activity participation based upon interviews did not adequately capture downhill skiers. This particular issue was adjusted. However, the issue of seasonal use patterns may still occur to a lesser degree on other forests. The sample design for the second round of NVUM adjusts for seasonal and spatial variation in use.

Note that the results of the NVUM activity analysis DO NOT identify the types of activities visitors would like to have offered on the national forests. It also does not tell us about displaced forest visitors, those who no longer visit the forest because the activities they desire are not offered. Some forest visitors were counted and included in the total forest use estimate but were not surveyed. This included visitors to recreation special events and organization camps.

DRAFT

## CHAPTER 2: THE SAMPLE POPULATION

The population of available site days for sampling was constructed from information provided by Pike & San Isabel National Forests and Cimarron and Comanche Grasslands personnel. Each site was given a rating of very high, high, medium, low, or no recreation visitors leaving a site or area for the last time (last exiting recreation use) for each day of the year. The stratum, a combination of site type and use level, was then used to construct the sampling frame. The project methods paper (English et al 2002) describes the sampling process and sample allocation formulas in detail. Basically, at least eight days per stratum are randomly selected for sampling. More days are added if the stratum is very large. The results of the recreation site/area stratification and days sampled by Pike & San Isabel National Forests and Cimarron and Comanche National Grasslands are displayed in Table 1. The data in the table is broken out by National Forest and National Grasslands. Also displayed is the percentage of days per stratum that were sampled. For example, in the Day Use Developed, Low Use stratum the Cimarron and Comanche National Grasslands listed 3,985 days and 8 of them were sampled resulting in a 0.20% sampling rate for that stratum. In this second round of sampling the Pike & San Isabel National Forests had 121,692 open site days and the Cimarron and Comanche National Grasslands had 18,759 open site days. On the national forests and national grasslands a total of 265 days were sampled.

Table 1. Population of Available Site Days and Percentage of Days Sampled by Stratum on the Pike & San Isabel National Forests/ Cimarron and Comanche National Grasslands (NVUM FY2006 data)

Subunit	Site Type <sup>a</sup>	Proxy Code <sup>b</sup>	Use Level <sup>c</sup>	Number of site days in population	Number of days sampled	Sampling Rate (%)
Grasslands	DUDS		LOW	3985	8	0.20
Grasslands	DUDS		MEDIUM	416	10	2.40
Grasslands	DUDS		HIGH	2	2	100.00
Grasslands	GFA		LOW	11983	12	0.10
Grasslands	GFA		MEDIUM	2018	13	0.64
Grasslands	GFA		HIGH	108	11	10.19
Grasslands	OUDS		LOW	226	8	3.54
Grasslands	OUDS		MEDIUM	21	8	38.10
National Forest	DUDS		LOW	3538	8	0.23
National Forest	DUDS		MEDIUM	1671	12	0.72
National Forest	DUDS		HIGH	295	17	5.76
National Forest	DUDS		VERY HIGH	74	12	16.22
National Forest	DUDS	FE3		2877	10	0.35
National Forest	DUDS	SV1		410	12	2.93
National Forest	GFA		LOW	45390	11	0.02
National Forest	GFA		MEDIUM	29371	34	0.12
National Forest	GFA		HIGH	4267	19	0.45

Subunit	Site Type <sup>a</sup>	Proxy Code <sup>b</sup>	Use Level <sup>c</sup>	Number of site days in population	Number of days sampled	Sampling Rate (%)
National Forest	GFA		VERY HIGH	990	15	1.52
National Forest	GFA	TB1		625	11	1.76
National Forest	OUDS		LOW	1189	4	0.34
National Forest	OUDS		MEDIUM	69	3	4.35
National Forest	OUDS	DUR4		11767	21	0.18
National Forest	OUDS	FR2		954	18	1.89
National Forest	OUDS	RE1		753	10	1.33
National Forest	OUDS	RE2		983	10	1.02
National Forest	WILDERNESS		LOW	11409	8	0.07
National Forest	WILDERNESS		MEDIUM	4560	10	0.22
National Forest	WILDERNESS		HIGH	436	10	2.29
National Forest	WILDERNESS		VERY HIGH	64	10	15.63
	TOTAL			140451	337	0.24

<sup>a</sup> Site Type - DUDS = Day Use Developed Site, GFA = General Forest Area (“Undeveloped Areas”), OUDS = Overnight Use Developed Site, WILD = Designated Wilderness

<sup>b</sup> Proxy Code - If the site or area already had counts of use (such as fee envelopes or ski lift tickets) the site was called a proxy site; sampling strata were defined by site type and type of proxy information.

<sup>c</sup> Use level was defined independently by each forest by defining the expected number of recreation visitors that would be last-existing a site or area on a given day. The forest developed the range for very high, high, medium, and low and then assigned each day of the year to one of the use levels.

## CHAPTER 3: NATIONAL FOREST VISIT ESTIMATES

Visitation estimates are available at the national, regional, and forest level. This document provides only Forest level data. Other documents may be obtained through the National Visitor Use Monitoring web page: [www.fs.fed.us/recreation/programs/nvum/](http://www.fs.fed.us/recreation/programs/nvum/). The Pike & San Isabel National Forests participated in the National Visitor Use Monitoring (NVUM) project from October 2005 through September 2006. The forest coordinator was Connie Neff.

There were approximately 4,446,300 national forest visits (Table 2) on Pike & San Isabel National Forests and 202,900 national forest visits on the Cimarron and Comanche National Grasslands during fiscal year 2006. There were about 4,702,000 site visits on the Pike and San Isabel NF and about 226,200 site visits on the national grasslands. Included in the site visit estimate for the national forests are 167,500 Wilderness site visits. Table 2 displays the average visitor use estimate, and the 90 percent confidence interval width. It is important to consider the confidence interval width especially when comparing use on one national forest to another. Some forests have a larger confidence interval width therefore their use estimate is not as precise as other forests.

Table 2. Pike & San Isabel National Forests/ Cimarron and Comanche National Grasslands Visit Estimate (NVUM FY2006 data)

Visit Type	Subunit	Visits (thousands)	90% confidence level (%) <sup>c</sup>
Total National Forest Visits	Cimarron Comanche	202.9	10.5
Total National Forest Visits	Pike/ San Isabel	4446.3	9.5
Total Site Visits	Cimarron Comanche	226.1	10.2
Total Site Visits	Pike/ San Isabel	4702.0	9.2
Designated Wilderness Visits <sup>a</sup>	Pike/ San Isabel	167.5	10.1
Special Events and Organizational Camp Use <sup>b</sup>	All	47.8	0.0

<sup>a</sup> Designated Wilderness visits are included in the Site Visits estimate.

<sup>b</sup> Special events and organizational camp use are not included in the Site Visit estimate, only in the National Forest Visits estimate. Forests reported the total number of participants and observers so this number is not estimated; it is treated as 100% accurate.

<sup>c</sup> This value defines the upper and lower bounds of the visitation estimate at the 90% confidence level, for example if the visitation estimate is 100 +/-5%, one would say "at the 90% confidence level visitation is between 95 and 105 visits."

The quality of the use estimate is based in part on how many individuals were contacted during the sample day and how many complete interviews were obtained from which to estimate NVUM numbers and visit descriptions. Table 3 displays the number and types of visitor contacts. Of those visitors who agreed to be interviewed the interviewer then determined if the visitor's purpose was recreation, and if it

was recreation, whether they were leaving the recreation site for the last time sometime on the sample day. This information may be useful to managers when assessing how representative of all visits the information in this report may be.

Table 3 shows that a total of 2,208 visitors were contacted on the forests and grasslands during the sample year. Of these, 1,922 agreed to be interviewed. Of those who agreed to be interviewed, 1,355 were recreating and 1,212 of them were leaving the recreation site sometime that day. The national grasslands had 76 full interviews and the national forests had the remainder.

Table 3. Number of Visitors Contacted by Site Type on Pike & San Isabel National Forests/ Cimarron and Comanche National Grasslands (NVUM FY2006 data)

Subunit and Site Type <sup>a</sup>	Total Contacts	Agreed To Interview	Visit Purpose Is Recreation	Recreating Visitors Leaving Sometime That Day	Recreating Visitors Leaving Sometime During Current Interview Period (Target)
NG DUDS	45	30	28	27	24
NG GFA	87	75	52	41	40
NG OUDS	17	13	10	8	4
NF DUDS	1173	1008	560	555	545
NF GFA	567	503	423	322	312
NF OUDS	141	123	119	99	99
NF Wilderness	178	170	163	160	157
<b>Total</b>	<b>2208</b>	<b>1922</b>	<b>1355</b>	<b>1212</b>	<b>1181</b>

<sup>a</sup> Site Type - DUDS = Day Use Developed Site, GFA = General Forest Area (“Undeveloped Areas”), OUDS = Overnight Use Developed Site, WILD = Designated Wilderness

Visitors who were last exiting the recreation site at the time of the interview or sometime during the interview day were asked to participate in a longer series of questions. There were three different interview forms. The forms were the same on the first three pages, however page four was different. One-third of the forms were blank on the fourth page, one-third had economics questions, and one-third had satisfaction questions. Table 4 displays the number of forms by site type that were completed for the Pike & San Isabel National Forests and Cimarron and Comanche National Grasslands. This information shows managers how many responses were obtained and used to compute the remaining information in this report.

Table 4. Number of Complete Interviews on Pike & San Isabel National Forests/ Cimarron and Comanche National Grasslands by Site Type and Form Type (NVUM FY2006 data)

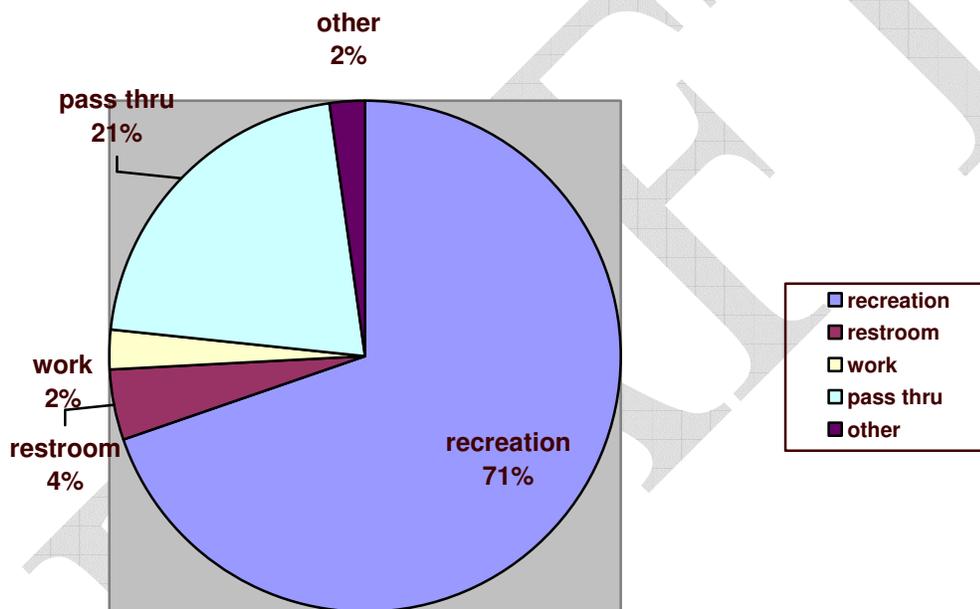
Form Type <sup>a</sup>	Developed Day Use Site	Developed Overnight Use Site	Undeveloped Areas (GFAs)	Wilderness	Total
Basic	187	41	111	56	395
Economics	176	31	109	52	368
Satisfaction	192	27	102	52	373
<b>Total</b>	<b>555</b>	<b>99</b>	<b>322</b>	<b>160</b>	<b>1136</b>

<sup>a</sup> Form type is the type of interview form administered to the visitor. The Basic form did not ask either economic or satisfaction questions. The Satisfaction form did not ask economic questions and the Economic form did not ask Satisfaction questions.

Visitors were interviewed regardless of whether they were recreating at the site or not, however the interview was discontinued after determining that the reason for visiting the site was not recreation. Figure 1 displays the various reasons visitors gave as their purpose for stopping at the sample site.

Figure 1. Purpose of visit by visitors who agreed to be interviewed on Pike & San Isabel National Forests/ Cimarron and Comanche National Grasslands (NVUM FY 2006 data).

**Figure 1. National Forest Visit purpose on Pike and San Isable National Forest and Cimarron and Comanche National Grasslands.**



## CHAPTER 4: DEMOGRAPHICS

Descriptions of forest and grassland visitors were developed based upon the characteristics of interviewed visitors (respondents) and expanded to the national forest visitor population. Basic demographic information helps managers identify the profile of the visits that occur. Management concerns such as providing recreation opportunities for underserved populations may be monitored with this information.

