

Spending Profiles of National Forest Visitors, NVUM Four Year Report

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This report is based on an analysis of National Forest Visitor Use Monitoring (NVUM) Survey Data for the first four years covering calendar year 2000, and fiscal years 2001, 2002, and 2003.

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NVUM Four Year Report

ABSTRACT: This report presents national forest visitor spending profiles developed from the USDA Forest Service National Visitor Use Monitoring (NVUM) project surveys collected between January, 2000 and September, 2003. The report is an update of an earlier report covering the first three years of NVUM survey data. The FY 2003 NVUM surveys add an additional 6,314 cases with spending data from an additional 31 national forests. Changes from the three year national spending averages are generally minor. National average spending profiles are developed for seven trip type segments: day trips and overnight trips involving stays on and off the forest for local and non-local visitors, and visitors whose primary trip purpose was not recreation on the forest. Distinct spending profiles are also estimated for high and low spending areas and for selected recreation activity subgroups.

INTRODUCTION

This report updates a previous report (Stynes and White 2004) that estimated spending profiles for national forest visitors based on data from the first three years of the National Visitor Use Monitoring study. In FY 2003, visitors at an additional 31 forests were sampled, adding 6,314 cases to the spending dataset. The three year spending profiles are updated here using data from the first four years of the NVUM survey. National average spending profiles have remained fairly consistent over the four years, with some variations likely due to the mix of forests sampled each year.

There were some changes in the survey instrument in 2003. The effects of these changes are covered more fully in a separate report (Stynes and White 2005) that refines the segments for overnight visitors using information about lodging types gathered in FY 2003. In this four-year combined report, we replicate the procedures used during the first three years and price adjust all spending figures to 2003. The presentation and tables closely follow the three year report (Stynes and White 2004).

BACKGROUND ON NVUM SURVEYS

The objective of the USDA Forest Service National Visitor Use Monitoring study (NVUM) is to estimate the number of recreation visits to national forests (English et al. 2002). To achieve this objective a selection of individual forests in each region are sampled yearly with each administrative forest in the National Forest System being sampled once every five years.

In addition to data necessary to estimate visitation, the NVUM survey gathered other visitor and trip characteristics. A separate economics survey administered to roughly a fourth of those sampled gathered spending information that provides the basis for development of the spending profiles reported here.

The analysis here is based on data gathered during the first cycle of the NVUM project, covering 119 administrative national forests, grasslands, and recreation areas sampled under NVUM. The addition of FY 2003 data yields modest increases in the reliability of the spending averages and now provides estimates for all national forests.

METHODS

National forest visitors were sampled at both designated recreation sites and in the general forest area (GFA) of individual forests. A stratified sampling scheme was employed for sites and days based upon the expected visitation (high, medium, or low visitation) at a given location on a given day (termed a “site day”).

During the first cycle of the NVUM study, a total of 81,277 visitors were sampled. Roughly one fourth (21,406) of these visitors completed a supplemental set of spending questions (Table 1)¹. The economics portion of the NVUM questionnaire measured spending within fifty miles of the forest on the current recreation trip.

During the first three years, the NVUM questionnaire measured spending of a randomly selected adult in the travel party. Based on our analysis of the data gathered during the first two years (CY 2000 and FY 2001) and comparisons with other studies, we concluded that most respondents were reporting spending for the entire travel party (Stynes, White and Leefers 2003). Spending reported in FY 2002 was also assumed to represent the travel party. In FY 2003 the questionnaire was changed to request the spending of the entire travel party (all people in the vehicle). The lack of significant changes in the spending averages in FY 2003 supports our decision to treat spending reports as representing the travel party.

Table 1. Breakdown of the NVUM sample by Year

	2000	2001	2002	2003	4 Year Total
Total Sample	19,351	22,014	20,589	19,323	81,277
Cases with economic data	4,347	4,957	5,788	6,314	21,406
Outliers in economic data					
Days away from home >= 30	115	107	146	127	495
People in vehicle >= 8	76	82	79	116	353
Total spending >= 1000	129	176	210	308	823
Missing Zip code ^a	181	192	158	91	622
Total omitted cases	501	557	593	642	2,293
Final Cases for economic analysis	3,846	4,400	5,195	5,672	19,113

^a In total, 767 cases had missing Zip codes (excluding foreign travelers). Of these, 67 are removed as outliers. Of the remaining 700 cases, 78 cases are included within the non-primary purpose trip segment. The remaining 622 are excluded in analyses by trip segment.

National forest visitors reported spending in ten categories. The individual expenditure categories were modified slightly in FY 2003. Table 2 shows the changes in spending categories and how FY 2003 categories were matched with earlier years. The two lodging categories in each version of the instrument are combined to create a general “lodging” category that can be compared across the two versions of the instrument². The new “sporting goods” category in FY 2003 can be combined with the “souvenirs/clothing and other misc” category to be consistent with the combination of “souvenirs/clothing” and “any other expenses” during the first three years³.

¹ Roughly one in four visitors received the economics survey during the first three years. The percentage was increased to a third in FY 2003.

² In the first three years “privately-owned lodging” accounted for 89% of total lodging expenditures. In year 4 “motel, lodge, cabin, B&B” represented 78% of the total lodging expenditures.

³ See Stynes and White (2005) for a more complete treatment of the effects of changes in spending categories in FY 2003.

Table 2. Expenditure Categories during the First NVUM Cycle

First Three Years	Fourth Year
Privately-owned Lodging	Motel, lodge, cabin, B&B etc.
Government-owned Lodging	Camping
Food/drink at restaurants and bars	Restaurant and Bars
Gasoline and oil	Gasoline and oil
Other food and beverages	Groceries
Other transportation (plane, bus, etc.)	Local transportation (bus, shuttles etc.)
Activities including guide fees & equipment rental	Recreation and entertainment (include guide fees, equipment rental)
Entry, parking, or recreation use fees	Entry, parking, or recreation use fees
Souvenirs/clothing	Souvenirs/clothing and other misc.
Any other expenses	Sporting goods

The economics portion of the NVUM survey recorded the length of the trip (nights away from home) and whether the national forest was the primary destination. The question used to measure trip purpose was changed in FY 2003 to more explicitly identify trips made primarily for business or to visit friends or relatives. For consistency with the earlier version of the trip purpose question, only visitors who stated that their primary purpose was for recreation elsewhere than the NF are classified as non-primary purpose trips.

