

National Visitor Use Monitoring Results

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**USDA Forest Service
Region 3**

APACHE - SITGREAVES NATIONAL FORESTS

**For Sampling Completed October 1, 2000
through September 30, 2001**

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Table of Contents**

National Visitor Use Monitoring Project

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INTRODUCTION.....	1
Scope and purpose of the National Visitor Use Monitoring project	1
Definition of Terms	2
CHAPTER 1: SAMPLE DESIGN AND IMPLEMENTATION.....	3
The NVUM Process and Definition of Terms.....	3
Constraints On Uses of the Results	4
The Forest Stratification Results	5
Table 1. Population of available site days for sampling and percentage of days sampled by stratum.....	5
CHAPTER 2: VISITATION ESTIMATES	6
Visitor Use Estimates	6
Table 2. Apache Sitgreaves National Forest annual recreation use estimate.....	6
Table 3. Number of last-exiting recreation visitors by site type and form type 1/	6
Description of Visitors	7
Table 4. Gender distribution of Apache-Sitgreaves NF recreation visitors	7
Table 5. Age distribution of Apache-Sitgreaves NF recreation visitors	7
Table 6. Race/ethnicity of Apache-Sitgreaves NF recreation visitors	7
Table 7. Zip codes of Apache-Sitgreaves NF recreation visitors	8
Average number of people per vehicle and average axle count per vehicle in survey	8
CHAPTER 3: WILDERNESS VISITORS	9
Table 8. Age distribution of Apache-Sitgreaves NF Wilderness visitors	9
Table 9. Race/ethnicity of Apache-Sitgreaves NF Wilderness visitors	9
Table 10. Zip codes of Apache-Sitgreaves NF Wilderness visitors	10
Table 11. Satisfaction of Apache-Sitgreaves NF Wilderness visitors.....	11
CHAPTER 4: DESCRIPTION OF THE VISIT.....	12
Table 12. Site visit length of stay (in hours) by site/type	12
Table 13. Apache-Sitgreaves NF activity participation and primary activity	13
Use of constructed facilities and designated areas	14
Table 14. Percentage use of facilities and specially designated areas.....	14
Economic Information.....	15
Table 15. Substitute behavior choices of Apache-Sitgreaves NF recreation visitors.....	15
Average yearly spending on outdoor recreation.....	15
Visitors' average spending on a trip to the forest.....	15
Visitor Satisfaction Information.....	16
Table 16. Satisfaction of recreation visitors at Apache-Sitgreaves NF Developed Day Use sites	17
Table 17. Satisfaction of Apache-Sitgreaves NF recreation visitors at Developed Overnight sites	17
Table 18. Satisfaction of Apache-Sitgreaves NF recreation visitors in General Forest Areas.....	18
Crowding.....	19
Table 19. Perception of crowding by recreation visitors by site type (percent site visits)	19
Other comments from visitors.....	19
Table 20. List of comments received from Apache-Sitgreaves NF recreation visitors	19

INTRODUCTION

Scope and purpose of the National Visitor Use Monitoring project

The National Visitor Use Monitoring (NVUM) project was implemented as a response to the need to better understand the use and importance of and satisfaction with national forest system recreation opportunities. This level of understanding is required by 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. It will assist 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>).

In conjunction with guidelines and recommendations from the Outdoor Recreation Review Commission, the USDA-Forest Service has estimated recreation use and maintained records since the 1950s. Many publications on preferred techniques for estimating recreation use at developed and dispersed recreation sites were sponsored by Forest Service Research Stations and Universities. Implementation of these recommended methodologies takes specific skills, a dedicated work force, and strict adherence to an appropriate sampling plan. The earliest estimates were designed to estimate use at developed fee recreation facilities such as campgrounds. These estimates have always been fairly reliable because they are based upon readily observable, objective counts of items such as a fee envelope.

Prior to the mid-1990s, the Forest Service used its Recreation Information Management (RIM) system to store and analyze recreation use information. Forest managers often found they lacked the resources to simultaneously manage the recreation facilities and monitor visitor use following the established protocols. In 1996, the RIM monitoring protocols were no longer required to be used.

In 1998 a group of research and forest staff were appointed to investigate and pilot a recreation sampling system that would be cost effective and provide statistical recreation use information at the forest, regional, and national level. Since that time, a permanent sampling system (NVUM) has been developed. Several Forest Service staff areas including Recreation, Wilderness, Ecosystem Management, Research and Strategic Planning and Resource Assessment are involved in implementing the program. A four-year cycle of data collection was established. In any given year, 25 percent of the national forests conduct on-site interviews and sampling of recreation visitors. The first 25 percent of the forests included in the first four-year cycle completed sampling in December of 2000. The second group of forests began sampling October 2000 and completed sampling September 2001. The last 25 percent of the first, four-year cycle forests will complete their sampling in September 2003. The cycle begins again in October 2004. This ongoing cycle will provide quality recreation information needed for improving citizen centered recreation services.

This data can be very useful for forest planning and decision making. The information provided can be used in economic efficiency analysis that requires providing a value per National Forest Visit. This can then be compared to other resource values. The description of visitor characteristics (age, race, zip code, activity participation) can help the forest identify the type of recreation niche they fill. The satisfaction information can help management decide where best to place limited resources that would result in improved visitor satisfaction. The economic expenditure information can help forests show local communities the employment and income effects of tourism from forest visitors. In addition, the credible use statistics can be helpful in considering visitor capacity issues.