Basic demographics of gender, ethnicity, race, and age are displayed in Tables 5, 6, 7, and 8. Calculations in the tables are computed using weights that expanded the sample of individual interviews to the population of national forest visits. For more details regarding weights used contact the NVUM program manager.

The information in Tables 5 and 6 were obtained from up to four persons within the vehicle or group that was being interviewed. Race and ethnicity were asked only of the survey respondent. Data in Table 5 indicate that 33.1% of national forest *visits* on the Pike & San Isabel NF/ Cimarron and Comanche NG were made by females and 66.9% by males. It is not correct to say 66.9% of *visitors* were males because the sample was designed to describe characteristics of national forest visits, not visitors. 1,136 survey respondents provided information about themselves and up to three members of their party, resulting in information on 2,516 visitors.

Table 5. Percent of National Forest Visits by Gender on Pike & San Isabel National Forests (NVUM 2006 data)

Gender	National Forest Visits (%) <sup>a</sup>	Number in Survey Party <sup>b</sup>
Female	33.1	1025
Male	66.9	1491
Total	100.0	2516

<sup>a</sup> National forest Visit is defined as the entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A national forest Visit can be composed of multiple Site Visits.

<sup>b</sup> Calculations are computed using weights that expand the sample of individuals to the population of national forest visits. For more detailed information regarding weights used contact the NVUM program manager

Table 6 displays the percent of national forest visits by age. The data for this forest show that the highest national forest *visit* percentages occurred in the 40-59 age categories (41%) and the lowest percentages were in the 16-19 and the 70 plus age categories. It is not correct to say 41% of Pike & San Isabel National Forests *visitors* were between the ages of 40 and 59 because the sample was designed to describe characteristics of national forest visits, not visitors.

Table 6. Percent of National Forest Visits by Age on Pike & San Isabel National Forests/ Cimarron and Comanche National Grasslands (NVUM FY2006 data)

Age Group	National Forest Visits (%) <sup>a</sup>	Number in Survey Party <sup>b</sup>
Under 16	6.4	304
16-19	3.5	101
20-29	12.4	409
30-39	14.8	469
40-49	20.6	479
50-59	20.4	420
60-69	16.4	252
70 +	5.5	89
Total	100.0	2523

<sup>a</sup> National Forest Visit is defined as the entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A national forest Visit can be composed of multiple Site Visits.

<sup>b</sup> Calculations are computed using weights that expand the sample of individuals to the population of national forest visits. For more detailed information regarding weights used contact the NVUM program manager

Starting in 2005, race and ethnicity were asked as two separate questions to conform to guidelines set out by the Office of Management and Budget. Prior to that, race and ethnicity were combined into one multiple choice question. Direct comparisons of the results before and after that change may not be valid. Calculations were computed using weights that expand the sample of interviewed individuals to the population of national forest Visits.

The ethnicity question only asked respondents if they were or were not of Spanish, Hispanic, or Latino origin. The second question in the set gave respondents a list of 5 race categories of which they could select multiple categories. Some caution is advised when using the information provided, since it is of survey respondents only. Some sample forests reported that certain racial groups tended to avoid encounters with interviewers and may be underrepresented. In addition, some interviewers did not ask visitors this question and in other cases visitors refused to answer the question.

Thirty-one survey respondents were of Spanish, Hispanic, or Latino ethnicity (Table 7). Table 8 summarizes respondent's race, showing that 98.8% of national forest *visits* on the Pike and San Isabel NF and Cimarron and Comanche NG were by Whites and 0.8% were by American Indian/ Alaska Natives. Multiple races could be selected for this question so race may exceed 100%.

Table 7. Percent of National Forest Visits by Ethnicity on the Pike & San Isabel NF/ Cimarron and Comanche NG (NVUM FY2006 data)

Ethnicity <sup>a</sup>	National Forest Visits (%)	# Respondents Indicating This Ethnicity
Hispanic / Latino	2.2	31

<sup>a</sup> Spanish, Hispanic, or Latino was asked as a separate question

Table 8. Percent of National Forest Visits by Race on Pike & San Isabel National Forests (NVUM FY2006 data)

Race <sup>a</sup>	National Forest Visits (%)	Number of Survey Respondents
American Indian/Alaska Native	0.8	16
Asian	0.2	7
Black/African American	0.5	2
Native Hawaiian or other Pacific Islander	0.2	3
White	98.8	733
Total	100.5	761

<sup>a</sup> Respondents could choose more than one race, so race may total more than 100%.

Table 9 presents the top ten ZIP codes of survey respondents that provided a ZIP code. This information is not the entire universe of ZIP codes from all people who recreate on the forest; it is only ZIP codes or countries of those visitors who completed an interview. Since the entire list of survey respondent's ZIP codes is quite lengthy, it is presented in Appendix A. Table 10 displays the percent of national forest visits by people from other countries. On this forest, 1% of national forest visits were by people from Europe.

Table 9. Top Ten ZIP Codes of Pike & San Isabel NF/ Cimarron and Comanche NG Survey Respondents (NVUM FY 2006 data)

Home Location	State	County	# Of Respondents	% Of Respondents
80461	CO	Lake	40	3.5
80918	CO	El Paso	25	2.2
Foreign Country	CO		23	2.0
80906	CO	El Paso	22	1.9
81201	CO	Chaffee	19	1.7
80911	CO	El Paso	18	1.6
80863	CO	Teller	17	1.5
80920	CO	El Paso	17	1.5
80919	CO	El Paso	16	1.4
80904	CO	El Paso	14	1.2

Table 10. Percent of National Forest Visits to Pike & San Isabel National Forests by Respondents from Countries Other Than USA. (NVUM FY2006 data)

Country Of Origin (other than US)	National Forest Visits (%)	Number Of Respondents
Asia	0.0	0
Canada	0.3	3
Europe	1.0	18
Mexico	0.0	0
South America	0.0	1
Another Country	0.3	1

## CHAPTER 5: DESCRIPTION OF THE VISIT

Characteristics of the recreation visit such as length of visit, types of sites visited, day of arrival, activity participation and visitor satisfaction with forest facilities and services help managers better provide desired recreation opportunities.

The average national forest visit length of stay on this forest was 17.7 hours. The average site visit was about 10.7 hours, but time spent varied considerably by type of site (Table 11) with visits to Day Use Developed sites averaging about 2.8 hours and Overnight Use Developed site visits lasting an average of about 34.3 hours. Since the average values displayed in Table 11 may be influenced by a few visits that lasted a very long time, the median value is also shown.

Table 11. Visit Duration on Pike & San Isabel NF/ Cimarron & Comanche NG (NVUM FY2006 data)

Visit Type	Average Duration (hours)	Median Duration (hours)
Site Visit	10.7	3.0
Day Use Developed	2.8	2.3
Overnight Use Developed	34.3	39.0
Undeveloped Areas	11.0	3.0
Designated Wilderness	7.2	6.4
National Forest Visit	17.7	4.2

Over 96% of Pike & San Isabel NF/ Cimarron and Comanche NG respondents went only to the site at which they were interviewed (Table 12). Since some visitors went to more than one recreation site or area during their national forest visit, the overall average is 1.1 site visits per national forest visit. There was an average of 2.4 people per vehicle (party size) with an average of 2.1 axles per vehicle (Table 12). This information in conjunction with traffic counts was used to expand observations from individual interviews to the full forest population of recreation visitors. This information may be useful to forest engineers and others who use vehicle counters to conduct traffic studies.

Table 12. Group Characteristics for Pike & San Isabel NF/ Cimarron & Comanche NG (NVUM FY2006 data)

Characteristic	Average	Median
Party size	2.4	2
number of Axles per vehicle	2.1	2
Percent of recreational visitors who visit just one national forest site during their entire National Forest Visit (%)	96.2	.
Number of national forest sites visited during each National	1.1	1

During the interview, visitors were asked how often they visit this national forest or grassland for all recreational activities. Table 13 summarizes the visitor’s reported frequency of visitation to Pike & San Isabel National Forests and Grasslands. Due to “trap shy” behavior, visitors that have been interviewed once may not stop for a second interview the next time they come to the site. The effects of “trap shy” behavior are not known nor is the potential effect on visitor frequency information in Table 13 known. Data in Table 13 show that 46.3% of visits are made by visitors who visit 1 - 5 times per year. Three percent of visits are made by people who visit over 100 times per year. Almost fifty-seven percent of visits for the indicated set of primary activities are made by respondents that came 1-5 times for their main activity.

Table 13. Percent of National Forest Visits by Annual Visit Frequency to Pike & San Isabel National Forests (NVUM FY2006 data)

Number of Reported Annual Forest Visits	Percent of National Forest Visits (%) for ALL activities	Percent of National Forest Visits (%) for MAIN activity
1 – 5	46.3	56.8
6 – 10	12.0	14.1
11 – 15	10.4	6.7
16 – 20	7.1	5.7
21 – 25	5.0	3.5
26 – 30	3.5	2.0
31 – 35	0.4	0.8
36 – 40	1.5	2.6
41 – 50	5.2	2.4
51 – 100	5.6	2.6
101 – 200	1.4	1.3
201 – 300	1.6	1.3
Over 300	0.0	0.0

In terms of total participation, the top five recreation activities of the visits to the Pike & San Isabel National Forests were viewing natural features, relaxing, viewing wildlife, hiking/walking, and driving for pleasure (Table 14). Each visitor also indicated what activity was their main reason for coming to the forest for that visit. The top main activities were viewing natural features, hiking/walking, fishing, driving for pleasure, and hunting. Because most national forest visitors participate in several recreation activities during each visit, participation rates usually exceed main activity rates. Visitors reported many hours they spent participating in that main activity during this national forest visit (Table 14) Comparing activity participation results from first and second round of data collection on the forest may provide some useful trend analysis. However, one must be cautious of interpreting any significant changes. The temporal allocation of sample days changed in the second round of data collection to better

reflect seasonal patterns of use and to better capture activity participation that is highly seasonal in nature, such as big game hunting. Therefore, some differences between activity participation between round 1 and round 2 may be attributed to the change in sample day allocation and not a change in actual participation rates.

Table 14. Activity Participation on Pike & San Isabel NF/Cimarron & Comanche NG (NVUM FY2006 data)

Activity	Total Activity Participation (% of NF visits) <sup>a</sup>	Main Activity % of NF visits) <sup>b</sup>	# Respondents As Main Activity <sup>c</sup>	Average Hours Doing Main Activity (Hours)
Viewing Natural Features	60.4	20.6	176	3.4
Hiking / Walking	37.1	15.6	256	4.2
Fishing	15.9	11.4	56	4.6
Driving for Pleasure	33.9	7.4	112	2.7
Hunting	7.2	6.7	22	18.5
Some Other Activity	9.3	6.2	88	2.6
Downhill Skiing	8.3	6.1	169	5.6
Relaxing	44.0	5.7	57	17.5
Viewing Wildlife	41.0	4.3	27	8.8
Cross-country Skiing	4.4	3.4	30	4.1
Resort Use	2.9	2.3	8	29.7
Developed Camping	5.0	2.1	53	29.8
Bicycling	3.1	2.0	14	2.2
OHV Use	6.4	1.8	7	3.7
Snowmobiling	2.1	1.7	4	1.7
Motorized Trail Activity	7.4	1.2	6	2.8
Horesback Riding	2.0	1.2	4	4.6
Other Non-motorized	1.6	1.0	30	2.7
Primitive Camping	6.0	0.7	5	9.8
Picnicking	5.3	0.3	9	12.2
Backpacking	1.7	0.3	8	21.4
Visiting Historic Sites	8.9	0.2	4	3.2
Non-motorized Water	0.6	0.1	4	3.0
Motorized Water Activities	0.1	0.1	1	5.0
Nature Study	5.8	0.0	0	.
Nature Center Activities	4.2	0.0	2	1.6
Gathering Forest Products	1.5	0.0	0	.

Activity	Total Activity Participation (% of NF visits) <sup>a</sup>	Main Activity % of NF visits) <sup>b</sup>	# Respondents As Main Activity <sup>c</sup>	Average Hours Doing Main Activity (Hours)
Other Motorized Activity	0.7	0.0	1	1.0

<sup>a</sup> Survey respondents could select multiple activities so this column may total more than 100%.

<sup>b</sup> Survey respondents were asked to select just one of their activities as their main reason for the forest visit. Some respondents selected more than one, so this column may total more than 100%.

<sup>c</sup> The number in this column is the number of survey respondents who indicated this activity was their main activity.