ANALYSIS METHODS

The analysis of the spending data involved (1) some additional data cleaning and removal of outliers, (2) checking for representativeness of the economic subsample relative to the full sample, (3) choosing appropriate weights for the analysis, (4) testing for differences in spending across visitor subgroups, and (5) estimating spending averages for meaningful segments with distinct spending patterns.

Only a brief discussion of analysis procedures and technical issues is included here. A more complete treatment is included in Stynes, White and Leefers (2003). Except for a few variations dictated by changes in the NVUM instrument in FY 2003, analytical procedures for the combined four year data set are identical to those used in the three year report (Stynes and White 2004).

Defining Local Visitors. Local visitors are defined as those visitors who live within 30 straight-line miles of the forest visited⁴. Identifying the distance that NVUM respondents live from the forest was operationalized in ArcView 3.2 using the reported home Zip code of the respondent obtained from the survey. The location of the reported Zip code was identified using both

⁴ Zip codes were identified as local if the Zip code centroid was within 30 straight line miles of the forest boundary. Taking into account road circuitry factors, locations of residences within the Zip code, and locations of recreation sites within the forest, distances from the subjects home to the site will be greater than 30 miles.

Delorme Street Atlas 2004 and a Zip code database distributed by ESRI. The straight-line distance from Zip code centroid to the boundary of the forest was calculated for each respondent. Those respondents living within 30 straight-line miles were classified as “local” visitors while those living greater than 30 miles were classified as “non-local” visitors. All foreign visitors were classified as “non-local” visitors. Visitors not providing a Zip code or providing a Zip code that was not found either in Delorme Street Atlas 2004 or in the ESRI database were classified as “missing” and excluded from most economic analyses.

Outliers/Contaminants: Long trips (days away from home ≥ 30), large parties (people in the vehicle ≥ 8), and cases with very high total spending ($\geq \$1,000$) were omitted from the spending analysis. Spending data for very long stays or covering large parties were deemed unreliable. Spending reports of \$1,000 or more were omitted as these cases appeared to include airfares, other expenses outside the local area, or expenditures not clearly related to the NF visit. Dropping these cases yields more conservative spending averages, but likely better represents what a typical NF visitor spends. Since the NVUM sampling design resulted in very high weights for some cases, the omission of outliers helps to reduce the sensitivity of subgroup parameter estimates to a small number of atypical cases.

Cases with missing Zip codes were dropped in estimating spending patterns of local versus non-local visitors. After omitting contaminants, outliers and cases with missing data, 19,116 cases were available from which to develop spending profiles within a set of trip type segments (Table 1).

Representativeness: Comparisons of selected variables between cases completing the economics portion of the questionnaire versus the overall sample did not reveal any significant differences. The economics sub-sample is therefore assumed to be representative of the entire sample. Representativeness of the overall NVUM sample rests on the stratified sampling design and case weighting to adjust for disproportionate sampling of site days across strata⁵. As the NVUM study was designed primarily to develop reliable use estimates at the national level, the sample may not be completely representative of visitors at the individual forest level. Forest level statistics should therefore be used with caution.

Weights: Two distinct weights are applied to adjust the sample for disproportionate sampling across strata and different levels of exposure of individual visitors to sampling. The exposure weight for each case is the inverse of the number of sites visited. A visitor stopping at two distinct sites on the forest during their visit has twice the chance of being selected as a visitor stopping at only one site and hence is weighted $\frac{1}{2}$ when estimating characteristics of NF visits. Visitors on overnight trips, particularly those staying overnight on the forest were more likely to visit multiple sites.

Strata weights adjust the sample to reflect the number of site days sampled within each stratum⁶. Case weights are the product of the exposure and strata weights. The case weights are used in

⁵ See English et. al. 2002 for sampling details.

⁶ Strata were defined as high, medium and low use site days within four types of sites (OUDS, DUDS, WILD and GFA). Weights for sites with proxy measures of site use were based on actual proxy use counts. See English et. al. 2002 for details.

estimating segment shares, lengths of stay, party sizes and most other visit and visitor characteristics.

Only the exposure weights are used in estimating spending averages. Spending measures do not vary systematically with the NVUM strata and therefore the case weights do not generally influence the overall spending averages. However, due to small sample sizes within strata at the individual forest level (or for other narrowly defined subgroups of visitors) and wide variations in sampling ratios across strata⁷, spending estimates for individual forests that employ strata weights can be sensitive to a small number of cases with very high weights. To avoid this problem, all spending averages are computed using only the exposure weights.

Subgroup Analysis: The rationale for and definition of visitor trip segments is discussed further below. The key subgroups for explaining visitor spending were identified in the analysis of the first two years of NVUM data. Analysis of variance indicated that trip type segments were the best predictors of spending. Variations in spending across forests and recreation activities were much smaller and frequently explained by differences in the trip segment mix for a given forest or activity. Procedures for the spending analysis therefore begin by dividing visitors into trip type segments. Spending averages are then estimated for each segment. Spending estimates presented for other subgroups (e.g., by forest or recreation activity groups) take into account variations resulting from the mix of trip types.

NATIONAL FOREST VISITOR SEGMENTS

A primary objective of the economic analysis is to estimate spending profiles for a set of meaningful visitor segments. To be useful, the segments must a) be identifiable from the NVUM survey variables, b) help to explain differences in spending across different applications, c) be large enough to obtain adequate sample sizes in the survey, and d) be meaningful to anticipated national forest management and policy applications.

Seven trip type segments were identified in the analysis of the first two years of NVUM data.

National Forest Visitor Trip Type Segments

1. **Non-local day trips:** Non-local residents on day trips
2. **Non-local OVN-NF:** Non-local residents staying overnight on the NF
3. **Non-local OVN:** Non-local residents staying overnight off the NF
4. **Local day trips:** Local residents on day trips
5. **Local OVN-NF:** Local residents staying overnight on the NF
6. **Local-OVN:** Local residents staying overnight off the NF
7. **Non-Primary:** Visits where recreating on the NF is not the primary trip purpose.