Definition of Terms

NVUM has standardized definitions of visitor use measurement to ensure that all national forest visitor measurements are comparable. These definitions are basically the same as established by the Forest Service since the 1970s, however the application of the definition is stricter. Visitors must pursue a recreation activity physically located “on” Forest Service managed land in order to be counted. They cannot be passing through; viewing from non-Forest Service managed roads, or just using restroom facilities. The NVUM basic use measurements are ***national forest visits*** and ***site visits***. Along with these use measurements basic statistics, which indicate the precision of the estimate, are given. These statistics include the error rate and associated confidence intervals at the 80 percent confidence level. The definitions of these terms follow.

National forest visit - 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 - the entry of one person onto a national forest site or area to participate in recreation activities for an unspecified period of time.

Recreation trip – the duration of time beginning when the visitor left their home and ending when they got back to their home.

Confidence level and error rate - used together these two terms define the reliability of the estimated visits. The confidence level provides a specified level of certainty for a confidence interval defining a range of values around the estimate. The error rate (which is never a bad thing like making an error on a test) is expressed as a percent of the estimate and can be used to obtain 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 level is very acceptable for social science applications at a broad national or forest scale. The two terms are used to describe the estimate. For example: At the 80 percent confidence level there are 240 million national forest visits plus or minus 15 percent. In other words we are 80 percent confident that the true number of national forest visits lies between 204 million and 276 million.

CHAPTER 1: SAMPLE DESIGN AND IMPLEMENTATION

The NVUM Process and Definition of Terms

To participate in the NVUM process, forests first categorized all recreation sites and areas into five basic categories called “site types”: Day Use Developed Sites (DUDS), Overnight Use Developed Sites (OUDS), Wilderness, General Forest Areas (GFA), and View Corridors (VC). Only the first four categories are considered “true” national forest visits and were included in the estimate provided. Within these broad categories (called site types) every open day of the year for each site/area was rated as high, medium or low last exiting recreation use. Sites/areas that are scheduled to be closed or would have “0” use were also identified. Each day on which a site or area is open is called a site day and 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 terms used in the site categorization framework are defined below:

Site day - a day that a recreation site or area is open to the public for recreation purposes.

Site types -- stratification of a forest recreation site or area into one of five broad categories as defined in the paper: Forest Service National Visitor Use Monitoring Process: Research Method Documentation, May 2002, English et al. The categories are Day Use Developed sites (DUDS), Overnight Use Developed Sites (OUDS), General Forest Areas (GFA), Wilderness (WILD), and View Corridors (VC). Another category called Off-Forest Recreation Activities (OFRA) was categorized but not sampled.

Proxy – information collected at a recreation site or area that is related to the amount of recreation visitation received. The proxy information must pertain to all users of the site, it must be an exact tally of use and it must be one of the proxy types allowed in the NVUM pre-work directions (fee receipts, fee envelopes, mandatory permits, permanent traffic counters, ticket sales, and daily use records).

Nonproxy – a recreation site or area that does not have proxy information. At these sites a 24-hour traffic count is taken to measure total use for one site day at the sample site.

Use level strata - for either proxy or nonproxy sites, each day that a recreation site or area was open for recreation, the site day was categorized as either high, medium or low last exiting recreation traffic, or closed. Closed was defined as either administratively closed or “0” use. For example Sabino Picnic Area (a DUDS nonproxy site) is closed for 120 days, has high last exiting recreation use on open weekends (70 days) and medium last exiting recreation use on open midweek days (175 days). This accounts for all 365 days of the year at Sabino Picnic area. This process was repeated for every developed site and area on the forest.

Constraints On Uses of the Results

The information presented here is valid and applicable at the forest level. It is not designed to be accurate at the district or site level. The quality of the visitation estimate is dependent on the preliminary sample design development, sampling unit selection, sample size and variability, and survey implementation. First, preliminary work conducted by forests to classify sites consistently according to the type and amount of visitation influences the quality of the estimate. Second, visitors sampled must be representative of the population of all visitors. Third, the number of visitors 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 error rate. The error rate will reflect all these factors. The smaller the error rate, the better the estimate. Interviewer error in asking the questions is not necessarily reflected in this error rate.

Large error rates (i.e. high variability) in the national forest visit (NFV), site visit (SV) and Wilderness visit estimates is 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 80% confidence interval width is then 400% of the mean, a very high error rate (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 reduce the error rate. However, the NVUM team had no reason to suspect the data was incorrect and 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 exiting 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 same issue- seasonal use patterns- may still occur to a lesser degree on other forests. Future sample design will attempt to incorporate seasonal variation in use.

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.

The Forest Stratification Results

The results of the recreation site/area stratification and sample days accomplished by this forest are displayed in Table 1. This table describes the population of available site days open for sampling based on forest pre-work completed prior to the actual surveys. Every site and area on the forest was categorized as high, medium, low, or closed last exiting recreation use. This stratification was then used to randomly select sampling days for this forest. The project methods paper listed on page one describes the sampling process and sample allocation formulas in detail. Basically, at least eight sample days per stratum are randomly selected for sampling and more days are added if the stratum is very large. Also displayed on the table is the percentage of sample days per stratum accomplished by the forest.