## Use of Constructed Facilities and Designated Areas

This section of data collection has undergone several changes in the interview process. Managers should use caution in comparing this data to round one data. In round one, about one-third of the recreation visitors interviewed were asked about the facilities and special designated areas they used during their visit. In round 2 of data collection, this question was changed to assist management in addressing the emerging off-highway vehicle rule passed by Congress. Round 2 data addresses types of off-highway vehicle use in more detail than round 1. These results are displayed in Table 15.

Table 15. Percent of National Forest Visits Indicating Use of Special Facilities and Areas on Pike & San Isabel National Forests (NVUM FY2006 data).

Facility Type	Percent Of NF Visits Using The Facility <sup>a</sup>
Developed Swimming Site	4.4
Motorized Single Track Trail	7.2
Motorized Dual Track Trails	17.6
Designated ORV Area	15.3
Forest Roads	21.3
Scenic Byway	26.1
Visitor Center or Museum	14.4
Interpretive Displays	10.5
Information Sites	13.0
Developed Fishing Site	4.3
None of these Facilities	47.3

<sup>a</sup> Survey respondents could select multiple activities so this column may total more than 100%.

## CHAPTER 6: ECONOMIC INFORMATION

Forest managers are extremely interested in understanding the impact of national forest recreation visits on the local economy. As commodity production of timber and other resources has declined, local communities look increasingly to tourism to support their communities. The Round 1 information was analyzed at Michigan State University by Dr. Daniel Stynes and Dr. Eric White. A description of that analysis and the results are available in the report “Spending Profiles of national forest Visitors: NVUM four-year report”, available at <http://www.fs.fed.us/recreation/programs/nvum/NVUM4YrSpending.pdf>. Round 2 economic data has not yet been analyzed in the detail accomplished by Stynes and White. The analysis, which will include local versus non-local expenditures, is expected to be completed during FY2008.

Some results from the NVUM survey provide a general picture of the Visit and Trip characteristics on this national forest. Annual household income as a percent of national forest visits is displayed in Table 16. Nearly 35% of Pike & San Isabel National Forests visits are by visitors with a household income of under \$50,000.

Table 16: Percent of National Forest Visits by Household Income Categories for the Pike & San Isabel NF/ Cimarron & Comanche NG (NVUM FY2006 data).

Annual Household Income Categories	National Forest Visits (%)
Under \$25,000	4.8
\$25,000 – \$49,999	29.8
\$50,000 – \$74,999	23.9
\$75,000 – \$99,999	22.3
\$100,000 – \$149,999	13.9
\$150,000 And Over	5.3

### This Trip Away From Home

While away from home, some people travel just to the forest, while others incorporate a national forest visit as part of a larger trip away from home. Respondents were asked to describe the primary purpose of their trip which included a recreation visit to this national forest. Table 17 summarizes the results of the visitor’s trip purpose. When calculating economic contribution of national forest visits, only visits wherein the primary destination was the national forest are included. On this forest, 80.8% (Table 17) of visits had recreating on this forest as their primary trip destination. Visitors were asked to select one of several substitute choices, if for some reason they were unable to visit this national forest or grassland (Table 18). For 57.1% the substitute behavior choice was activity driven (gone elsewhere for same activity), while 15.1% would have come back later to this national forest. About 14.6% of visits would have occurred elsewhere for a different activity and 7.4% would have stayed home and made no visit. Respondents who said they would have gone somewhere else for recreation were asked how far from their home this alternate destination was. These results are shown in Table 19. Over half (56.2%) would have included travel of 50 miles or less to pursue their alternate activity.

Table 17: Primary Purpose of Trip that Included a Visit to Pike & San Isabel National Forests (NVUM FY2006 data)

Primary Trip Purpose	Percent Of NF Visits
Not Recreation Trip - NF Visit Was Side Trip	3.8
Some Other Trip Purpose	0.8
Recreation Trip: This Forest Is Destination	80.8
Recreation Trip: Destination Is Somewhere Else	14.6

Table 18. Substitute Behavior Choices of Pike & San Isabel NF/ Cimarron & Comanche NG Respondents (NVUM FY 2006 data).

What would you have done if you could not come to Pike & San Isabel National Forests for recreation	National Forest Visits (%)
Come back at a later time	15.1
Stayed at Home	7.4
Gone elsewhere for the same activity	57.1
Go elsewhere for a different activity	14.4
Gone to Work	2.5
Had some other substitute	3.6

Table 19. Distance Visitors Would Travel to Other Location if Pike & San Isabel NF/ Cimarron & Comanche NG Was Not Available for Recreation (NVUM FY2006 data)

Distance respondent would travel for substitute forest location (miles)	National Forest Visits (%)
0 - 25	36.9
26 - 50	19.3
51 - 75	15.7
76 - 100	10.8
101 - 200	10.6
201 - 300	0.0
OVER 300	6.6

Table 20 summarizes the distance survey respondents traveled from their home to this national forest. The spending that occurs on a recreation trip is greatly influenced by the type of recreation trip taken. For example, visitors on overnight trips away from home typically have to pay for some form of lodging (e.g., hotel/motel rooms, fees in a developed campground, etc.) while those on day trips have no lodging expenses. In addition, visitors on overnight trips will generally have to purchase more food during their trip (e.g., spending in restaurants and grocery stores) than visitors away from home for only a day. Similarly, visitors who travel short distances from home to the recreation location likely incur lesser expenses than visitors traveling long distances to the recreation location. For example, recreation visitors from nearby the recreation site will likely purchase less for fuel and less food than visitors who traveled a longer distance to the recreation site. Almost fifty percent of national forest visits were by locals (those living within 50 miles of the interview site).

Table 20. Percent of National Forest Visits by Distance Traveled to Pike & San Isabel National Forests. (NVUM FY2006 data)

Miles From Survey Respondent's Home <sup>a</sup>	National Forest Visits (%)	Number Of Respondents
Up To 25 Miles	30.8	234
26 - 50 Miles	18.6	147
51 - 75 Miles	10.9	140
76 - 100 Miles	11.8	102
101 - 200 Miles	9.4	164
201 - 500 Miles	1.7	38
Over 500 Miles	16.8	265
Total	100.0	1090

<sup>a</sup>Travel distance is self-reported

Visitors who spend the night away from home tend to contribute more dollars to the local economy. Table 21 shows that on the Pike & San Isabel National Forests and Grasslands 13.3% of visitors indicated their trip included at least one night away from home. Of those visitors who spent the night away from home, 31.2% stayed overnight within 50 miles of this forest and they averaged 4.2 nights away from home. Visitors that had spent the night within 50 miles of the interview site were asked to identify the types of lodging they used. They could choose one or more categories shown in Table 21. Over thirty-two percent of national forest visits by visitors who spent the night were in rented cabins, lodges, or hotels not on forest service land and 20.1% camped in the undeveloped areas of the national forest or grassland (GFA).

Table 21. Visitor Trip Information for Pike & San Isabel NF/Cimarron & Comanche NG Visitors (NVUM FY2006 data).

Item	Average
% Of NF Visits Made On A Trip With Overnight Stay Away From Home	13.3
% Of NF Visits With Night Away From Home And Overnight Stay W/In 50 Mi	31.2
Mean Nights Per Visit Spent Within 50 Miles Of NF	4.2
Area Lodging Use (% Visits W/In 50 Mi. Of Forest)	
Cabins, Lodges, Hotels Or Huts On NF Land	9.7
NF Campgrounds On This National Forest	14.8
Private Campground Not On This National Forest	2.5
Camping In The Undeveloped Area On This National Forest	20.1
Other Public Campground (Park Service, State Parks, County, Etc.)	2.4
A Home, Cabin, Or Condo Respondent Owns	2.4
Private Home Of Friend Or Relative	20.2
Rented Home, Condo, Cabin, Lodge Or Hotel Not On Fs Land	32.2
Other	2.0

## CHAPTER 7: VISITOR SATISFACTION

An important element of outdoor recreation program delivery is evaluating customer satisfaction with the outdoor recreation setting, facilities, and services provided. Satisfaction information helps managers decide where to invest in resources and to allocate resources more efficiently toward improving customer satisfaction. Satisfaction is a core piece of data for national and forest level performance measures. To obtain customer satisfaction information, about one-third of visitors interviewed on the forest rated their satisfaction with fourteen elements related to recreation facilities and services. Visitors were asked to rate the specific site or area at which they were interviewed. Visitors rated both the importance and performance (satisfaction with) of these elements using a 5 point Likert scale. The Likert scale for importance ranged from not important to very important. The Likert scale for performance ranged from very dissatisfied to very satisfied. Although the satisfaction ratings were intended to be site/area specific to the area where the visitor was interviewed, this information is not valid at the site-specific level. The survey design does not usually have enough responses for every individual site or area on the forest to draw these conclusions. Rather, the information is generalized to overall satisfaction within the four site types: Day Use Developed (DUDS), Overnight Use Developed (OUDS), General Forest Areas, and Designated Wilderness. A summary of satisfaction for the forest as a whole and is presented in Table 22. Tables 22 through 25 provide satisfaction information by site type. Note that if an element had less than 10 responses the item will not appear in any of the other satisfaction analysis presented here since these few responses are considered too few to provide reliable information.

An Importance-Performance Analysis (IPA) (Hudson, et al., 2004) is presented in Figure 2 through Figure 6. A two-dimensional grid was plotted where importance values form the vertical axis and performance values the horizontal axis. The cross-hairs on the graph are set at 4.0 for each measure, since managers generally need to know about the attributes that customers felt were important or very important (value of 4 or 5 on the scale) and performance was below very satisfied or satisfied (values of 1, 2 or 3). Figure 2 uses the data presented in Table 22. Figures 3 through 6 use the data in the satisfaction table that precedes each. Using this information, managers can identify the performance items in which visitors place high importance as well as services or facilities that were rated below satisfactory. By emphasizing improvement in this quadrant managers can increase visitor satisfaction. This information is presented for each site type, which may help managers better determine specifically which sites or areas might need improvement.

Table 22. Overall Satisfaction and Importance Ratings for Pike & San Isabel NF/Cimarron & Comanche NG (NVUM 2006 data).\* all site types combined

ITEM	Avg. Rating	Mean Importance
Restroom cleanliness	4.3	4.3
Developed facility condition	4.3	4.1
Condition of environment	4.6	4.6
Employee helpfulness	4.7	4.5
Interpretive displays	4.0	3.7
Parking availability	4.6	4.0
Parking lot condition	4.5	3.8
Rec. info. availability	4.0	4.2
Road condition	3.9	4.1
Feeling of safety	4.8	4.6
Scenery	4.9	4.6
Signage adequacy	4.4	4.1
Trail condition	4.3	4.3
Value for fee paid	4.6	4.2

Figure 2. General Importance – Performance Rating for Pike & San Isabel NF/ Cimarron & Comanche NG (NVUM FY2006 data)

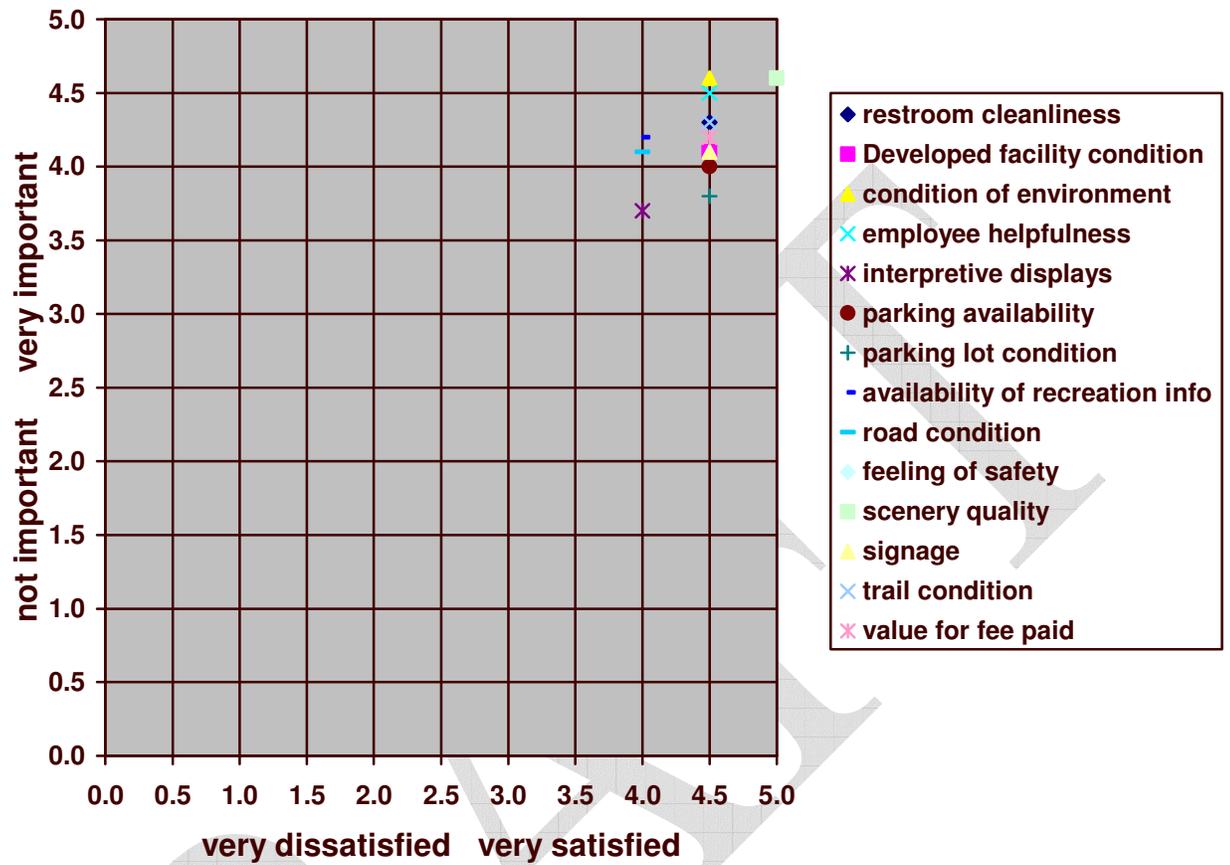


Table 23. Pike & San Isabel NF/Cimarron & Comanche NG Satisfaction Ratings for Day Use Developed Sites (NVUM FY2006 data)