⁷ Strata weights vary from as low as 1 to as high as 100,000. Hence a single case with very high spending could significantly influence the spending averages if the strata weights were used, while hundreds of cases with low weights would have almost no influence at all.

NVUM Four Year Report

Local visitors are defined as living within 50 miles of the recreation site⁸. Overnight visitors (OVN) are those that reported being away from home more than 24 hours on their trip⁹. The OVN-NF segments are composed of those visitors who stated that they spent the previous night on the national forest¹⁰. The “non-primary” segment covers visitors who reported recreating at other areas on the trip and did not identify the NF as their primary destination¹¹.

Spending differences are largest between day trips and overnight trips. There are also differences among overnight visitors between those staying on or off the forest¹². The trip type segmentation distinguishes local visitors from non-local visitors and splits out non-primary purpose trips as a distinct segment. Identifying locals as a set of distinct segments facilitates distinguishing “new” money (exports) brought in by non-locals from spending by local residents when completing a regional economic analysis¹³. Likewise, the spending by visitors in the non-primary segment can be included or not depending on the purpose of a given analysis¹⁴.

Spending profiles are developed first for the seven trip type segments, as these explain much more variation in individual visitor spending than recreation activities. Variations in spending across forests and activities are frequently explained by the mix of trip segments. For example, forests or sites that attract more local visitors and day trips have lower visitor spending averages than those serving larger percentages of overnight visitors. Local residents on day trips account for a greater share of some activities such as hiking, biking and picnicking, which in part explains why these activities have below average spending.

⁸ Formally, locals were defined using the Zip code variable to determine the straight-line distance from the center of the Zip code to the forest boundary. Distances of 30 miles or less were defined as locals. Taking into account the additional distance from the forest boundary to the recreation site, distances from the residence to Zip code centroid and road circuitry, locals should be interpreted as living within roughly a 50 mile driving distance of the site.

⁹ As the survey in the first three years did not measure nights spent in the local area, the overnight segments will include some visitors on extended trips that do not spend any nights locally. Spending reports were restricted to spending within 50 miles of the site.

¹⁰ This may mis-classify some visitors sampled on the first day of their visit. Since only last-exiting vehicles were interviewed this will not be a problem for visitors contacted at camping sites; however, some NF campers may have been sampled at day use sites prior to setting up camp.

¹¹ This question was asked differently in FY 2003. See Stynes and White (2005) for details.

¹² The analysis of lodging types in the FY 2003 data suggests that not all visitors claiming to spend the night “on the national forest” were actually on NF lands/facilities.

¹³ For use in an economic impact analysis, the definition of the “local region” depends on the region for which impacts are desired. The region should include places where visitors might stay and spend money during a trip to the area. In most cases regions are defined as collections of counties around the forest.

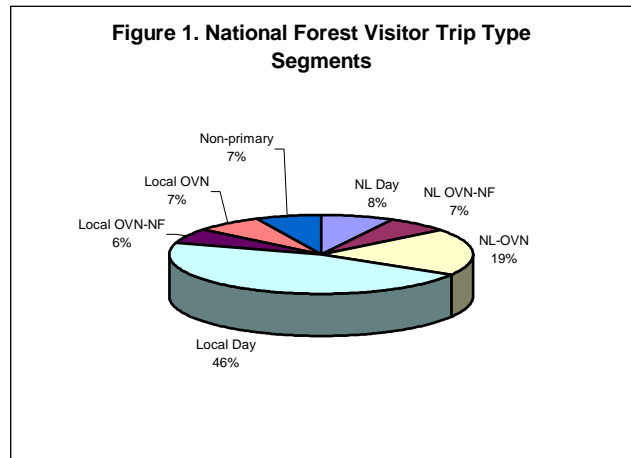
¹⁴ The “non-primary” segment can also be divided between local and non-local residents, but is grouped in the analyses reported here, because most visitors (79%) whose primary purpose was not to visit the NF are non-local.

SEGMENT SHARES

The percentage of national forest visits within the seven trip type segments was estimated from the four years of NVUM data. Local residents on day trips are the largest segment, accounting for 46% of all visits (Figure 1). Another 13% of visits are local residents on overnight trips staying either on- or off- the forest.

Non-local visitors are more likely to be on overnight trips. Nineteen percent of visits are non-local visitors staying overnight off of the forest, 7% are non-local visitors staying overnight on the forest and 8% are non-local day trips.

Another 7% of visits are trips where recreating on the national forest was not the primary trip purpose (Figure 1). The majority of non-primary purpose trips are visitors from outside the local region, often involving other activities in the area or a stop en route to other destinations. Non-primary purpose trips are identified as a distinct segment as much of the spending on these trips cannot be directly attributed to the national forest visit.



Segment shares vary widely across recreation activities, seasons of the year, individual forests, and specific sites on a given forest. Variations in these trip type segment shares across forests (Table A-2) and primary recreation activity (Table A-5) are shown in Appendix A.

The national estimates of segment shares are somewhat sensitive to the choice of weights in the NVUM sample and also the exclusions of outliers (Table 3). Outliers primarily come from the non-primary purpose and non-local overnight off-forest segments. The trips that these outliers represent frequently involve extended trips with multiple purposes and some spending not directly related to the NF visit.

Exposure weighting reduces the share of overnight trips relative to day trips as overnight visitors are more likely to visit multiple sites on the forest. Case weights and the full information estimates increase the percentage of local day trips and non-local OVN trips relative to overnight on-forest segment shares.

Table 3. National Forest Visitor Segment Distribution, First NVUM Cycle

	Number of cases ^a			Percent			Case Full Info ^c
	All Cases	Omitting Outliers	All Cases	Drop Outliers	Exposure Wt	Case Wt	
Non-Local Day	1,632	1,600	8%	8%	9%	9%	8%
Non-Local OVN-NF	3,125	2,845	15%	15%	12%	8%	7%
Non-Local -OVN	3,442	2,840	17%	15%	14%	15%	19%
Local Day	7,373	7,241	36%	38%	43%	48%	46%
Local OVN-NF	1,828	1,753	9%	9%	8%	7%	6%
Local OVN	1,236	1,153	6%	6%	6%	6%	7%
<u>Non-Primary^b</u>	<u>2,100</u>	<u>1,681</u>	<u>10%</u>	<u>9%</u>	<u>8%</u>	<u>6%</u>	<u>7%</u>
Total	20,736	19,113	100%	100%	100%	100%	100%

^a Cases with missing Zip codes are omitted in estimating segment shares except for the non-primary segment..