Table 1. Population of available site days for sampling and percentage of days sampled by stratum

Strata	Nonproxy			Proxy		
	Total days in nonproxy population	Days sampled #	Percent	Total days in proxy population	Days sampled #	Percent
OUDS H	18	4	22.2	4,572	12	0.3
OUDS M	47	8	17.0			
OUDS L	1,743	9	0.5			
DUDS H	281	12	4.2	167	3	1.8
DUDS M	301	10	3.3			
DUDS L	5,142	11	0.2			
Wild H	60	9	15.0			
Wild M	133	9	6.8			
Wild L	1,187	9	0.8			
GFA H	601	15	2.5	276	4	1.4
GFA M	2,204	19	0.9			
GFA L	10,203	14	0.1			
TOTALS	21,920	129		5,015	19	

CHAPTER 2: VISITATION ESTIMATES

Visitor Use Estimates

Visitor use estimates are available at the national, regional, and forest level. Only forest level data is provided here. For national and regional reports visit the following web site: (<http://www.fs.fed.us/recreation/programs/nvum>).

Table 2. Apache Sitgreaves National Forest annual recreation use estimate

National Forest Visits		Site Visits		Wilderness Visits	
Visits	Error Rate	Visits	Error Rate	Visits	Error Rate
1,976,149	14.1 %	2,391,594	14 %	45,690	56 %

The forest participated in the National Visitor Use Monitoring (NVUM) project from October 2000 through September 2001. The main contact person was Kristen Johnson. The forest was assigned 157 interview days, including 8 viewing corridor days, and accomplished 156 of them (accomplished 99 percent). The forest had a typical weather year and no forest fire closures. The forest coordinator reported that the traffic counters were at least 90% accurate and may have under counted about 10% of the time.

Recreation use on the forest for fiscal year 2001 at the 80 percent confidence level was 1.98 million national forest visits +/- 14 percent. There were 2.39 million site visits, an average of 1.2 site visits per national forest visit. Included in the site visit estimate are 45,690 Wilderness visits.

A total of 1,757 visitors were contacted on the forest during the sample year. Of these, 7 percent refused to be interviewed. Of the 1,630 people who agreed to be interviewed, about 15 percent were not recreating, including 3 percent who just stopped to use the bathroom, 1 percent were working, 8 percent were just passing through, and 4 percent had some other reason to be there. About 85 percent of those interviewed said their primary purpose on the forest was recreation and 87 percent of them were exiting for the last time. Of the visitors leaving the forest agreeing to be interviewed, about 74 percent were last exiting recreation visitors (the target interview population). Table 3 displays the number of last-exiting recreation visitors interviewed at each site type and the type of interview form they answered.

Table 3. Number of last-exiting recreation visitors by site type and form type ^{1/}

Form Type	Day Use	Overnight	General Forest	Wilderness
Basic	242	100	201	73
Satisfaction	122	47	97	29
Economics	115	47	99	33

^{1/} Form type means 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.

Description of Visitors

Basic descriptors of the forest visitors were developed based upon those visitors interviewed then expanded to the national forest visitor population. Tables 4 and 5 display gender and age descriptors.

Table 4. Gender distribution of Apache-Sitgreaves NF recreation visitors

Gender	Male 73.7	Female 26.3
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Table 5. Age distribution of Apache-Sitgreaves NF recreation visitors

Age Group	Percent in group
Under 16	21.6
16-20	0.7
21-30	9.3
31-40	14.4
41-50	16.9
51-60	14.3
61-70	17.6
Over 70	5.2

Visitors categorized themselves into one of seven race/ethnicity categories. Table 6 gives a detailed breakout by category.

Table 6. Race/ethnicity of Apache-Sitgreaves NF recreation visitors

Category	Total percent National forest visits
Black/African American	0.5
Asian	0.8
White	89.8
American Indian/Alaska Native	0.8
Native Hawaiian or Other Pacific Islander	0.3
Spanish, Hispanic, or Latino	7.7
Other	0.2

Less than one percent of forest visitors were from another country. The survey did not collect country affiliation. Visitors most frequently reported zip codes are shown in Table 7. The forest can determine what percent of local visitor use they have by comparing the local forest zip codes to those listed. The zip code data for the forest will also soon be available on a database. There were about 330 different zip

codes reported. This information can be used with programs such as “fipzip” or census data for more extensive analysis.

Table 7. Zip codes of Apache-Sitgreaves NF recreation visitors

Zip Code	Frequency	Percent
85929	23	2.1
85920	22	2.0
86025	22	2.0
85901	20	1.8
85254	18	1.7
85296	18	1.7
85202	16	1.5
85302	16	1.5
85936	15	1.4
85203	13	1.2
85345	13	1.2
85032	12	1.1
85051	12	1.1
85204	12	1.1
85226	12	1.1
85301	12	1.1
85205	11	1.0
85228	11	1.0
85224	11	1.0

Average number of people per vehicle and average axle count per vehicle in survey

There was an average of 2.5 people per vehicle with an average of 2.1 axles per vehicle. 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.

CHAPTER 3: WILDERNESS VISITORS

Several questions on the NVUM survey form dealt directly with use of designated Wilderness. Wilderness was sampled 27 days on the forest. There were 81.1 percent male and 18.9 percent female visitors to Wilderness on the forest. Tables 8 and 9 display the age distribution and race/ethnicity of Wilderness visitors.