Satisfaction Element	Percent of visits Very Dissatisfied	Percent of visits Somewhat Dissatisfied	Percent Neither Satisfied nor Dissatisfied	Percent of visits Somewhat Satisfied	Percent of visits Very Satisfied	Average Satisfaction Rating	Number of Respondents for this Rating	Importance Average
Restroom cleanliness	0.0	1.4	7.0	21.3	70.4	4.6	98	4.3
Developed facility condition	0.0	1.2	7.7	24.6	66.5	4.6	157	4.3
Condition of environment	0.4	1.9	3.2	16.8	77.6	4.7	181	4.7
Employee helpfulness	0.0	0.0	4.8	15.3	79.9	4.8	87	4.2
Interpretive displays	0.0	1.7	12.1	35.2	51.0	4.4	121	4.0
Parking availability	0.0	0.0	3.4	17.1	79.6	4.8	184	4.1
Parking lot condition	0.0	2.8	3.6	22.4	71.2	4.6	184	3.9
Rec. info. Availability	0.3	7.4	14.2	27.7	50.4	4.2	134	4.1
Road condition	1.2	7.7	5.0	27.9	58.2	4.3	121	4.2
Feeling of safety	0.0	0.6	2.9	10.9	85.6	4.8	182	4.6
Scenery	0.0	0.2	0.6	9.0	90.3	4.9	181	4.7
Signage adequacy	0.0	6.1	10.4	17.6	65.9	4.4	177	4.2
Trail condition	0.0	0.0	6.1	23.0	70.9	4.6	89	4.3
Value for fee paid	0.0	0.0	3.5	13.8	82.7	4.8	91	4.3

\*Satisfaction Scale is: Poor = 1 Fair = 2 Average = 3 Good = 4 Very good = 5

\*\* Importance Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important

Note: For items with less than 10 responses the data was not reported.

Figure 3. Pike & San Isabel NF/Cimarron & Comanche NG Visit Satisfaction in Developed Day Use Sites (NVUM FY2006 data).

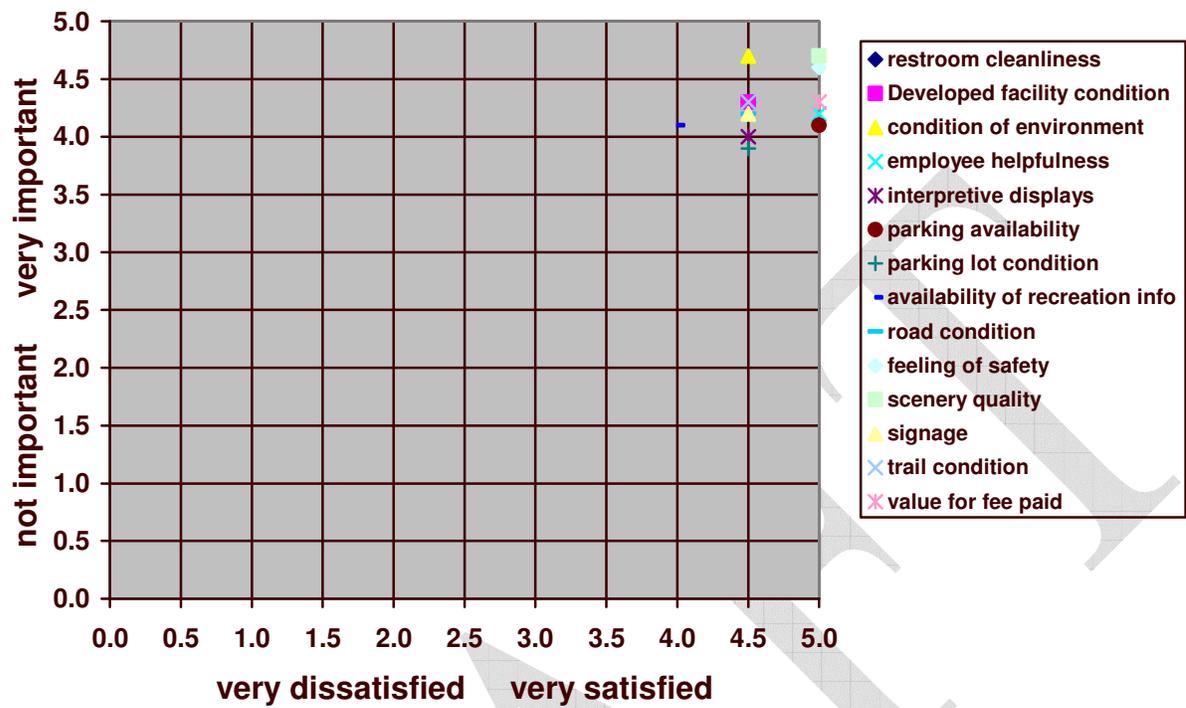


Table 24. Pike & San Isabel NF/Cimarron & Comanche NG Satisfaction Ratings for Overnight Use Developed Sites (NVUM FY2006 data)

Satisfaction Element	Percent of visits Very Dissatisfied	Percent of visits Somewhat Dissatisfied	Percent Neither Satisfied nor Dissatisfied	Percent of visits Somewhat Satisfied	Percent of visits Very Satisfied	Average Satisfaction Rating	Number of Respondents for this Rating	Importance Average
Restroom cleanliness	0	13.0	0.2	48.2	38.5	4.1	24	4.3
Developed facility condition	0	0.2	0.2	43.5	56.1	4.6	23	3.6
Condition of environment	0	5.1	5.2	35.0	54.7	4.4	27	4.5
Employee helpfulness	0	0.0	0.3	25.2	74.5	4.7	10	4.7
Interpretive displays	0	9.4	43.2	21.4	26.0	3.6	11	3.4
Parking availability	0	0.0	6.4	48.8	44.7	4.4	26	3.5
Parking lot condition	0	0.0	0.5	85.8	13.7	4.1	20	3.6
Rec. info. availability	7	6.1	20.5	56.5	9.9	3.6	21	4.0
Road condition	0	12.4	12.7	65.5	9.4	3.7	25	3.7
Feeling of safety	0	0.0	0.3	27.6	72.1	4.7	27	4.5
Scenery	0	0.0	0.2	17.0	82.8	4.8	27	4.5
Signage adequacy	0	0.0	11.1	63.2	25.7	4.1	27	3.9
Trail condition	0	0.0	0.3	59.5	40.2	4.4	15	3.9
Value for fee paid	0	0.0	6.6	32.3	61.1	4.5	25	3.9

\*Satisfaction Scale is: Poor = 1 Fair = 2 Average = 3 Good = 4 Very good = 5

\*\* Importance Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important

Note: For items with less than 10 responses the data was not reported

Figure 4. Pike & San Isabel NF/Cimarron & Comanche NG visit satisfaction in Overnight Use Developed Sites (NVUM FY2006 data)

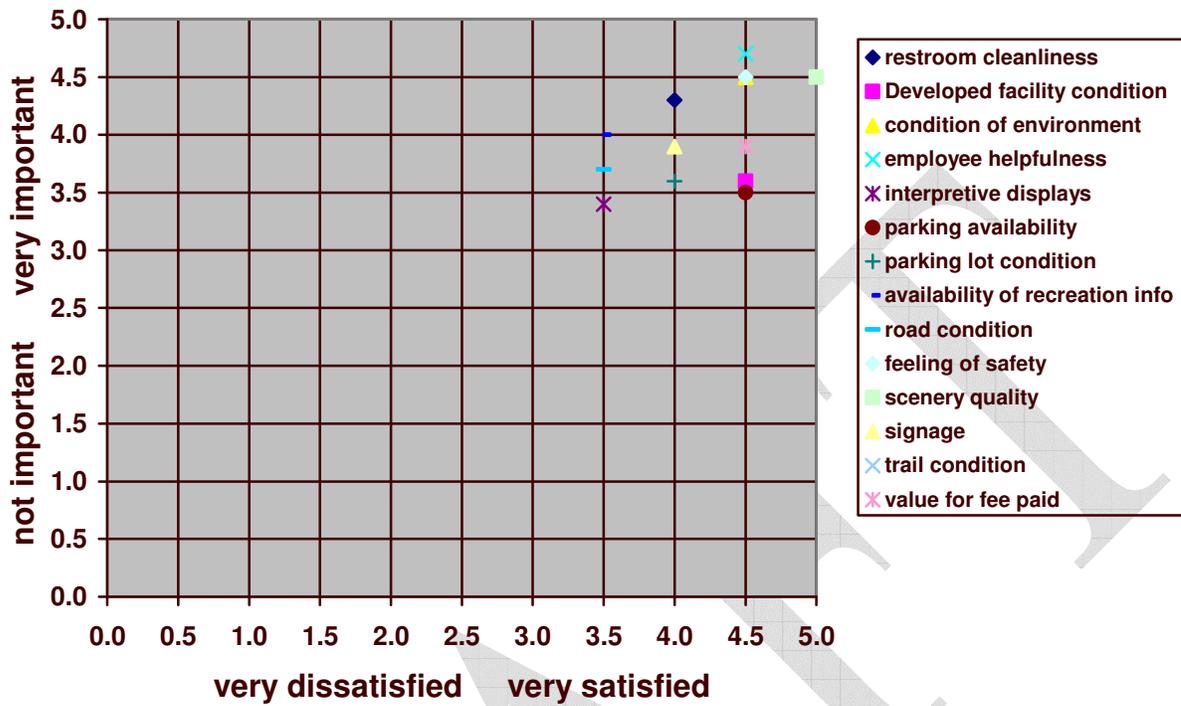


Table 25. Pike & San Isabel NF/Cimarron & Comanche NG Satisfaction Ratings for Undeveloped Areas (GFA) (NVUM FY2006 data)

Satisfaction Element	Percent of visits Very Dissatisfied	Percent of visits Somewhat Dissatisfied	Percent Neither Satisfied nor Dissatisfied	Percent of visits Somewhat Satisfied	Percent of visits Very Satisfied	Average Satisfaction Rating	Number of Respondents for this Rating	Importance Average
Restroom Cleanliness	0.0	10.7	12.3	27.0	49.9	4.2	30	4.3
Developed Facility Condition	7.6	0.0	8.4	51.4	32.5	4.0	26	4.2
Condition Of Environment	2.3	5.9	0.8	17.1	73.9	4.5	91	4.6
Employee Helpfulness	0.0	0.0	0.0	27.2	72.8	4.7	15	4.6
Interpretive Displays	0.4	21.9	11.4	33.8	32.4	3.8	30	3.7
Parking Availability	0.5	4.3	7.2	19.0	69.0	4.5	82	4.0
Parking Lot Condition	0.0	1.3	15.2	25.7	57.8	4.4	61	3.8
Rec. Info. Availability	8.7	5.3	12.6	25.2	48.1	4.0	52	4.2
Road Condition	3.7	12.6	18.6	28.1	37.1	3.8	62	4.1
Feeling Of Safety	0.0	0.0	3.8	7.8	88.4	4.8	88	4.6
Scenery	0.0	0.0	0.8	9.6	89.6	4.9	91	4.5
Signage Adequacy	0.1	7.6	9.8	16.4	66.1	4.4	79	4.0
Trail Condition	4.9	11.5	12.4	9.1	62.2	4.1	48	4.4
Value For Fee Paid	0.0	0.0	0.0	54.0	46.0	4.5	16	4.1