^b 21% of “non-primary” visitors are local residents.

^c The full information segment shares are computed using case weights and information from both the economics and general sections of the survey.

The “full information” estimates in the right hand column of Table 2 are the best estimates of the national segment shares as these use the case weights to adjust for disproportionate sampling and make use of additional information from the larger sample completing the general survey. A partial segmentation was developed from questions in the general survey using all cases. Variables from the smaller economic sub-sample were then used to distribute these segments into the final seven trip type segments¹⁵.

The segment mix has changed somewhat from year to year over the first cycle of NVUM surveys (Table 4). Non-local overnight trips (NL-OVN) have ranged from 16% to 25% of all visits, while local day trips have varied from 42% to 51%. The percentage of visits classified as non-primary purpose trips varies from a low of 5% in 2002 to 8% during the first two years.

Table 4. Comparison of Full Information Segment Shares by Year

Year	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
2000	6%	5%	16%	51%	5%	9%	8%	100%
2001	8%	7%	20%	44%	4%	9%	8%	100%
2002	9%	7%	25%	42%	6%	6%	5%	100%
2003	10%	9%	14%	50%	7%	3%	7%	100%
2000 & 2001	7%	6%	18%	47%	5%	9%	8%	100%
2000, 2001, 2002	8%	7%	20%	45%	5%	8%	7%	100%
Four Years	8%	7%	19%	46%	6%	7%	7%	100%

¹⁵ The general survey obtained the Zip codes of respondents (to identify local visitors) and whether or not the visitor spent the night on the NF while the number of days away from home on the trip and the primary trip purpose were measured for the economics sub-sample.

Other segments generally represent 5-10% of all visits, fluctuating somewhat within this range. Year to year differences seem to reflect the mix of forests sampled each year, although they may also be due to sites sampled on each forest, or changes over time.

SPENDING PROFILES

Spending profiles give the average amount spent within a set of spending categories for a particular subgroup of visitors. The unit of analysis for spending is the party trip, covering all expenses by the travel party within 50 miles of the interview site during their stay in the area. All spending figures are reported in 2003 dollars. Spending reported each year was price adjusted to 2003 using distinct BLS price indices for each spending category.

1. National averages by trip type segments

Table 5 presents the national spending averages across all national forest visits based on the spending reports of 19,113 visitors sampled on 119 national forests between January, 2000 and September, 2003. Profiles are estimated for the seven trip type segments defined above. Spending is itemized within eight spending categories¹⁶ and reported on a party trip basis. Sample sizes and sampling errors of the totals are given at the bottom of the table. For comparability, this same format is used in all subsequent spending tables.

Table 5. National Forest Visitor Spending Profiles by Trip Type Segment and Spending Category, \$ per party per trip^a

Spending category	Non-Local Segments			Local Segments			Non-Primary	All Visits ^b
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Lodging	\$ 0.00	\$ 25.30	\$ 64.85	\$ 0.00	\$ 16.24	\$ 17.62	\$ 48.78	\$ 19.71
Restaurant	13.60	25.26	58.91	6.12	13.61	21.49	44.80	22.32
Groceries	7.61	36.55	31.28	5.41	41.15	23.46	21.04	17.18
Gas & oil	15.99	37.28	35.79	11.67	27.70	25.93	28.52	21.53
Other transp.	0.98	3.00	7.54	0.21	0.21	1.09	5.10	2.26
Activities	3.87	8.04	15.49	1.82	3.80	6.76	9.67	6.03
Admissions/fees	5.24	10.23	9.02	3.42	10.54	8.37	6.97	6.13
<u>Souvenirs/other</u>	<u>4.31</u>	<u>15.59</u>	<u>22.37</u>	<u>4.20</u>	<u>11.24</u>	<u>11.42</u>	<u>18.64</u>	<u>10.40</u>
Total	51.60	161.25	245.25	32.85	124.49	116.14	183.52	105.57
N (unwtd)	1,600	2,845	2,840	7,241	1,753	1,153	1,681	19,113
Std Dev. of Total	85	201	249	65	147	162	229	180
SE Mean of Total	2.15	3.79	4.82	0.76	3.53	4.76	5.11	1.30
Pct Error (95% level)	8%	5%	4%	5%	6%	8%	6%	2%

^a Outliers are excluded and exposure weights are applied in estimating spending averages. All figures expressed in 2003 dollars.

^b The all visit averages are computed as a weighted average of the columns using the national trip segment shares as weights

¹⁶ The two lodging categories in each version of the survey instrument are combined and sporting goods measured in FY 2003 is combined into the souvenirs and other category.

Spending varies from \$33 per party per trip for local day trips, to \$52 for non-local day trips, to as high as \$245 per trip for non-local visitors on overnight trips staying off the forest. Sampling error (of the totals) at the 95 percent confidence level is two percent overall and between four and eight percent for individual segments (Table 5).

The national spending averages have changed slightly from year to year, although for most segments the differences are not statistically significant (Table 6). Spending averages for visitors staying overnight on the NF were above average in 2001, mainly due to greater spending on groceries and gas. Spending of local visitors on day trips was higher in the first year than the following two years. Changes in spending categories in 2003 likely account for the higher spending for the NL-OVN, L-OVN-NF, and L-OVN segments that year. Changes in the lodging categories increased reported lodging expenses¹⁷. Year to year changes also reflect differences in the forests surveyed each year.

The “All Visits” spending average for each year is estimated as a weighted average of segment spending averages using the full information segment shares in Table 4 as weights. If segment shares are fixed at their four year values, the all visits spending average is above average in 2003 and below average in 2002. If segment shares are allowed to vary from year to year, the all visits spending average is highest in 2002 and lowest in 2000. The differences in the two columns illustrate the importance of segment shares in determining the overall average spending. The above average percentage of NL-OVN visitors in 2002 raises the spending average that year. The below average percentages of OVN visitors in 2003 compensates for the higher spending of those segments.