Table 8. Age distribution of Apache-Sitgreaves NF Wilderness visitors

Age Group	Percent in group
Under 16	16.8
16-20	0.0
21-30	5.4
31-40	11.2
41-50	32.6
51-60	19.6
61-70	11.3
Over 70	3.1

Table 9. Race/ethnicity of Apache-Sitgreaves NF Wilderness visitors

Category	Total percent national forest visits
Black/African American	0.0
Asian	0.1
White	92.0
American Indian/Alaska Native	0.0
Native Hawaiian or Other Pacific Islander	0.0
Spanish, Hispanic, or Latino	5.3
Other	2.6

The Wilderness visitors were from a wide variety of zip codes. The distribution of Wilderness visitor zip codes is shown in Table 10. There were over 50 different zip codes reported.

Table 10. Zip codes of Apache-Sitgreaves NF Wilderness visitors

Zip Code	Frequency	Percent
85254	6	3.1
85020	4	2.1
85021	4	2.1
85718	4	2.1
85749	4	2.1
85901	4	2.1
85935	4	2.1
85018	3	1.6
85044	3	1.6
85260	3	1.6
85296	3	1.6
85302	3	1.6
85614	3	1.6
85711	3	1.6

The average length of stay in Wilderness on the forest was 4.6 hours. In addition, all visitors were asked on how many different days they entered into designated Wilderness during their national forest visit even if we interviewed them at a developed recreation site or general forest area. Of those visitors who did enter designated Wilderness, they entered 2.4 different days.

Less than one percent of those interviewed in Wilderness said they used the services of a commercial guide.

Table 11 gives detailed information about how the Wilderness visitors rated various aspects of the area. An general example of how to interpret this information: If the visitors had rated the importance of the adequacy of signage a 5.0 (very important) and they rated their satisfaction with the adequacy of signage a 3.0 (somewhat satisfied) then the forest might be able to increase visitor satisfaction. Perhaps twenty-nine percent of visitors said the adequacy of signage was poor. The forest could target improving this sector of visitors for increased satisfaction by improving the signage for Wilderness.

Wilderness visitors on the average rated their visit 2.3 (on a scale from 1 to 10) concerning crowding, meaning they felt there were few people there. Zero percent said the area they visited was overcrowded (a 10 on the scale) and 26 percent said there was hardly anyone there (a 1 on the scale).

Table 11. Satisfaction of Apache-Sitgreaves NF Wilderness visitors

Item Name	Item by Percent response By *					Mean ** Satisfaction Of Visitors (n)		Mean ** Importance To Visitors (n)	
	P	F	A	G	VG				
Scenery	0.0	0.0	0.0	0.8	99.2	5.0	29	4.9	29
Available parking	0.0	0.0	11.4	21.2	67.4	4.6	29	4.2	28
Parking lot condition	0.0	0.0	12.7	19.6	67.7	4.6	27	4.1	27
Cleanliness of restrooms	0.0	0.0	2.5	41.1	56.5	4.5	19	4.7	22
Condition of the natural environment	14.3	0.0	0.0	2.9	82.8	4.4	29	4.9	29
Condition of developed recreation facilities	0.0	0.0	2.8	43.4	53.8	4.5	17	4.5	20
Condition of forest roads	11.6	3.9	15.5	62.8	6.1	3.5	27	3.8	28
Condition of forest trails	1.3	0.0	9.5	63.1	26.1	4.1	29	4.0	29
Availability of information on recreation	1.8	3.2	12.6	12.5	69.9	4.5	25	4.3	27
Feeling of safety	0.0	0.0	0.0	9.6	90.4	4.9	29	4.9	29
Adequacy of signage	11.3	1.6	15.0	37.5	34.6	3.8	29	4.3	29
Helpfulness of employees	0.0	0.0	7.5	6.0	86.5	4.8	26	4.6	27
Attractiveness of the forest landscape	0.0	0.0	0.0	2.7	97.3	5.0	28	4.9	29
Value for fee paid	0.0	0.0	59.6	20.0	20.4	3.6	9	3.4	14

* Scale is: P = poor F = fair A = average G = good VG = very good

** Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important
(n) = number of responses upon which this rating is based

CHAPTER 4: DESCRIPTION OF THE VISIT

A description of visitor activity during their national forest visit was developed. This basic information includes participation in various recreation activities, length of stay on the national forest and at recreation sites, visitor satisfaction with national forest facilities and services, and economic expenditures.

The average length of stay on this forest for a national forest visit was 42.3 hours. Over fifty-one percent (51.6%) of visitors stayed overnight on the forest.

In addition, visitors reported how much time they spent on the specific recreation site at which they were interviewed. Average time spent varied considerably by site and is displayed in Table 12.

Table 12. Site visit length of stay (in hours) by site/type

Site Visit Average	DUDS	OUDS	Wilderness	GFA
40.4	7.2	66.8	4.6	66.8

The average recreation visitor went to 1.2 sites during their national forest visit. Forest visitors sometimes go to just one national forest site or area during their visit. For example, downhill skiers may just go the ski area and nowhere else. Eighty-five percent of visitors went only to the site at which they were interviewed.

During their visit to the forest, the top five recreation activities of the visitors were relaxing, viewing natural features, viewing wildlife, hiking/walking, and driving for pleasure (see Table 13). Each visitor also picked one of these activities as their primary activity for their current recreation visit to the forest. The top primary activities were relaxing, fishing, hiking/walking, and developed camping (see Table 13). Please 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.