\*Satisfaction Scale is: Poor = 1 Fair = 2 Average = 3 Good = 4 Very good = 5

\*\* Importance Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important

Note: For items with less than 10 responses the data was not reported

Figure 5. Pike & San Isabel NF/Cimarron & Comanche NG Visit Satisfaction Ratings for Undeveloped Areas (General forest areas) (NVUM FY2006 data)

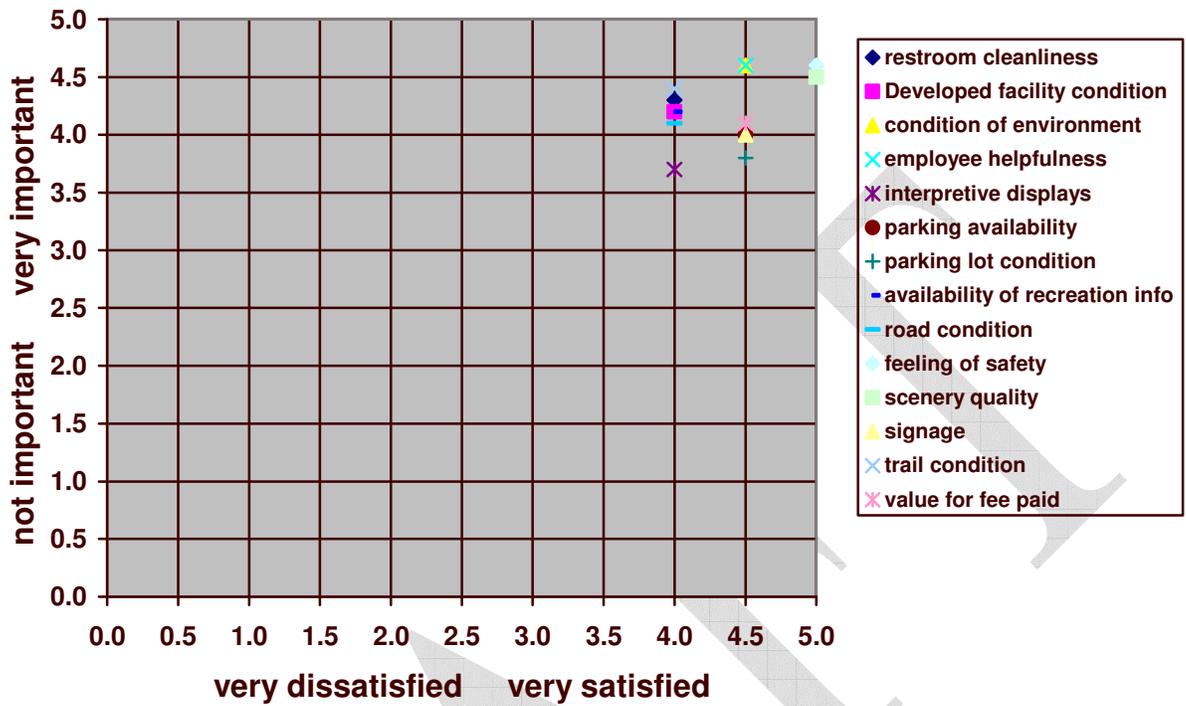


Table 26. Pike & San Isabel NF/Cimarron & Comanche NG Satisfaction Ratings for Designated Wilderness (NVUM FY2006 data).

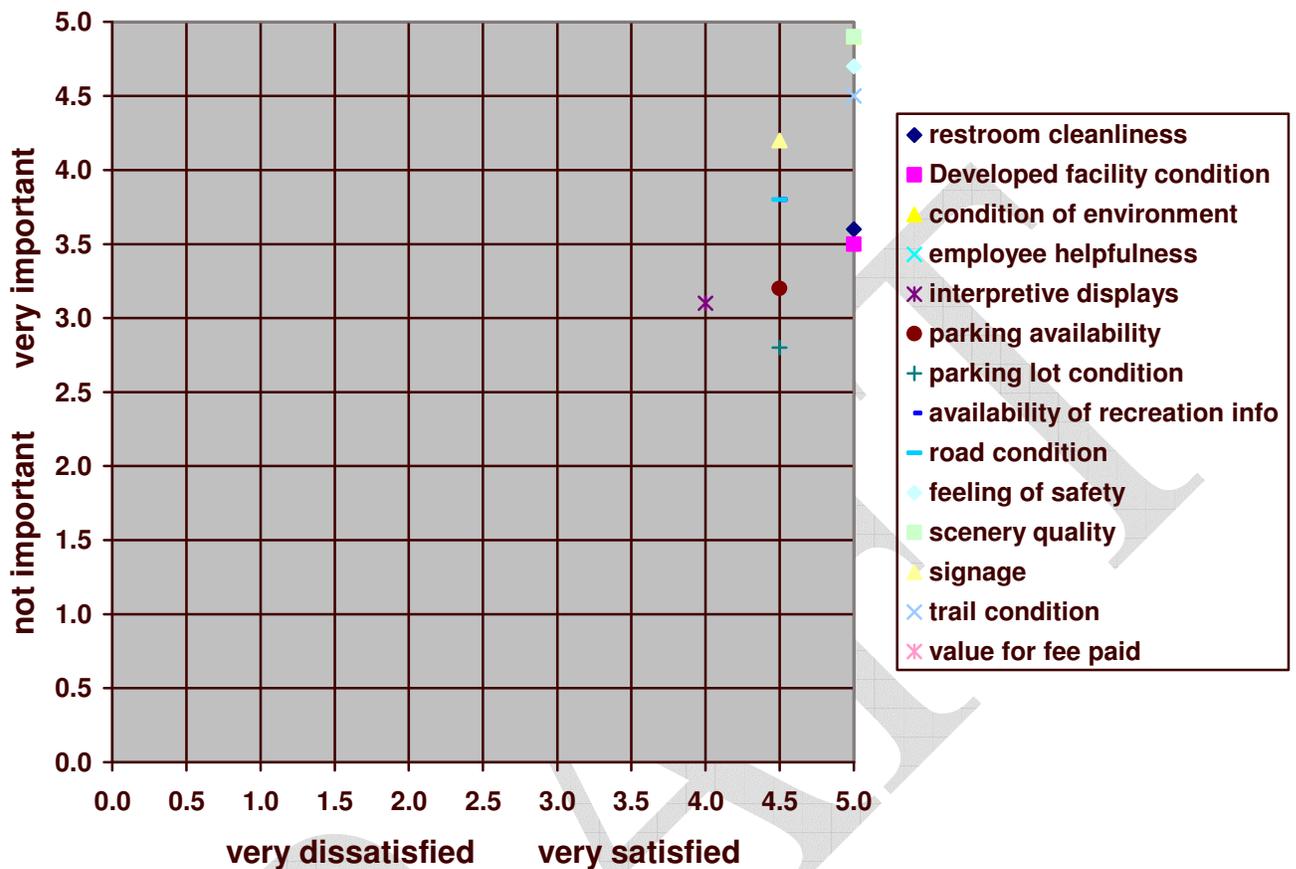
Satisfaction Element	Percent of visits Very Dissatisfied	Percent of visits Somewhat Dissatisfied	Percent Neither Satisfied nor Dissatisfied	Percent of visits Somewhat Satisfied	Percent of visits Very Satisfied	Average Satisfaction Rating	Number of Respondents for this Rating	Importance Average
Restroom Cleanliness	0.0	0.0	10.8	2.8	86.4	4.8	29	3.6
Developed Facility Condition	0.0	0.0	2.6	9.0	88.5	4.9	23	3.5
Condition Of Environment	0.0	0.7	1.0	13.6	84.7	4.8	52	4.9
Employee Helpfulness	.	.	.	.	.	.	6	.
Interpretive Displays	23.0	0.0	0.0	24.8	52.2	3.8	10	3.1
Parking Availability	0.3	9.9	11.2	3.3	75.2	4.4	52	3.2
Parking Lot Condition	0.0	1.0	9.7	14.8	74.5	4.6	49	2.8
Rec. Info. Availability	0.0	0.0	16.2	39.0	44.9	4.3	45	3.8
Road Condition	0.7	2.2	14.6	28.8	53.7	4.3	51	3.8
Feeling Of Safety	0.0	0.0	9.1	5.1	85.7	4.8	48	4.7
Scenery	0.0	0.0	0.0	9.9	90.1	4.9	52	4.9
Signage Adequacy	0.0	0.7	18.6	21.1	59.7	4.4	51	4.2
Trail Condition	0.0	0.0	2.7	15.4	81.9	4.8	50	4.5
Value For Fee Paid	.	.	.	.	.	.	1	.

\*Satisfaction Scale is: Poor = 1 Fair = 2 Average = 3 Good = 4 Very good = 5

\*\* Importance Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important

Note: For items with less than 10 responses the data was not reported

Figure 6. Pike & San Isabel NF/Cimarron & Comanche NG visit satisfaction in Designated Wilderness (NVUM 2006 data).



\*Note: For items with less than 10 responses the data was not reported

Another method was developed to report aggregate satisfaction for use in forest-wide, regional, and national reporting (Table 27). Since some satisfaction elements are not easily controlled by managers, such as quality of the scenery, condition of the natural environment and landscape attractiveness, these items were not included in the aggregate scores. Although managers can influence some of these items through visual resource management, at the national and regional level these elements do not reflect customer satisfaction in a meaningful way. Another satisfaction element measured, value for fee paid, does not fit within the four aggregate elements. The remaining satisfaction elements were divided into four subgroups: developed facilities, access, services, and visitor safety. The site types sampled were aggregated into three groups: developed sites (includes both day use and overnight developed sites), dispersed areas, and designated Wilderness. Two aggregate measures were computed. The first measure is called “Percent Satisfied Visits (PSI)”, which is the proportion of satisfaction ratings scored by visitors as satisfied (4) or very satisfied (5). Computed as the percentage of all ratings for the elements within the sub grouping that are at or above the target level, the PSI indicator shows the percent of all visits that are reasonably well satisfied with agency performance. Currently the national threshold target is a 1% per year increase in satisfaction up to 85% in 2008. It would be very difficult to consistently have a higher satisfaction score than 85% since many elements of a visitor’s satisfaction with their trip are beyond management control. Table 27 displays the aggregate PSI score for this forest.

Table 27. Percent of Site Visits<sup>s</sup> in Which Visitors Were Satisfied with the Item They Were Asked to Rate on Pike & San Isabel NF/Cimarron & Comanche NG (NVUM FY2006 data)

Satisfaction Element	Satisfied Survey Respondents (%) <sup>t</sup>		
	Developed Sites <sup>u</sup>	Undeveloped Areas (GFAs)	Designated Wilderness
Access (includes parking availability, parking lot condition, road condition and trail condition)	92.4	78.3	87.0
Developed Facilities (includes restroom cleanliness and facility condition)	91.7	80.7	93.6
Perception of Safety	97.1	96.2	90.9
Services (includes availability of information, signage, employee helpfulness)	83.1	78.9	82.8

<sup>s</sup> A Site Visit is the entry of one person onto a national forest site or area to participate in recreation activities for an unspecified period of time.

<sup>t</sup> This is a composite rating. It is the proportion of satisfaction ratings scored by visitors as good (4) or very good (5). Computed as the percentage of all ratings for the elements within the sub grouping that are at or above the target level, and indicates the percent of all visitors that are reasonably well satisfied with agency performance.

<sup>u</sup> This category includes both Day Use and Overnight Use Developed Sites.

Another method of interpreting visitor satisfaction data is called “Percent Meet Expectations (PME)”. This is the proportion of satisfaction ratings in which the numerical satisfaction rating for a particular element is equal to or greater than the importance rating for that element. For example, for restroom cleanliness all visitors who ranked the performance (satisfaction) rating greater than or equal the importance rating (performance rated 4.5 and importance rated 4.0) would be counted in the PME. This indicator tracks the congruence between the agency’s performance and customer evaluations of importance. To meet the criteria, those elements with higher importance levels must have higher performance levels. Table 28 summarizes the PME for the Pike & San Isabel National Forests.

Table 28. Pike & San Isabel NF/Cimarron & Comanche NG Visitor Satisfaction Ratings Using the Percent Meets Expectation Scores (FY 2006 data).