Table 6. Comparison of Spending Averages by Year, \$ per party per trip

Year	Non-Local Segments			Local Segments			All Visits ^d		
	Day	OVN-NF	OVN	Day	OVN-NF	OVN	Non-Primary	4 year Seg	Annual Seg
2000	\$49 ^a	\$143 ^a	\$225 ^a	\$38 ^a	\$114 ^{abc}	\$113 ^{ab}	\$197 ^a	\$103 ^{ab}	\$97 ^a
2001	63 ^a	200 ^b	220 ^a	29 ^b	122 ^{abc}	111 ^{ab}	168 ^a	101 ^{ab}	104 ^b
2002	49 ^a	148 ^a	252 ^{ab}	29 ^b	115 ^{bc}	86 ^b	172 ^a	100 ^a	111 ^c
2003	48 ^a	158 ^a	285 ^b	35 ^{ab}	139 ^c	194 ^c	192 ^a	121 ^c	105 ^b
Two year	58 ^a	178 ^{ab}	222 ^a	34 ^{ab}	119 ^{abc}	112 ^{ab}	184 ^a	103 ^{ab}	101 ^{ab}
Three year	54 ^a	163 ^a	232 ^a	32 ^b	117 ^{ab}	104 ^{ab}	180 ^a	101 ^a	103 ^b
Four Year	52 ^a	161 ^a	245 ^a	33 ^{ab}	124 ^{abc}	116 ^a	184 ^a	106 ^b	106 ^b

NOTE: All spending averages computed with exposure weights and with outliers removed. All figures expressed in 2003 dollars. Two and three year averages cover the first two and three years, respectively. ^{abc} Denotes significantly different subsets within segments. Segments with the same superscript in any column are not significantly different (95% level), while those with different superscript are. The two, three and four year averages are treated as independent samples in this test
d. The all visits average is computed as a weighted average using full information segment shares as weights. The “4 year Seg” column fixes the segment shares at the 4 year average, while the “Annual Seg” column uses segment shares for each year from Table 4.

¹⁷ See Stynes and White (2005) for further details about the effects of questionnaire changes in 2003. .

2. High and Low Spending Areas

NVUM sample sizes are too small at the individual forest level to reliably capture differences in spending for individual forests. The overall average visitor spending for a given forest can be estimated as a weighted average of the national spending profiles using trip segment shares for the individual forest as weights (Table A-2). This procedure assumes the national spending profiles for each segment in Table 5 can be generalized to individual forests. Differences in spending between forests are then attributed primarily to the mix of visitors attracted.

Spending will vary somewhat from one area to another based upon local prices and spending opportunities. To account for spending variations that are independent of the mix of trip segments, “high” (Table 7) and “low” (Table 8) NF visitor spending profiles were estimated by grouping cases from forests with above or below average spending.

Forests with above or below average spending were identified by comparing spending averages for each forest with the national averages. Day and overnight visitor spending averages (excluding non-primary visitors) were estimated based on the sample of visitors on each forest. To control for differences in the visitor mix across forests, a standardized overall average was computed for each forest, assuming a fixed mix of 60% day trips and 40% overnight trips. The standardized average for each forest was compared to the national standardized average¹⁸. Of the 119 forests sampled in the NVUM study, 48 have visitor spending averages not significantly different from the national average, after controlling for the segment mix. Forty-four forests have below average spending and 28 forests have above average spending. The classification of individual forests into high, low and average spending categories is reported in Table A-1.

Table 7. High Spending Profiles by Segment and Spending Category, \$ per party per trip^a

Spending category	Non-Local Segments			Local Segments			Non-Primary	All Visits ^b
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Lodging	0.00	35.56	80.95	0.00	24.62	28.11	64.62	25.84
Restaurant	16.96	35.41	73.07	6.43	14.28	32.07	64.30	28.28
Groceries	9.08	47.36	38.30	7.50	42.40	28.15	23.51	20.93
Gas & oil	21.62	47.16	37.92	10.58	28.79	29.76	35.18	23.37
Other transp.	1.36	4.61	10.38	0.33	0.00	4.32	6.06	3.28
Activities	4.97	13.51	23.54	1.96	3.47	6.89	23.39	9.05
Admissions/fees	7.60	14.01	10.51	2.69	9.21	8.56	9.79	6.66
<u>Souvenirs/other</u>	<u>6.47</u>	<u>19.74</u>	<u>29.30</u>	<u>7.63</u>	<u>12.32</u>	<u>18.18</u>	<u>26.87</u>	<u>14.87</u>
Total	68.06	217.36	303.97	37.13	135.08	156.04	253.73	132.28
N(unwtd)	320	830	1,072	1,325	220	206	444	4,417
Std Dev. of Total	110	228	262	85	146	194	253	226
SE Mean of Total	6.13	7.91	7.99	2.33	9.83	13.54	12.02	3.40
Pct Error (95% level)	18%	7%	5%	13%	15%	17%	9%	5%

^a Outliers are excluded and exposure weights are applied in estimating spending averages. All figures expressed in 2003 dollars.

^b All visits averages are computed as a weighted average of the columns using the national trip segment shares as weights

¹⁸ See Stynes, White and Leefers (2003) for a more detailed description of this procedure.

A forest identified as a high spending area should use the profiles in Table 7 instead of the national averages in Table 5. Forests identified as low spending areas should use the averages in Table 8. The high and low tables can also be used for more specific applications. Forest recreation areas near major tourist destinations or in close proximity or easy access to commercial areas and spending opportunities can generally expect above average visitor spending, while sites in more remote, rural areas will likely experience below average spending. On many national forests there will be both “high” and “low” spending areas. An assessment of nearby spending opportunities and prices can help in deciding between the average, high, or low spending profiles in a particular situation.