Table 13. Apache-Sitgreaves NF activity participation and primary activity

Activity	Percent participation	Percent who said it was their primary activity
Camping in developed sites (family or group)	35.7	7.2
Primitive camping	19.4	3.3
Backpacking, camping in unroaded areas	4.0	0.1
Resorts, cabins and other accommodations on Forest Service managed lands (private or Forest Service run)	13.7	0.0
Picnicking and family day gatherings in developed sites (family or group)	47.8	1.5
Viewing wildlife, birds, fish, etc on national forest system lands	73.5	1.0
Viewing natural features such as scenery, flowers, etc on national forest system lands	79.3	3.5
Visiting historic and prehistoric sites/area	11.0	0.1
Visiting a nature center, nature trail or visitor information services	18.3	0.5
Nature Study	4.8	0.0
General/other- relaxing, hanging out, escaping noise and heat, etc,	84.2	41.3
Fishing- all types	50.5	19.6
Hunting- all types	3.0	1.3
Off-highway vehicle travel (4-wheelers, dirt bikes, etc)	11.3	4.0
Driving for pleasure on roads	53.3	3.2
Snowmobile travel	0.0	0.0
Motorized water travel (boats, ski sleds, etc)	6.8	0.2
Other motorized land/air activities (plane, other)	1.1	0.0
Hiking or walking	62.2	8.7
Horseback riding	3.4	0.4
Bicycling, including mountain bikes	11.5	0.3
Non-motorized water travel (canoe, raft, etc.)	6.4	0.0
Downhill skiing or snowboarding	0.1	0.0
Cross-country skiing, snow shoeing	0.0	0.0
Other non-motorized activities (swimming, games and sports)	6.9	0.9
Gathering mushrooms, berries, firewood, or other natural products	27.6	0.2

Use of constructed facilities and designated areas

Twenty-five percent of the last exiting recreation visitors interviewed were asked about the types of constructed facilities and special designated areas they used during their visit. The most used facilities/areas were: forest roads, nonmotorized trails, scenic byways, picnic areas, and developed campgrounds. Table 14 provides a summary of facility and special area use.

Table 14. Percentage use of facilities and specially designated areas

Facility / Area Type	Percent who said they used (national forest visits)
Developed campground	37.3
Swimming area	3.0
Hiking, biking, or horseback trails	52.5
Scenic byway	53.4
Designated Wilderness	15.0
Visitor center, museum	17.0
Forest Service office or other info site	10.6
Picnic area	42.9
Boat launch	16.1
Designated Off Road Vehicle area	3.0
Other forest roads	52.4
Interpretive site	3.1
Organization camp	4.2
Developed fishing site/ dock	34.8
Designated snowmobile area	0.1
Downhill ski area	0.2
Nordic ski area	0.0
Lodges/Resorts on National Forest System land	1.7
Fire Lookouts/Cabins Forest Service owned	3.9
Designated snow play area	1.5
Motorized developed trails	1.7
Recreation residences	3.4

Economic Information

Twenty-five percent of visitors interviewed were asked about the primary destination of their recreation trip. Since some people may incorporate a visit to the national forests as only part of a larger trip away from home, not all visitors chose the national forest as their primary destination. Of the 10 percent of visitors that went to other areas than just this national forest on their recreation trip, 80 percent said this forest was 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. Their responses are shown in Table 15.

The average recreation visitor on the forest was away from home on their trip for 118 hours. In the 12 months prior to the interview the visitors had come to this forest 3.2 times to participate in their identified main activity.

Table 15. Substitute behavior choices of Apache-Sitgreaves NF recreation visitors

Substitute Choice	Percent who would have...
Gone somewhere else for the same activity	45.2
Gone somewhere else for a different activity	3.8
Come back another time	17.0
Stayed home	31.6
Gone to work at their regular job	0.7
None of these	1.7

Average yearly spending on outdoor recreation

In a typical year, visitors to this forest spent an average of \$1468.40 on all outdoor recreation activities including equipment, recreation trips, memberships, and licenses.

Visitors' average spending on a trip to the forest

Visitors estimated the amount of money spent per person within a 50-mile radius of the recreation site at which they were interviewed during their recreation trip to the area (which may include multiple national forest visits, as well as visits to other forests or parks). This information is available in a separate report and data file that can be used for planning analysis.

Visitor Satisfaction Information

Twenty-five percent of visitors interviewed on the forest rated their satisfaction with the recreation facilities and services provided. Although their satisfaction ratings pertain to conditions at the specific site or area they visited, 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 with facilities and services on the forest as a whole.

Visitors' site-specific answers may be colored by a particular condition on a particular day at a particular site. For example, a visitor camping in a developed campground when all the forest personnel are off firefighting and the site has not been cleaned. Perhaps the garbage had not been emptied or the toilets cleaned during their stay, although the site usually receives excellent maintenance. The visitor may have been very unsatisfied with the cleanliness of restrooms.

In addition to how satisfied visitors were with facilities and services they were asked how important that particular facility or service was to the quality of their recreation experience. The importance of these elements to the visitors' recreation experience is then analyzed in relation to their satisfaction. Those elements that were extremely important to a visitor's overall recreation experience and the visitor rated as poor quality are those elements needing most attention by the forest. Those elements that were rated not important to the visitors' recreation experience need the least attention.