Satisfaction Element	Developed Sites	Undeveloped Areas (GFA)	Designated Wilderness
Access	90.7	79.5	86.0
Developed Facilities	88.1	74.1	94.3
Feeling of safety	91.6	95.1	89.2
Services	82.5	79.9	88.6

Respondents were asked two additional satisfaction questions in round 2 of data collection. All respondents were asked to rate their overall satisfaction with their current visit to this national forest using the Likert scale of 1-5. The results for this forest are displayed in Table 29. Almost 94% of national forest visits were rated as somewhat or very satisfied. One-third of respondents were asked to rate the importance of and their satisfaction with both signing and road condition on this national forest as a whole. Table 30 displays the percent of national forest visits for by satisfaction category for roads and signs on the forest as a whole. Table 31 displays how important roads and signs are to the quality of the person’s recreation experience. On the San Isabel the overall importance rating was 3.8 for road condition and 3.8 for signage, meaning respondents felt these items were somewhat important to the quality of their recreation experience.

Table 29. Percent of National Forest Visits by Satisfaction Category for the Pike & San Isabel National Forests (NVUM FY2006 data)

Satisfaction Rating	National Forest Visits (%)
Very dissatisfied	0.9
Somewhat dissatisfied	3.8
Neither satisfied nor dissatisfied	1.3
Somewhat satisfied	17.3
Very Satisfied	76.6

Table 30. Percent of National Forest Visits by Satisfaction Category for Pike & San Isabel NF/Cimarron & Comanche NG Roads and Signs (NVUM FY2006 data)

Satisfaction Rating	Forest-Wide Road Condition (% National Forest Visits)	Forest-Wide Signage Adequacy (% National Forest Visits)
Very Dissatisfied	2.1	0.0
Somewhat Dissatisfied	7.5	3.7
Not Satisfied Or Dissatisfied	15.0	8.3
Somewhat Satisfied	25.5	26.4
Very Satisfied	41.1	57.2
Not Applicable	8.7	4.3

Table 31. Average Importance Score for Pike & San Isabel NF/ Cimarron & Comanche NG Roads and Signs (NVUM FY2006 data)

Forest-Wide Road Condition	Forest-Wide Signage Adequacy
3.8	3.8

Providing barrier-free facilities for recreation visitors is an important part of facility and service planning and development. In round two of data collection a specific question asked visitors if anyone in their group had a disability. If they responded yes, the visitor was then asked if the facilities at the sites they visited were accessible for this person (Table 32). Over five percent of national forest visits were by groups that had at least one member with a disability. Of these groups, 95.3% indicated facilities were accessible.

Table 32. Accessibility of Pike & San Isabel NF/ Cimarron & Comanche NG Facilities by Persons with Disabilities (NVUM FY2006 data)

Item	Percent
% Visits Including Group Member With A Disability	5.4
Of These, % Indicating Facilities Were Accessible	95.3

## Crowding

Visitors rated their perception of how crowded the recreation site or area felt to them. This information is useful when looking at the type of site the visitor was using since someone visiting a designated Wilderness may think 5 people is too many while someone visiting a developed campground may think 200 people is about right. Table 33 summarizes mean perception of crowding by site type on a scale of 1 to 10 where 1 denotes hardly anyone was there, and a 10 indicates the area was perceived as overcrowded. Data in Table 33 indicate that 5.7% of site visits in Overnight Use Developed sites were rated as overcrowded.

Table 33. Percent of Site Visits by Crowding Rating by Site Type for Pike & San Isabel NF/Cimarron & Comanche NG (NVUM 2006 data).

Crowding Rating	Day Use Developed Sites	Overnight Use Developed Sites	Undeveloped Areas (GFA)	Designated Wilderness
10 Overcrowded	0.2	5.7	0.1	0.0
9	4.9	5.7	3.5	1.7
8	1.7	17.2	5.7	9.6
7	7.1	0.2	2.3	1.7
6	12.2	17.4	13.8	29.4
5	7.2	5.9	8.1	5.0
4	16.5	23.4	13.6	13.3
3	27.0	11.3	13.3	1.7
2	22.9	7.5	36.8	36.3
1 Hardly anyone there	0.2	5.7	2.7	1.3

## CHAPTER 8: WILDERNESS VISITS

Several questions on the NVUM survey dealt directly with use of congressionally designated Wilderness Areas. Wilderness was sampled 38 days on the forest, and 160 interviews were obtained. Tables 34 - 37 summarize demographic characteristics of Wilderness survey respondents. If some of the information is not shown this means there were not enough interviews from which to make inferences. On this national forest, 36.9% of Wilderness visits were made by females (Table 34). The most common age group for Wilderness site visits were people between 30 and 39 years of age (Table 35). Survey respondents provided gender and age information for themselves and up to 3 others in their party. There were seven survey respondents of Hispanic or Latino ethnicity (Table 36). The majority of Wilderness site visits were by Whites (Table 37).

Table 34. Percent of Wilderness Site Visits on Pike & San Isabel National Forest by Gender (NVUM FY2006 data)

Gender	Percent Of Wilderness Visits	Number in Survey Party
Female	36.9	139
Male	63.1	217
Total	100.0	356

Table 35. Percent of Wilderness Site Visits on Pike & San Isabel National Forests by Age (NVUM FY2006 data)

Age Class	Percent Of Wilderness Visits	Number in Survey Party
Under 16	2.9	26
16-19	2.6	10
20-29	20.5	86
30-39	29.6	121
40-49	18.1	55
50-59	19.3	39
60-69	6.7	14
70+	0.4	4
Total	100.1	355

Table 36. Percent of Wilderness Site Visits on Pike & San Isabel National Forests by Hispanic or Latino Ethnicity (NVUM FY2006 data)

Ethnicity	Percent Of Wilderness Site Visits	Number Of Respondents Of This Ethnicity
Hispanic / Latino	45.7	7

Table 37. Percent of Wilderness Site Visits on Pike & San Isabel National Forests Wilderness by race (NVUM FY2006 data).

Race	Percent Of Wilderness Visits	Number Of Survey Respondents
American Indian / Alaska	9.9	1
Asian	0.0	0
Black / African American	0.0	0
Hawaiian / Pacific Islander	0.0	0
White	90.1	48
Total	100.0	49

ZIP codes of Wilderness survey respondents were collected. Results are shown in Table 38. This information may be useful to learn where Wilderness visitors come from, but it does not represent the entire universe of ZIP codes of Wilderness visitors on this national forest because this is only a sample.

Table 38. ZIP codes of Pike & San Isabel National Forests Wilderness survey respondents (NVUM FY2006 data).

Home Location	Respondent Count	% Wilderness Respondents
80220	5	3.1
80015	4	2.5
80122	4	2.5
80526	4	2.5
80920	4	2.5
80002	3	1.9
80128	3	1.9
80211	3	1.9
80233	3	1.9
80401	3	1.9
80439	3	1.9
80465	3	1.9
80906	3	1.9
80911	3	1.9
81211	3	1.9
Foreign Country	3	1.9
80003	2	1.3
80021	2	1.3
80033	2	1.3
80107	2	1.3
80108	2	1.3
80120	2	1.3
80123	2	1.3
80126	2	1.3
80202	2	1.3
80209	2	1.3
80210	2	1.3
80302	2	1.3

Home Location	Respondent Count	% Wilderness Respondents
80403	2	1.3
80907	2	1.3
80918	2	1.3
06520	1	0.6
15722	1	0.6
24938	1	0.6
28539	1	0.6
29642	1	0.6
55025	1	0.6
60045	1	0.6
63031	1	0.6
66049	1	0.6
67037	1	0.6
68522	1	0.6
72703	1	0.6
75081	1	0.6
77098	1	0.6
80004	1	0.6
80008	1	0.6
80012	1	0.6
80013	1	0.6
80014	1	0.6
80016	1	0.6
80017	1	0.6
80026	1	0.6
80027	1	0.6
80030	1	0.6
80104	1	0.6
80113	1	0.6
80129	1	0.6
80132	1	0.6
80133	1	0.6
80138	1	0.6

Home Location	Respondent Count	% Wilderness Respondents
80203	1	0.6
80204	1	0.6
80205	1	0.6
80206	1	0.6
80221	1	0.6
80227	1	0.6
80228	1	0.6
80229	1	0.6
80230	1	0.6
80231	1	0.6
80238	1	0.6
80246	1	0.6
80260	1	0.6
80301	1	0.6
80304	1	0.6
80322	1	0.6
80402	1	0.6
80421	1	0.6
80424	1	0.6
80444	1	0.6
80498	1	0.6
80503	1	0.6
80521	1	0.6
80524	1	0.6
80534	1	0.6
80601	1	0.6
80816	1	0.6
80831	1	0.6
80903	1	0.6
80904	1	0.6
80909	1	0.6
80913	1	0.6
80915	1	0.6

Home Location	Respondent Count	% Wilderness Respondents
81004	1	0.6
81007	1	0.6
81069	1	0.6
81091	1	0.6
81252	1	0.6
81401	1	0.6
82301	1	0.6
84037	1	0.6
84124	1	0.6
85050	1	0.6
85242	1	0.6
87107	1	0.6
UNKNOWN ORIGIN	1	0.6

**APPENDIX A. ZIP Codes for sampled recreation visits on Pike & San Isabel/  
Cimarron and Comanche NG** (NVUM 2006)

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
80461	CO	Lake	40	3.5
80918	CO	El Paso	25	2.2
Foreign Country			23	2.0
80906	CO	El Paso	22	1.9
81201	CO	Chaffee	19	1.7
80911	CO	El Paso	18	1.6
80863	CO	Teller	17	1.5
80920	CO	El Paso	17	1.5
80919	CO	El Paso	16	1.4
80904	CO	El Paso	14	1.2
80909	CO	El Paso	14	1.2
80915	CO	El Paso	13	1.1
81211	CO	Chaffee	12	1.1
80817	CO	El Paso	11	1.0
80922	CO	El Paso	11	1.0
80123	CO	Jefferson	10	0.9
80910	CO	El Paso	10	0.9
80913	CO	El Paso	10	0.9
80015	CO	Arapahoe	9	0.8
80829	CO	El Paso	9	0.8
80903	CO	El Paso	9	0.8
80916	CO	El Paso	9	0.8
80917	CO	El Paso	9	0.8
80004	CO	Jefferson	8	0.7
80127	CO	Jefferson	8	0.7
80210	CO	Denver	8	0.7
80228	CO	Jefferson	8	0.7
80907	CO	El Paso	8	0.7
80128	CO	Jefferson	7	0.6

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
80227	CO	Jefferson	7	0.6
80401	CO	Jefferson	7	0.6
80814	CO	Teller	7	0.6
80816	CO	Teller	7	0.6
80013	CO	Arapahoe	6	0.5
80104	CO	Douglas	6	0.5
80122	CO	Arapahoe	6	0.5
80126	CO	Douglas	6	0.5
80206	CO	Denver	6	0.5
80211	CO	Denver	6	0.5
80439	CO	Jefferson	6	0.5
80526	CO	Larimer	6	0.5
81212	CO	Fremont	6	0.5
81236	CO	Chaffee	6	0.5
80002	CO	Jefferson	5	0.4
80108	CO	Douglas	5	0.4
80112	CO	Arapahoe	5	0.4
80132	CO	El Paso	5	0.4
80138	CO	Douglas	5	0.4
80220	CO	Denver	5	0.4
80302	CO	Boulder	5	0.4
80304	CO	Boulder	5	0.4
80433	CO	Jefferson	5	0.4
80465	CO	Jefferson	5	0.4
80470	CO	Jefferson	5	0.4
80503	CO	Boulder	5	0.4
80831	CO	El Paso	5	0.4
80908	CO	El Paso	5	0.4
80921	CO	El Paso	5	0.4
81001	CO	Pueblo	5	0.4
UNKNOWN ORIGIN (a)			4	0.4
80017	CO	Arapahoe	4	0.4

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
80111	CO	Arapahoe	4	0.4
80120	CO	Arapahoe	4	0.4
80124	CO	Douglas	4	0.4
80202	CO	Denver	4	0.4
80209	CO	Denver	4	0.4
80233	CO	Adams	4	0.4
80305	CO	Boulder	4	0.4
80403	CO	Jefferson	4	0.4
80424	CO	Summit	4	0.4
80449	CO	Park	4	0.4
80866	CO	Teller	4	0.4
81004	CO	Pueblo	4	0.4
81504	CO	Mesa	4	0.4
80003	CO	Jefferson	3	0.3
80014	CO	Arapahoe	3	0.3
80020	CO	Broomfield	3	0.3
80021	CO	Broomfield	3	0.3
80027	CO	Boulder	3	0.3
80031	CO	Adams	3	0.3
80107	CO	Elbert	3	0.3
80133	CO	El Paso	3	0.3
80134	CO	Douglas	3	0.3
80135	CO	Douglas	3	0.3
80231	CO	Denver	3	0.3
80232	CO	Jefferson	3	0.3
80246	CO	Denver	3	0.3
80421	CO	Park	3	0.3
80440	CO	Park	3	0.3
80521	CO	Larimer	3	0.3
80923			3	0.3
80925	CO	El Paso	3	0.3
81252	CO	Custer	3	0.3