Table 8. Low Spending Profiles by Segment and Spending Category, \$ per party per trip^a

Spending category	Non-Local Segments			Local Segments			Non-Primary	All Visits ^b
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Lodging	\$ 0.00	\$ 13.56	\$ 41.71	\$ 0.00	\$ 10.03	\$ 12.27	\$ 30.81	\$ 12.49
Restaurant	11.72	14.91	42.08	5.75	9.18	16.68	27.25	16.25
Groceries	6.90	26.89	20.70	4.31	34.79	16.53	17.88	12.85
Gas & oil	12.62	29.26	29.29	11.84	24.28	22.41	19.71	18.47
Other transp.	0.43	1.12	5.68	0.21	0.00	0.32	5.94	1.73
Activities	3.27	3.04	9.65	1.77	2.46	9.19	1.61	4.03
Admissions/fees	4.30	7.52	7.25	3.54	8.50	8.01	3.15	5.17
Souvenirs/other	<u>2.05</u>	<u>10.42</u>	<u>15.06</u>	<u>2.29</u>	<u>6.96</u>	<u>7.17</u>	<u>12.14</u>	<u>6.58</u>
Total	41.29	106.72	171.42	29.71	96.20	92.59	118.48	77.56
N(unwtd)	710	891	524	3,238	713	402	408	6,886
Std. Dev. of Total	70	151	205	56	116	131	193	122
SE Mean of Total	2.62	5.05	8.97	0.98	4.35	6.51	9.54	1.48
Pct Error (95% level)	13%	9%	10%	7%	9%	14%	16%	4%

^a Outliers are excluded and exposure weights are applied in estimating spending averages. All figures expressed in 2003 dollars.

^b All visits averages are computed as a weighted average of the columns using the national trip segment shares as weights

Use of the spending profiles in Tables 5, 7 and 8 does not require any knowledge of specific activities on the forest, but does require knowledge of the percentages of visitors who are local versus non-local, on day versus overnight trips, and staying overnight on or off the forest. Estimates of segment shares for individual forests are given in Table A2 in the Appendix. Stynes and White (2004) provide a detailed explanation of how to combine the national spending profiles with forest-level segment shares to estimate total recreation spending for an individual forest.

3. Spending Profiles for Particular Activities

Some activities have distinctive spending patterns that should be taken into account in addition to trip types. Spending profiles for recreation activity segments are useful for evaluating management alternatives aimed at particular activity groups. Spending profiles for specific activities are estimated based on the primary activity identified by NVUM respondents.

Differences in spending by particular activity subgroups are generally due to unique expenses associated with the activity, such as additional gas for motorized recreation activities, special fees for skiing, golf, and camping, and in some cases equipment rental/purchases on the trip for particular activities. For many activities, however, special activity-related expenses are small compared to the more general expenditures that vary with trip types, transportation modes, length of stay and party sizes. Hence, for many activities the spending averages do not differ significantly from the general averages or the differences are explained by the mix of trip types. The trip type mixes are reported in Table A-5.

Tests were carried out on the NVUM data to identify activities with above or below average spending. Spending averages for all activity-trip type combinations with at least 50 cases in the four year spending data set are reported in Table 9. Spending significantly different from the overall segment spending mean at the bottom of the column are indicated with an asterisk (95% confidence level).

Table 9. Spending Averages by Primary Activity and Segment, \$ per party trip

Primary Activity	Non-Local Segments			Local Segments			Non-Primary	All Visits
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Biking			343*	20*				\$ 78*
Boating ^a		158	288	52*	100			108
Cross-country skiing			346*	34				105
Developed Camping		140	146*		128	127	117*	131*
Downhill skiing	80*		331*	53*		129		136*
Driving	40		166*	24*			129*	71*
Fishing	42	205*	238	42*	135	99	225	108
General/Relaxing	46	158	245	33	125	148	146	118*
Hiking	37*	147	276	20*	79*	83*	217	77*
Hunting	44	201	250	51*	174*	130		122*
Multiple activities			173*	36			152	98
Nature-related ^a	52	213	225	27*		134	190	121*
No primary activity		138	252	42	100		190	119
OHV use ^a	62	147	182*	38	114			89*
Other ^a		135	222	31			161	88
Other non-motorized	43	163	262	31				70*
Picnic	59			38				73*
Prim. camp/Backpacking		105*	104*		93*	99		99
Resort								222*
Snowmobile	108*		343*	68*				157*
National Average	52	161	245	33	124	116	184	106

NOTE: Means are reported for segment/activity combinations with at least 50 cases. Averages are computed using exposure weights and omitting outliers. All figures expressed in 2003 dollars.

^a“Nature-related” activities include viewing wildlife, viewing natural features, nature study, visiting a nature center, or viewing forest. “OHV use” includes other motorized activity. “Boating” combines motorized and non-motorized boating. The “other” category includes gathering, visiting historic sites, and horseback riding

* Indicates the mean is significantly different from the overall total at the bottom of the column (95% confidence level)

Complete spending profiles for activity-trip type combinations with significantly different spending averages (95% confidence level) are reported in Tables 10-14. Sampling errors for spending averages of individual activity-trip type segments are generally between 10 and 20% at a 95% confidence level. A few segments that are not significantly different are shown in these tables for comparison. It should be noted that spending averages for individual activities may vary across forests or individual sites.

Activity-specific spending profiles are grouped into tables covering (1) motorized activities, (2) skiing, (3) hunting and fishing, (4) camping, and (5) general day trip activities. A more complete analysis of wildlife-related activities is included in Appendix B.

Motorized Activities

Visitors whose primary activity is a motorized activity spend more money on gas and oil (Table 10). For example, snowmobilers on day trips from more than 50 miles away (non-local) spend \$108 per trip including \$52 for gas and oil. This compares to the national day trip spending average of \$52 with \$16 for gas and oil. The national spending average for local day trips is \$33 of which \$12 is for gas. Local snowmobilers spend \$68 per day and \$32 for gas. Local day visitors whose primary activity is boating (motorized) spend about \$28 more per trip than the overall local day trip average. Almost half of this difference is due to the higher gas and oil expenses. Spending by local OHV users on day trips is not significantly different than the overall average, although the difference in the sample of about \$5 is largely additional fuel purchases.