Tables 16 through 18 summarize visitor satisfaction with the forest facilities and services at Day Use Developed sites, Overnight Developed sites and General Forest areas. Wilderness satisfaction is reported in Table 11. To interpret this information for possible management action, one must look at both the importance and satisfaction ratings. If visitors rated an element a 1 or 2 they are telling management that particular element is not very important to the overall quality of their recreation experience. Even if the visitors rated that element as poor or fair, improving this element may not necessarily increase visitor satisfaction because the element was not that important to them. On the other hand, if visitors rated an element as a 5 or 4 they are saying this element is very important to the quality of their recreation experience. If their overall satisfaction with that element is not very good, management action here can increase visitor satisfaction.

Table 16. Satisfaction of recreation visitors at Apache-Sitgreaves NF Developed Day Use sites

Item Name	Item by Percent response by *					Mean ** Satisfaction Of Visitors (n)		Mean ** Importance To Visitors (n)	
	P	F	A	G	VG				
Scenery	0.0	0.0	0.1	11.7	88.2	4.9	114	4.8	109
Available parking	10.2	3.0	19.2	35.7	31.9	3.8	113	4.1	108
Parking lot condition	0.0	7.9	20.6	38	33.5	4.0	110	3.7	105
Cleanliness of restrooms	17	6.5	14.8	34.1	27.6	3.5	82	4.5	87
Condition of the natural environment	0.3	0.0	4.8	47.4	47.5	4.4	113	4.7	108
Condition of developed recreation facilities	7.6	0.3	14.8	38.2	39.1	4.0	97	4.4	97
Condition of forest roads	3.9	5.7	26.3	40.9	23.2	3.7	105	4.0	102
Condition of forest trails	4.6	0.0	15.2	53.3	26.9	4.0	77	3.9	82
Availability of information on recreation	4.4	10.1	9.9	36	39.6	4.0	93	3.8	95
Feeling of safety	0.4	3.5	15.5	33.7	46.9	4.2	111	4.6	106
Adequacy of signage	6.9	1.5	25	33.5	33.1	3.8	111	4.2	105
Helpfulness of employees	0.0	0.4	0.0	23.3	76.3	4.8	100	4.4	98
Attractiveness of the forest landscape	0.0	0.0	0.4	20.5	79.1	4.8	112	4.7	104
Value for fee paid	5.5	5.9	40.5	30.3	17.8	3.5	51	3.9	55

* Scale is: P = poor F = fair A = average G = good VG = very good

** Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important
n= number of responses on which rating is based.

Table 17. Satisfaction of Apache-Sitgreaves NF recreation visitors at Developed Overnight sites

Item Name	Item by Percent response by *					Mean ** Satisfaction Of Visitors (n)		Mean ** Importance To Visitors (n)	
	P	F	A	G	VG				
Scenery	0.0	0.1	11.7	17.0	71.2	4.6	47	4.3	46
Available parking	2.7	0.2	8.1	43.2	45.7	4.3	46	4.0	45
Parking lot condition	0.0	0.2	28.5	17.0	54.3	4.3	43	3.9	42
Cleanliness of restrooms	19.8	3.1	20.0	20.5	36.6	3.5	42	4.4	44
Condition of the natural environment	0.0	0.0	0.1	45.8	54.1	4.5	47	4.4	46
Condition of developed recreation facilities	0.0	0.0	15.8	38.7	45.5	4.3	41	4.2	42
Condition of forest roads	0.0	3.2	19.4	42.1	35.4	4.1	44	3.9	43
Condition of forest trails	0.0	0.0	12.2	58.1	29.7	4.2	29	3.6	32
Availability of information on recreation	0.0	0.1	3.5	56.6	39.8	4.4	36	4.2	40
Feeling of safety	0.0	0.1	0.1	36.3	63.5	4.6	47	4.4	45
Adequacy of signage	2.9	0.1	4.1	46.4	46.6	4.3	45	4.2	44
Helpfulness of employees	0.0	0.0	0.0	18.9	81.1	4.8	45	4.3	43
Attractiveness of the forest landscape	0.0	0.0	11.5	31.4	57.1	4.5	47	4.3	45
Value for fee paid	4.8	4.8	6.5	24.9	59.0	4.3	30	3.9	32

* Scale is: P = poor F = fair A = average G = good VG = very good

** Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important
(n) = number of responses upon which this rating is based

Table 18. Satisfaction of Apache-Sitgreaves NF recreation visitors in General Forest Areas

Item Name	Item by Percent response by *					Mean ** Satisfaction Of Visitors (n)		Mean ** Importance To Visitors (n)	
	P	F	A	G	VG				
Scenery	0.0	26.5	0.8	2.3	70.4	4.2	73	4.8	72
Available parking	1.4	1.4	7.8	73.2	16.2	4.0	53	3.4	55
Parking lot condition	0.9	2.8	3.2	78.3	14.7	4.0	44	3.2	48
Cleanliness of restrooms	0.9	1.3	3.7	30.2	63.8	4.5	37	4.2	44
Condition of the natural environment	0.5	0.0	0.7	44.2	54.7	4.5	73	4.8	72
Condition of developed recreation facilities	0.0	1.4	2.2	74.1	22.3	4.2	46	4.2	52
Condition of forest roads	29.1	17.8	9.4	32.6	11.1	2.8	72	4.3	71
Condition of forest trails	26.6	0.0	5.7	54.7	13.0	3.3	43	4.2	45
Availability of information on recreation	0.4	2.1	11.4	46.6	39.6	4.2	52	3.4	55
Feeling of safety	1.1	0.0	12.2	28.1	58.7	4.4	70	4.3	71
Adequacy of signage	1.4	13.8	6.7	62.3	15.7	3.8	70	3.7	68
Helpfulness of employees	0.0	0.0	1.7	10.7	87.6	4.9	62	3.9	63
Attractiveness of the forest landscape	0.0	0.0	12.9	34.6	52.4	4.4	73	4.6	70
Value for fee paid	1.8	0.0	4.4	72.7	21.0	4.1	22	3.9	31