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
81611	CO	Pitkin	3	0.3
81621	CO	Eagle	3	0.3
81631	CO	Eagle	3	0.3
81657	CO	Eagle	3	0.3
22101	VA	Fairfax	2	0.2
34476	FL	Marion	2	0.2
55025	MN	Washington	2	0.2
75025	TX	Collin	2	0.2
75058	TX	Grayson	2	0.2
80016	CO	Arapahoe	2	0.2
80033	CO	Jefferson	2	0.2
80110	CO	Arapahoe	2	0.2
80113	CO	Arapahoe	2	0.2
80116	CO	Douglas	2	0.2
80121	CO	Arapahoe	2	0.2
80129	CO	Douglas	2	0.2
80203	CO	Denver	2	0.2
80205	CO	Denver	2	0.2
80215	CO	Jefferson	2	0.2
80224	CO	Denver	2	0.2
80226	CO	Jefferson	2	0.2
80229	CO	Adams	2	0.2
80230	CO	Denver	2	0.2
80234	CO	Adams	2	0.2
80237	CO	Denver	2	0.2
80260	CO	Adams	2	0.2
80301	CO	Boulder	2	0.2
80420	CO	Park	2	0.2
80435	CO	Summit	2	0.2
80443	CO	Summit	2	0.2
80466	CO	Boulder	2	0.2
80524	CO	Larimer	2	0.2

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
80534	CO	Weld	2	0.2
80538	CO	Larimer	2	0.2
80601	CO	Adams	2	0.2
80809	CO	El Paso	2	0.2
80827	CO	Park	2	0.2
80840	CO	El Paso	2	0.2
80860	CO	Teller	2	0.2
80901	CO	El Paso	2	0.2
80929	CO	El Paso	2	0.2
80951			2	0.2
81003	CO	Pueblo	2	0.2
81005	CO	Pueblo	2	0.2
81006	CO	Pueblo	2	0.2
81091	CO	Las Animas	2	0.2
81101	CO	Alamosa	2	0.2
81131	CO	Saguache	2	0.2
81230	CO	Gunnison	2	0.2
81233	CO	Fremont	2	0.2
81503	CO	Mesa	2	0.2
81612	CO	Pitkin	2	0.2
81623	CO	Garfield	2	0.2
81632	CO	Eagle	2	0.2
87544	NM	Los Alamos	2	0.2
91764	CA	San Bernardino	2	0.2
01254	MA	Berkshire	1	0.1
01938	MA	Essex	1	0.1
02476	MA	Middlesex	1	0.1
03104	NH	Hillsborough	1	0.1
03825	NH	Strafford	1	0.1
06070	CT	Hartford	1	0.1
06520	CT	New Haven	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
06840	CT	Fairfield	1	0.1
07666	NJ	Bergen	1	0.1
08514	NJ	Monmouth	1	0.1
08534	NJ	Mercer	1	0.1
08618	NJ	Mercer	1	0.1
10128	NY	New York	1	0.1
10918	NY	Orange	1	0.1
11010	NY	Nassau	1	0.1
11201	NY	Kings	1	0.1
13669	NY	St. Lawrence	1	0.1
15225	PA	Allegheny	1	0.1
15722	PA	Cambria	1	0.1
20165	VA	Loudoun	1	0.1
20814	MD	Montgomery	1	0.1
20816	MD	Montgomery	1	0.1
20852	MD	Montgomery	1	0.1
21046	MD	Howard	1	0.1
21658	MD	Queen Anne's	1	0.1
22630	VA	Warren	1	0.1
22637	VA	Frederick	1	0.1
23187	VA	Williamsburg	1	0.1
23233	VA	Henrico	1	0.1
23234	VA	Chesterfield	1	0.1
23320	VA	Chesapeake	1	0.1
23456	VA	Virginia Beach	1	0.1
23502	VA	Norfolk	1	0.1
24014	VA	Roanoke	1	0.1
24179	VA	Roanoke	1	0.1
24477	VA	Augusta	1	0.1
24938	WV	Greenbrier	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
27516	NC	Orange	1	0.1
28037	NC	Lincoln	1	0.1
28401	NC	New Hanover	1	0.1
28539	NC	Onslow	1	0.1
29406	SC	Charleston	1	0.1
29445	SC	Berkeley	1	0.1
29642	SC	Pickens	1	0.1
29687	SC	Greenville	1	0.1
30101	GA	Cobb	1	0.1
30327	GA	Fulton	1	0.1
30907	GA	Columbia	1	0.1
31024	GA	Putnam	1	0.1
32513	FL	Escambia	1	0.1
32541	FL	Okaloosa	1	0.1
32571	FL	Santa Rosa	1	0.1
32608	FL	Alachua	1	0.1
32666	FL	Putnam	1	0.1
32901	FL	Brevard	1	0.1
32963	FL	Indian River	1	0.1
33062	FL	Broward	1	0.1
33180	FL	Miami-Dade	1	0.1
33441	FL	Broward	1	0.1
33477	FL	Palm Beach	1	0.1
33483	FL	Palm Beach	1	0.1
33611	FL	Hillsborough	1	0.1
33704	FL	Pinellas	1	0.1
33767	FL	Pinellas	1	0.1
33772	FL	Pinellas	1	0.1
33884	FL	Polk	1	0.1
34104	FL	Collier	1	0.1
34668	FL	Pasco	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
34698	FL	Pinellas	1	0.1
34786	FL	Orange	1	0.1
35758	AL	Madison	1	0.1
35761	AL	Madison	1	0.1
37069	TN	Williamson	1	0.1
37075	TN	Sumner	1	0.1
37212	TN	Davidson	1	0.1
37321	TN	Rhea	1	0.1
37803	TN	Blount	1	0.1
38133	TN	Shelby	1	0.1
38310	TN	McNairy	1	0.1
39209	MS	Hinds	1	0.1
42003	KY	McCracken	1	0.1
42301	KY	Daviess	1	0.1
42754	KY	Grayson	1	0.1
43004	OH	Franklin	1	0.1
43560	OH	Lucas	1	0.1
44022	OH	Cuyahoga	1	0.1
45377	OH	Montgomery	1	0.1
45430	OH	Montgomery	1	0.1
46760	IN	Noble	1	0.1
47597	IN	Knox	1	0.1
48116	MI	Livingston	1	0.1
48138	MI	Wayne	1	0.1
48176	MI	Washtenaw	1	0.1
48433	MI	Genesee	1	0.1
49601	MI	Wexford	1	0.1
50010	IA	Story	1	0.1
50158	IA	Marshall	1	0.1
50161	IA	Story	1	0.1
50266	IA	Polk	1	0.1
52501	IA	Wapello	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
53037	WI	Washington	1	0.1
53040	WI	Washington	1	0.1
53144	WI	Kenosha	1	0.1
53158	WI	Kenosha	1	0.1
53406	WI	Racine	1	0.1
53929	WI	Juneau	1	0.1
54143	WI	Marinette	1	0.1
54313	WI	Brown	1	0.1
54751	WI	Dunn	1	0.1
54952	WI	Winnebago	1	0.1
55337	MN	Dakota	1	0.1
55353	MN	Stearns	1	0.1
55407	MN	Hennepin	1	0.1
55902	MN	Olmsted	1	0.1
55912	MN	Mower	1	0.1
56379	MN	Benton	1	0.1
60045	IL	Lake	1	0.1
60111	IL	DeKalb	1	0.1
60134	IL	Kane	1	0.1
60185	IL	DuPage	1	0.1
60302	IL	Cook	1	0.1
60510	IL	Kane	1	0.1
60532	IL	DuPage	1	0.1
60548	IL	DeKalb	1	0.1
60607	IL	Cook	1	0.1
61108	IL	Winnebago	1	0.1
61520	IL	Fulton	1	0.1
61761	IL	McLean	1	0.1
62025	IL	Madison	1	0.1
62234	IL	Madison	1	0.1
62982	IL	Hardin	1	0.1
63010	MO	Jefferson	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
63031	MO	St. Louis	1	0.1
63084	MO	Franklin	1	0.1
63123	MO	St. Louis	1	0.1
63304	MO	St. Charles	1	0.1
63367	MO	St. Charles	1	0.1
64024	MO	Clay	1	0.1
64112	MO	Jackson	1	0.1
64127	MO	Jackson	1	0.1
64154	MO	Platte	1	0.1
65026	MO	Miller	1	0.1
65043	MO	Callaway	1	0.1
65101	MO	Cole	1	0.1
65616	MO	Taney	1	0.1
65807	MO	Greene	1	0.1
66006	KS	Douglas	1	0.1
66039	KS	Anderson	1	0.1
66049	KS	Douglas	1	0.1
66103	KS	Wyandotte	1	0.1
66202	KS	Johnson	1	0.1
66203	KS	Johnson	1	0.1
67037	KS	Sedgwick	1	0.1
67042	KS	Butler	1	0.1
67060	KS	Sedgwick	1	0.1
67114	KS	Harvey	1	0.1
67217	KS	Sedgwick	1	0.1
67220	KS	Sedgwick	1	0.1
67475	KS	Marion	1	0.1
68521	NE	Lancaster	1	0.1
68522	NE	Lancaster	1	0.1
68527	NE	Lancaster	1	0.1
70003	LA	Jefferson	1	0.1
70114	LA	Orleans	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
70433	LA	St. Tammany	1	0.1
70570	LA	St. Landry	1	0.1
70601	LA	Calcasieu	1	0.1
71295	LA	Franklin	1	0.1
71913	AR	Garland	1	0.1
72086	AR	Lonoke	1	0.1
72116	AR	Pulaski	1	0.1
72554	AR	Fulton	1	0.1
72616	AR	Carroll	1	0.1
72626	AR	Baxter	1	0.1
72701	AR	Washington	1	0.1
72703	AR	Washington	1	0.1
72761	AR	Benton	1	0.1
72802	AR	Pope	1	0.1
73013	OK	Oklahoma	1	0.1
73071	OK	Cleveland	1	0.1
73131	OK	Oklahoma	1	0.1
73728	OK	Alfalfa	1	0.1
73754	OK	Garfield	1	0.1
73759	OK	Grant	1	0.1
74017	OK	Rogers	1	0.1
74044	OK	Creek	1	0.1
74052	OK	Creek	1	0.1
74080	OK	Rogers	1	0.1
74136	OK	Tulsa	1	0.1
75034	TX	Collin	1	0.1
75062	TX	Dallas	1	0.1
75081	TX	Dallas	1	0.1
75087	TX	Rockwall	1	0.1
75093	TX	Collin	1	0.1
75189	TX	Rockwall	1	0.1
75248	TX	Dallas	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
75704	TX	Smith	1	0.1
75783	TX	Wood	1	0.1
75791	TX	Smith	1	0.1
76036	TX	Tarrant	1	0.1
76209	TX	Denton	1	0.1
76236			1	0.1
76272	TX	Cooke	1	0.1
76384	TX	Wilbarger	1	0.1
76443	TX	Callahan	1	0.1
76640	TX	McLennan	1	0.1
77024	TX	Harris	1	0.1
77056	TX	Harris	1	0.1
77098	TX	Harris	1	0.1
77378	TX	Montgomery	1	0.1
77520	TX	Harris	1	0.1
77566	TX	Brazoria	1	0.1
77573	TX	Galveston	1	0.1
78232	TX	Bexar	1	0.1
78248	TX	Bexar	1	0.1
78251	TX	Bexar	1	0.1
78734	TX	Travis	1	0.1
78735	TX	Travis	1	0.1
79092	TX	Oldham	1	0.1
79109	TX	Randall	1	0.1
79413	TX	Lubbock	1	0.1
79706	TX	Midland	1	0.1
80005	CO	Jefferson	1	0.1
80007	CO	Jefferson	1	0.1
80008			1	0.1
80010	CO	Arapahoe	1	0.1
80011	CO	Adams	1	0.1
80012	CO	Arapahoe	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
80022	CO	Adams	1	0.1
80026	CO	Boulder	1	0.1
80030	CO	Adams	1	0.1
80106	CO	El Paso	1	0.1
80109	CO	Douglas	1	0.1
80118	CO	Douglas	1	0.1
80130	CO	Douglas	1	0.1
80204	CO	Denver	1	0.1
80212	CO	Denver	1	0.1
80218	CO	Denver	1	0.1
80219	CO	Denver	1	0.1
80221	CO	Adams	1	0.1
80222	CO	Denver	1	0.1
80236	CO	Denver	1	0.1
80238	CO	Denver	1	0.1
80241	CO	Adams	1	0.1
80249	CO	Denver	1	0.1
80303	CO	Boulder	1	0.1
80306	CO	Boulder	1	0.1
80322	CO	Boulder	1	0.1
80402	CO	Jefferson	1	0.1
80432	CO	Park	1	0.1
80444	CO	Clear Creek	1	0.1
80452	CO	Clear Creek	1	0.1
80477	CO	Routt	1	0.1
80483	CO	Routt	1	0.1
80497	CO	Summit	1	0.1
80498	CO	Summit	1	0.1
80501	CO	Boulder	1	0.1
80504	CO	Weld	1	0.1
80525	CO	Larimer	1	0.1
80528	CO	Larimer	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
80621	CO	Weld	1	0.1
80634	CO	Weld	1	0.1
80806			1	0.1
80813	CO	Teller	1	0.1
80820	CO	Park	1	0.1
80832	CO	El Paso	1	0.1
80914	CO	El Paso	1	0.1
80926	CO	El Paso	1	0.1
81007	CO	Pueblo	1	0.1
81008	CO	Pueblo	1	0.1
81023	CO	Pueblo	1	0.1
81054	CO	Bent	1	0.1
81055	CO	Huerfano	1	0.1
81069	CO	Pueblo	1	0.1
81082	CO	Las Animas	1	0.1
81133	CO	Costilla	1	0.1
81223	CO	Fremont	1	0.1
81224	CO	Gunnison	1	0.1
81226	CO	Fremont	1	0.1
81240	CO	Fremont	1	0.1
81263			1	0.1
81301	CO	La Plata	1	0.1
81401	CO	Montrose	1	0.1
81416	CO	Delta	1	0.1
81424	CO	Montrose	1	0.1
81435	CO	San Miguel	1	0.1
81506	CO	Mesa	1	0.1
81601	CO	Garfield	1	0.1
81620	CO	Eagle	1	0.1
81647	CO	Garfield	1	0.1
81650	CO	Garfield	1	0.1
82009	WY	Laramie	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
82301	WY	Carbon	1	0.1
82801	WY	Sheridan	1	0.1
83617	ID	Gem	1	0.1
84010	UT	Davis	1	0.1
84037	UT	Davis	1	0.1
84095	UT	Salt Lake	1	0.1
84124	UT	Salt Lake	1	0.1
85050	AZ	Maricopa	1	0.1
85086	AZ	Maricopa	1	0.1
85242	AZ	Maricopa	1	0.1
85248	AZ	Maricopa	1	0.1
85253	AZ	Maricopa	1	0.1
85282	AZ	Maricopa	1	0.1
85356	AZ	Yuma	1	0.1
85643	AZ	Cochise	1	0.1
85712	AZ	Pima	1	0.1
85716	AZ	Pima	1	0.1
85745	AZ	Pima	1	0.1
87102	NM	Bernalillo	1	0.1
87103	NM	Bernalillo	1	0.1
87107	NM	Bernalillo	1	0.1
87506	NM	Santa Fe	1	0.1
87557	NM	Taos	1	0.1
87710	NM	Colfax	1	0.1
88130	NM	Roosevelt	1	0.1
88220	NM	Eddy	1	0.1
89123	NV	Clark	1	0.1
89148	NV	Clark	1	0.1
90029	CA	Los Angeles	1	0.1
90230	CA	Los Angeles	1	0.1
90254	CA	Los Angeles	1	0.1
91208	CA	Los Angeles	1	0.1