Table 10. Spending Profiles for Visitors in Motorized Activities; Selected Day Trip Segments, \$ per party per day

Spending category	Snowmobile		Motorized	OHV Use
	Non-Local Day	Local Day	Boating Local Day	Local Day
Lodging	0.00	0.00	0.00	0.00
Restaurant	22.92	11.28	7.00	6.43
Groceries	11.50	7.02	10.38	7.21
Gas & oil	52.48	31.64	23.81	15.89
Other transp.	0.75	0.26	1.28	0.00
Activities	10.72	2.14	1.35	2.58
Admissions/fees	8.32	6.64	5.34	2.36
Souvenirs/other	<u>1.42</u>	<u>9.47</u>	<u>11.83</u>	<u>3.40</u>
Total	108.11	68.45	60.98	37.88^a
N	56	162	101	211
Std Dev. of Total	155	82	96	59
SE Mean of Total	21	6	10	4
Pct Err (95% level)	38%	19%	31%	21%

Note: All figures expressed in 2003 dollars.

^a Not significantly different from the overall segment spending average at 95% confidence level.

Skiing

Higher spending of skiers results primarily from greater expenditures for activities and admissions and fees, reflecting the additional costs of lift tickets, equipment rental and use fees (Table 11). Half of the spending by skiers on day trips is for activities or admissions/fees. This percentage is more than double what other day visitors spend in these two categories. Non-local OVN downhill skiers spend \$76 per party on activities and admissions/fees, accounting for most of the difference in spending compared to the overall average for the NL-OVN segment. Comparatively lower spending on activities and fees of local skiers may reflect the omission of season passes in the spending reports. Higher lodging expenses for skiers on overnight trips reflects the greater percentage staying in resorts and lodges, compared to summer visitors, although an unknown number of skiers on overnight trips may be staying in owned seasonal homes or with friends and relatives¹⁹.

Spending by the NL-OVN cross country ski segment is statistically similar to the corresponding downhill ski segment and statistically different from the national average NL-OVN spending. Local cross country skiers on day trips spend similar amounts per visit as other local visitors on day trips.

Table 11. Skier Spending Profiles for Selected Trip Segments, \$ per party per trip

Spending category	Downhill Ski			Cross Country Skiing		
	Non-Local Day	Local Non-Local- Day	Local- OVN	Local OVN	Non-Local OVN	Local Day
Lodging	0.00	0.00	88.09	18.32	117.94	0.00
Restaurant	13.60	9.79	66.24	31.81	90.22	7.74
Groceries	5.47	2.75	25.85	7.92	32.96	7.31
Gas & oil	13.21	11.19	29.93	17.06	35.78	7.70
Other transp.	0.00	0.01	19.07	1.13	10.28	0.00
Activities	18.06	11.95	43.77	14.35	23.87	3.35
Admissions/fees	24.65	12.62	32.52	20.94	10.36	5.04
<u>Souvenirs/other</u>	<u>4.56</u>	<u>5.03</u>	<u>25.41</u>	<u>17.39</u>	<u>24.39</u>	<u>2.90</u>
Total	79.54	53.34	330.89	128.91	345.81	34.04^a
N	138	397	170	57	59	227
Std Dev. of Total	94	84	290	177	267	82
SE Mean of Total	8	4	22	24	35	5
Pct Err (95% level)	20%	16%	13%	36%	20%	32%

Note: All figures expressed in 2003 dollars.

^a Not significantly different from the overall segment spending average at 95% confidence level.

¹⁹ Specific lodging types were not measured in the first three years of NVUM surveys. Greater detail on lodging types is reported in Stynes and White (2005).

Hunting and Fishing

Distinct spending profiles are identified for hunters and anglers within selected trip type segments (Table 12). Non-local anglers who stayed the night on the national forest and local anglers on day trips spent significantly more than the average for all visitors in those segments. Local hunters, whether on a day trip or spending the night on the national forest, also spent significantly more than the average for those trip type segments. The spending of non-local OVN-NF hunters and local OVN-NF anglers was also above average, although this difference was not statistically significant. The greater spending by hunters and anglers can mostly be attributed to higher expenditures in the lodging, groceries, gas and oil, and souvenirs/other expenditure categories.

Table 12. Spending Profiles for Hunting and Fishing, \$ per party per trip

Spending category	Fishing			Hunting		
	Non-Local OVN-NF	Local Day	Local OVN-NF	Non-Local OVN-NF	Local Day	Local OVN-NF
Lodging	39.06	0.00	17.58	19.87	0.00	12.64
Restaurant	29.91	7.28	14.87	24.79	4.86	15.98
Groceries	46.78	8.19	43.89	51.16	8.72	57.04
Gas & oil	46.43	14.90	31.09	66.52	16.89	47.70
Other transp.	3.70	0.04	0.00	0.00	0.00	1.14
Activities	10.11	1.83	3.36	6.29	2.00	3.30
Admissions/fees	9.31	3.77	9.19	6.14	1.60	3.58
Souvenirs/other	<u>19.64</u>	<u>5.64</u>	<u>15.41</u>	<u>26.16</u>	<u>16.67</u>	<u>32.77</u>
Total	204.94	41.65	135.39^a	200.92^a	50.74	174.14
N	306	646	154	177	395	111
Std Dev. of Total	216	79	156	221	90	178
SE Mean of Total	12	3	13	17	5	17
Pct Err (95% level)	12%	15%	19%	17%	18%	19%

Note: All figures expressed in 2003 dollars.

^a Not significantly different from the overall segment spending average at 95% confidence level.

Some USDA FS programmatic analyses require separate estimates for wildlife-related recreation including hunting, fishing and wildlife viewing. Appendix B presents a more detailed analysis of wildlife-related visitors including a comparison of wildlife-related and non-wildlife-related visitors. Grouping of the three wildlife-related activities yields larger samples for subgroup analyses, although this aggregation loses differences among the three activities. From Table 12 we see that anglers spend slightly more than hunters if staying overnight on the forest, but spend slightly less on day trips or when staying overnight off the forest.