* Scale is: P = poor F = fair A = average G = good VG = very good

** Scale is: 1= not important 2= somewhat important 3=moderately important 4= important 5 = very important
(n) = number of responses upon which this rating is based

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 19 summarizes mean perception of crowding by site type on a scale of 1 to 10 where 1 means hardly anyone was there, and a 10 means the area was perceived as overcrowded.

Table 19. Perception of crowding by recreation visitors by site type (percent site visits)

Perception of crowding	Overnight Developed Sites	Day Use Developed Sites	Wilderness	General Forest Areas
10 Over crowded	0.4	8.6	0.0	5.1
9	0.0	5.1	0.0	0.5
8	5.5	18.7	0.0	2.6
7	5.8	10.6	0.0	8.8
6	28.7	7.8	4.2	34.1
5	24.4	13.6	2.7	6.6
4	3.0	10.1	13.8	21.6
3	21.0	5.0	6.5	15.5
2	10.8	18.6	46.7	5.3
1 Hardly anyone there	0.5	1.9	26.1	1.2

Other comments from visitors

Visitors were asked if there were any accommodations or assistance that the forest could offer that would be helpful to the visitor and anyone in their group to improve their recreation experience. Visitor responses are summarized below.

Table 20. List of comments received from Apache-Sitgreaves NF recreation visitors

Site Name	Is there any other accommodation or assistance we could offer? Comments
Alpine Golf Course (day use)	Water the golf course
	We need water on golf course (more grass)
	Need algae cleaned out of Luna Lake
	Thinning of forest helps, stron trees & lush grasses
36) Rd. 249 GFA	Handicap facilities for handicap users only
	More signs to roads
	Improve the bathroom
	Too much environmental input, in disagreement of the number of road closures
41) Rd. 275/191 GFA	Need road improvement!!! Need maintenance, very bad shape.
43) Pt. of the Mountain GFA	ATV's / dirt bikes - limit areas of usage to reduce noise
	Why is Big Lake visitors Center closed? It was closed yeaterday also we are staying in Rainbow Campground, why are fees so high for the facilities?
	More paved roads - fewer dirt bikes
58) Rd.113/ Hwy 273 GFA	Better roads - campgrounds high in price.
	Blade main roadway!

	Forest is over managed - did not let us use anything but developed areas.
	Thanks for the area!
	Protect our public lands from the destruction caused by ORV and 4X4's
59) Rd. 575- Gov't Springs GFA	Have more Elk stand by the road so we can take pictures.
	Maintain roads, even if you close during rainy season.
	Blade road
	More signage
	More toilet paper / additional garbage cans
	More information centers
	More ATV trails
63) Rd. 118 GFA	Want people to keep dogs in own camp area on leash. 5 dogs followed me into my camp last night.
68) Rd. 61/404 GFA	Grade roads, don't like all the rocks in the sheeps crossing area
69) Rd 117/60 Hideaway Rd GFA	To many regs - Lots of lost jobs, Washington doesn't know what west is doing.
	Roads could be better / graded more.
	On the 4th a pair of wolves came 35 yards from our camp - road 8307 & 8307B 18:00 get them out of here.
70) Bush Valley Traders GFA	Please no favoritism, tours reinstated by we will pay for it
	We are ATV riders who object to the closing of the forest roads. We are very conscious of the environment & ride accordingly.
6a) Rd. 300/260 Rim Top TH GFA	Garbage cans at vista's.
	Road #300 needs to be repaired
	Trash cans in rim over look areas along R.R. 300, Woods Canyon
	Trash cans in Military Sinkhole over look and all over looks
	Need rest room at this site
9a) Rd. 236/237/260 GFA	Heavy fines for trash dumping / clean up trash along roads, etc. Limit use of ATV's on forest roads.
	Grade bike paths every 3 years or so.
18a) Rd. 86/260 GFA	Remove trash along road 86
	Blade Road
	Control of campers fires by forest service along F.S. Rd. 86
58a) lee Valley/ Sunrise OG GFA	The government keep out of it - let the people urn things - people are here & understand it all.
38d) Porter Mtn. stable GFA	Ask Apache's to clan up their lake, I picked up beer containers and put them in the near by trash
40d) Pine Top Equestrian Center GFA	Signs in Pinetop / Lakeside area showing locations of sites, facilities, etc.
W-2) Escudilla Nat'l Rec Trail TH Wilderness	Larger sign on HWY 191 for the F.R. #56 (Escadilla) turn off.
	Restrict usage to keep forest pristine.
	Wildcat crossing needs better signage, Bear Wallow-signage needed, Williams Valley trail has tree across road.
W-3) Sheep Crossing #94 Wilderness	Trail maps, signs or trail for milegae, elevation types or trees, ets.
	Fewer people / more wilderness trails
	No more improvements on this area - we don't want lots of people in this area, just right - perfect
	Drinking water at end of trails / more mountain biking trails
W-4) Phelps TH Wilderness	Need more electrical hook up in campgrounds, need more level sites in campground for trailers.
W-6) Trail 59 Bear Wallow @ Gobbler Wilderness	This area beautiful, keep up forest parks / better, need new signage for trails!
W-7) 25c Bear Wallow @ Reno Wilderness	Farm the forest like farmland - get work program to clean up forest. Bring back logging & reeded.
W-9) Bear Wallow at Trail 317 Wilderness	Repair some bad erosion on trail #63.