Home Location	State	County	Number Of Respondents	Percent Of Total Respondents
91306	CA	Los Angeles	1	0.1
91604	CA	Los Angeles	1	0.1
91789	CA	Los Angeles	1	0.1
92203	CA	Riverside	1	0.1
93422	CA	San Luis Obis	1	0.1
93465	CA	San Luis Obis	1	0.1
94040	CA	Santa Clara	1	0.1
94550	CA	Alameda	1	0.1
94606	CA	Alameda	1	0.1
94704	CA	Alameda	1	0.1
95003	CA	Santa Cruz	1	0.1
95616	CA	Yolo	1	0.1
95677	CA	Placer	1	0.1
97448	OR	Lane	1	0.1
98110	WA	Kitsap	1	0.1
98117	WA	King	1	0.1
98662	WA	Clark	1	0.1

<sup>a</sup> Includes respondents reporting no ZIP Code or invalid ZIP Codes.

## APPENDIX B: NVUM Definitions and Terms

NAME	Abbreviation	DEFINITION
<b>UNITS OF MEASURE</b>		
National Forest Visit	NFV	The entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A national forest visit can be composed of multiple site visits.
Site Visit	SV	the entry of one person onto a national forest site or area to participate in recreation activities for an unspecified period of time
Site Day		A day that a recreation site or area is open to the public for recreation purposes
Recreation trip		The duration of time beginning when the visitor left their home and ending when they got back to their home
Visits/ Visitors		This term refers to the set of individuals who make the site visits or national forest visits. Typically, the NVUM data and descriptions of visits do not include descriptions of the set of visitors. The following example illustrates the difference between describing visits and describing visitors. George and Martha are the only people who visit Area 51. George visits 8 times in a year, and Martha visits twice. Eighty percent of the <u>visits</u> to Area 51 are made by males. Half of the <u>visitors</u> are males.
Variance		The mean of the squares of the variations from the mean of a frequency distribution; a set of n measurements $y_1, y_2, y_3 \dots y_n$ , with a mean $y$ is the sum of the squared deviations divided by $n-1$ .
Standard deviation or standard error		The square root of the variance; a statistic used as a measure of dispersion in a distribution, the square root of the arithmetic average of the squares of the deviations from the mean
Coefficient of variation		The standard error divided by the mean
Confidence interval		A statistical range with a specified probability that a given parameter lies within the range
Error rate		The coefficient of variation multiplied by the specified confidence interval width
Confidence interval & error rate		Used together these two terms define the reliability of the estimated visits. The confidence interval defines the range of values around the estimated visits with a specified level of certainty. The error rate is the upper and lower bounds of the confidence interval. The lower the error rate and the higher the confidence level the better the estimate. An 80 percent confidence interval is very acceptable at a broad national or forest scale. The two terms are used to statistically describe the estimate. For example: at the 80 percent confidence level there are 209 million national forest visits plus or minus 17 percent. In other words we are 80 percent confident that the estimated number of national forest visits lies between 173.5 and 244.5 million.
<b>SITE TYPES</b>		
Day Use Developed Site	DUDS	Sites that meet the INFRA definition development scale for Moderate, Heavily, or High degree of modification. These are sites that provide for visitor comfort, convenience and/or educational opportunities. Sites with facilities that provide for health and safety only are <u>not</u> considered developed sites. DUDS may include the following; picnic sites (family and group), fishing sites (sometimes), fish viewing sites (sometimes), information sites

		(sometimes), interpretive sites (sometimes), playgrounds, downhill ski areas, wildlife viewing sites (sometimes), developed caves, winter play sites, and any other sites opened only for day use. Group proxy sites (15 or more people) have different proxy codes than family proxy sites. <i>Some developed sites listed in INFRA do not count as DUDS in NVUM. This includes trailheads, boat launches, parking lots, OHV staging areas, Scenic</i>
Overnight Developed Site	OUDS	<p>Sites with facilities that meet the INFRA definition for development scales of Moderate, Heavily, or High degree of modification. These sites include campgrounds (family and group), fire lookouts and cabins available for overnight lodging (including all those outside designated Wilderness in Alaska), resorts, lodges, hotels, horse camps, and any other overnight developed sites on NF lands whether managed by the NF or private business (concession or special use permit). Proxy group campgrounds (sites that hold 15 or more people) have different proxy codes than family proxy campgrounds.</p> <p>Following are things that may be considered as overnight developed sites in INFRA that <u>do not count</u> under the NVUM OUDS strata:</p> <ul style="list-style-type: none"> <li>• Recreation residences - they are counted as part of GFA use at the time of the interview.</li> <li>• Organization Camps (church, scout, etc) - use will be counted at the end of the year through the SUP use reports and added to the total use on the forest.</li> <li>• Lesser-developed campgrounds such as small hunters camps (with limited facilities) - the use will be captured under GFA strata. If the facilities are rustic and are not designed for the comfort and convenience of the visitor the sites are not developed sites for the purpose of the NVUM project.</li> <li>• Do not include any facilities located on private property, even when located within the Forest boundary – however if there are trails or access points where people go from the private property to the Forest to recreate they should be included as a GFA exit point.</li> <li>• Recreation events will not be listed on the spreadsheet - Forests will track this use separately using a special events form, reporting the total number of visitors on a quarterly basis. This use will be added to the totals at the end of the year.</li> <li>• Cabins outside Wilderness should be listed as OUDS</li> </ul>
Wilderness	W	Areas in the national forest that are part of the National Wilderness Preservation System or Wilderness study areas. List all trailheads and other access points such as boat take-outs. Proxy counts would include mandatory wilderness permits required of ALL users (day and overnight).
General Forest Area	GFA	Include all dispersed recreation use other than Wilderness (hiking, fishing, water sports, etc.). For the NVUM project the entire dispersed area of the national forest is considered one big GFA and is not broken down by county. Roads included in the GPL category are almost always agency managed or maintained roads. In some instances non-agency service roads are entered

		<b>ONLY</b> because they are the most logical place to stop visitors who have actually recreated <b>ON</b> the general public lands accessed by the road. <u>Outfitter Guide use reports as proxy for GFA use:</u> Outfitter and Guide reports are not permitted as proxy for GFA because of the possibility of double counting the same visitors. An exception can be made in special cases where the agency has a very remote area only used by O&G and can provide an accurate count for that area only.
<b>USE LEVELS-</b> all but the No Use strata are defined by the forest		
No use (or C)	N	A site or area is administratively closed, inaccessible, or expect to see less than one last exiting person from dawn to dusk. Formerly labeled “closed”.
Low	L	At least 1 last exiting recreation person is expected from dawn to dusk
Medium	M	Defined by the national forest
High	H	Defined by the national forest
Very High	V	use for sites that have high use AND the visitor characteristics are very different from other sites within the stratum
<b>PROXY CODES</b>		
Daily Use Record of sites occupied	DUR4	Daily use record of sites with PAOT of 14 or less, use for OUDS campgrounds where either NF or concessionaire records occupied campsites on a daily bases, can also use for DUDS picnic sites
Daily Use Record of group sites occupied	DUR5	Daily use record of sites with PAOT of 15 or more, use for OUDS campgrounds where either NF or concessionaire records occupied campsites on a daily bases, can also use for DUDS picnic sites
Fee Envelopes issued per vehicle	FE3	Fee envelopes issued per vehicle, use in OUDS and DUDS
Fee Envelopes issued per site	FE4	Fee envelopes issued per family site with a PAOT of 14 or less, use in OUDS and DUDS. For PAOT of 15 or more use FR5.
Fee Receipts issued per person	FR1	Fee receipts or tickets sold to individual people only. Do not use for ski area winter use. Use in DUDS where a daily pass is sold or individual ticket sales indicate use. Do not use for OUDS.
Fee Receipts issued per small group	FR2	Fee receipts or tickets sold per group of 14 or less people
Fee Receipts issued per vehicle	FR3	Fee receipts or tickets sold per vehicle.
Fee Receipts issued per large group	FR5	Envelopes, permits, or tickets sold per large group of 15 or more people.
Mandatory Permit issued per person	MA1	Use in Wilderness only. Mandatory permit issued per person for day AND overnight use of entire area
Mandatory permit issued per small group	MA2	Use in Wilderness only. Mandatory permit issued per small group for day AND overnight use of entire area
Permanent Traffic Counter that counts people	PTC1	Use in any stratum where every person using the site is counted by the counter, count must be one-way

Permanent Traffic Counter that counts vehicles	PTC3	Use in any stratum where every vehicle using the site is counted by the counter, count must be one-way and adjusted for axles
Registration forms by individual	RE1	Use in OUDS lodges, cabins, resorts, where managers report total number of person nights sold from registers
Registration forms by small group	RE2	Use in any stratum where 14 or fewer people register as one small group. One registration = one group
Registration forms by room	RE4	Registration forms for room nights sold use for OUDS lodges, resorts, etc where owner can report total number of room nights sold. Do not use for DUDS, campgrounds, huts or dorms that hold more than one group in one room at a time.
Special use permit per site or cabin	SUP4	Use for OUDS cabins, resorts where one permit is issued per group of 14 or fewer people per visit (not for entire season); also FS cabins rented under G-T permits. For larger groups use FR5
Toll booth person count	TB1	Use when GFA is close to agency boundary and there are no non toll booth entries into the area, use for DUDS and OUDS only if every person that enters has to pay (no season passes)
Toll booth car count	TB3	Use when GFA is close to agency boundary and there are no non toll booth entries into the area, use for DUDS and OUDS only if every vehicle that enters has to pay (no season passes)

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