Hannagan CG	Don't allow large RV's in area
	Need maps at trail heads for hiking. Need more courteous fisherman, Boat fisherman should stay 100 feet shore fishermen.
	Keep big business out of the National Forest!
	This campground is very clean and the restrooms are the cleanest weve seen
Black Jack CG	No fees on underdeveloped sites, better & clean restrooms, reservable sites should be first come first serve or 1/2 available sites should be FCFS
	FS & FS Law Enforcement need to get together on rules, trim trees so they do not drag against trailers & campers. Blade camp area roads/ fire rings not being used - fires everywhere
HL Saddle Family Picnic Day Use	More signage on HWY 191 stating upcoming trails, picnic areas, forest roads, etc. We missed several areas because we were by them before we saw the signs too late to stop. The large forest map (revised 1996) is not accurate for this area, needs to be updated.
Sheep Saddle Family Picnic day use	It is not right for Forest Service to charge to hike or picnic (camping yes). The poor people should be allowed to enjoy the forest - also the lifetime senior pass has a \$1 fee at picnic areas now when I bought it years ago it was supposed to be free forever.
Bear Canyon Lake Fishing Day Use	More garbage cans
	More control on dirt bikes, ATV's
	More control of ATV's
	Better maintained restrooms
	More trash cans
Rocky Point Picnic/ Parking Day use	This should not be a fee area
	Need more camping spaces, working man can't compete, retired
	Need more FS employees patrolling Woods Canyon Lake and campground areas on weekends and every evening. This area is over used presently - the area needs protection from future erosion, vandalism and other problems associated with high use areas.
	\$5 is too much to pay to picnic.
	More access to campgrounds/ reservations
	More fish in lake
	\$5 to picnic is a little steep
Woods Canyon Group CG	Showers in the group area, stand up barbeques, larger trout stocked in Woods Canyon Lake
	Shower in the group area.
Woods Canyon Marina / Picnic Day use	More trash cans
	Better road signs
	Too much litter after weekends
	Additional parking
	Larger signs/ more signs/ lined parking spaces
	Cars are parking in boat launch area
	More parking for cars & boat trailers
	Need more parking, is very bad, Rangers need to ticket the ones in wrong parking spaces
Black Canyon Lake Day Use	Catch the bear from last night
	Picnic tables and beaches near parking lot
	Stock more fish
	Picnic tables at lakes
	Pave the road
	No ATV's or dirt bikes around lake
	Restrict ATV's and dirt bikes.
	Blade roads
	Blade roads
Mogollon Rim Visitor Center	Move aggressive Bears

Day Use	
	Raise taxes to keep forest in shape
	Less God control, better control burn, more timber removable, more & better access to off road camping.
	More horse facilities
	Mogallion River sign needs to be more clear - instead of Rim Lakes information
	Lower the age of the golden pass port program
	Road at Woods Canyon - Chuck holes
	Covered area at Nelson Res great we need more
	Plow out in winter for bathroom
	Open facilities year round - visitors center
	Stop closing roads - open some closed roads back up.
	Motorcycle parking
	Concession workers too powerful in charging camping fees in addition to charging for picnicing, showers, dumpster, etc. More signs on trails- types of trees, miles, etc. Forest Service should take back concession jobs and hire additional forest employees.
	Better sign to show visitors center
	Clean up restrooms!
	Develop more full / partial hookup campground
	Put up more speed limit signs
Al Fulton Picnic- Black Day Use	Repair markers on Crooke trail along 300 road
	Grade road #171 behind visitors center off of HWY 260 - bad holes in road
	I called twice last night to sheriff's dept and no one came to correct problem. Rd 171 - campsite H-17 Sunday night Sept 1 - campers were loud till 4 am and left trash when they left.
	Blade this road
Rolfe C. Hoyer CG	More sites OK but keep developers out.
	Signage so bad, no place for friends to visit, showers need open sooner, parking verry bad
	Need more money to keep up campground
	Need electric & sewage & more showers
Greer Lakes Complex Day Use	Need garbage cans - stop shooting at the signs
	Love it here
	Leave it alone!
Winn Family/Group CG	Lee Valley parking lot need leveling, people disobey fishing rules such as fly-fishing - using bate.
Big Lake Visitor Center Day Use	Cleaner bathrooms & more toilet paper
River Reservoir South Day Use	Need signs to this site (River Reservoir South) at paved road and dirt road.
Lewis Canyon Group CG	Keep cattle out - more restrooms
	Need water - not drinking
Scott Reservoir CG	Charge more or raise taxes to maintain forest.
	Men's restroom needs screens on door vents (flies bad), blade roads
	Why just a 5 day limit on camping? Should be 14 days, grade roads
	Stock more bass in this lake
	Find water else where, so they don't drain Scott's Res again
	I want access to my national forest, special interest I'm not interested in, Keep park & rec going, environmentalist are not out for the best