Camping

Among visitors staying overnight on the national forest, two distinct groups of campers with divergent spending patterns may be identified (Table 13). Those staying in primitive campgrounds or the backcountry spend \$105 per trip if non-local and \$94 if local. Campers staying in developed campgrounds spend approximately 35% more than primitive campers. Lodging expenditures account for some of the difference²⁰, but those camping in developed areas also spend more on groceries and gas and oil. Campers from the local area spend less than those from outside the local region.

Table 13. Trip Spending Profiles for Campers, \$ per party per trip*

Spending category	Primitive Camping		Developed Camping	
	Non-Local Visitors	Local Visitors	Non-Local Visitors	Local Visitors
Lodging	8.76	8.51	14.65	11.18
Restaurant	17.54	11.08	20.83	12.48
Groceries	20.85	33.22	37.79	46.28
Gas & oil	25.17	20.64	34.87	27.39
Other transp.	6.24	0.10	1.48	0.32
Activities	5.29	1.61	7.01	3.81
Admissions/fees	6.76	7.80	13.37	18.10
<u>Souvenirs/other</u>	<u>14.07</u>	<u>11.10</u>	<u>11.28</u>	<u>8.30</u>
Total	104.68	94.07	141.29	127.87
N (unwtd)	409	228	656	588
Std Dev. of Total	163	116	173	139
SE Mean of Total	8	8	7	6
Pct Error (95% level)	15%	16%	10%	9%

Note: All figures expressed in 2003 dollars.

²⁰ Camping fees may have been reported as lodging or as admissions/fees and in some cases possibly as activity expenses.

General Day Trip Activities

Spending averages for biking, hiking and driving for pleasure on day trips were about a third less than the general day trip spending averages. As the spending profiles for these activities are similar, they are grouped together in Table 14.

Table 14. Day Trip Spending Profiles for Biking, Hiking and Driving for Pleasure, \$ per party per day

Spending category	Bike, Hike, Drive	
	Non-Local	Local Day
Lodging	0.00	0.00
Restaurant	12.48	4.49
Groceries	5.23	3.08
Gas & oil	10.93	8.02
Other transp.	2.32	0.12
Activities	0.82	0.57
Admissions/fees	2.60	2.20
Souvenirs/other	<u>2.68</u>	<u>2.07</u>
Total	37.05	20.56
N	431	2529
Std Dev. of Total	77	48
SE Mean of Total	4	1
Pct Err (95% level)	20%	9%

Note: All figures expressed in 2003 dollars.

The activity-based spending profiles in Tables 10-14 may be used to evaluate alternatives involving specific activities or when the number of visitors in distinct activity groups is known. For example, the skier profiles may be applied to changes in skier visits, snowmobile profile to changes in visits from modifications of snowmobile trails, and the developed camping profiles to an increase or decrease in campground use.

Summary and Conclusion

This report has updated previous NVUM spending profiles using data gathered at an additional 31 national forests in FY 2003. Overall, the four-year spending average for all national forest visitors has remained around \$100 per party per trip or \$43 per person.

Spending patterns have remained reasonably consistent across the four years in the first cycle of NVUM surveys. Year to year differences in the national averages are likely explained by the mix of forests surveyed each year and some changes in the survey instrument in FY 2003. Results based on the combined sample provide reliable estimates of the national averages.

Modifications to the survey instrument in FY2003 will permit some refinements to the visitor segments in future years. Spending profiles on both a per day and a per trip basis can be estimated from the FY2003 data with overnight visitors divided into lodging types that better explain differences in spending of overnight visitors. Spending profiles for lodging type segments are presented in the FY2003 report (Stynes and White 2005). We recommend developing spending profiles with the revised segments in the second NVUM cycle.

Appendices to this report provide estimates for individual forests. Appendix B presents results for wildlife-related activities. Results for individual forests will be less reliable than the national averages and therefore should be used with caution. The number of usable cases for the economic analysis range from 33 cases on the Rio Grande National Forest to 528 on the Tonto National Forest (Table A-4). Sample sizes for specific trip types and activities at the forest level are much smaller and results can be quite sensitive to the NVUM case weights.

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Appendix A.

Supplemental Tables

Table A-1. Spending Averages by Forest and Day Versus Overnight Trip Segments, \$ per party per trip24

Table A-2. Full Information Segment Shares by Forest27

Table A-3. People per Vehicle by Segment by Forest30

Table A-4. Sample Size by Forest and Segment33

Table A-5. Trip Segment Distribution by Primary Activity36

Table A-6. Number and Percentage of Respondents by Primary and Participation Activity37

**Table A-1. Spending Averages by Forest and Day Versus Overnight Trip Segments,
\$ per party per trip^a**

NVUM Year	Forest	Day Trips		Overnight Trips		Overall Spending Average	
		Spending	N	Spending	N	Forest Sample	Standard ized
Above-average Spending							
2	Apache-Sitgreaves	\$55	23	\$253	176	\$231	\$134
2	Ashley	\$52	48	\$198	99	\$143	\$111
4	Black Hills	\$77	50	\$295	63	\$132	\$164
3	Chequamegon-Nicolet	\$72	65	\$189	103	\$127	\$119
2	Chippewa	\$32	40	\$237	73	\$116	\$114
1	Coconino	\$58	65	\$210	92	\$125	\$119
1	Flathead	\$77	48	\$271	38	\$158	\$155
4	Gallatin	\$30	187	\$252	89	\$105	\$119
4	Grand Mesa, Uncompahgre and Gunnison	\$36	146	\$262	105	\$117	\$127
3	Inyo	\$39	37	\$242	283	\$201	\$120
2	Lake Tahoe Mgmt. Unit	\$33	102	\$287	163	\$185	\$135
4	Lincoln	\$66	61	\$271	61	\$164	\$148
4	Ottawa	\$44	28	\$257	79	\$180	\$129
2	Routt	\$37	33	\$244	67	\$161	\$120
1	Sawtooth	\$40	37	\$226	76	\$127	\$114
4	Sequoia	\$51	65	\$249	174	\$152	\$130
3	Shasta-Trinity	\$38	70	\$245	112	\$150	\$121
4	Tongass (All Years)	\$10	192	\$302	67	\$112	\$127
4	Wallowa-Whitman	\$54	60	\$257	86	\$123	\$135
2	Wenatchee	\$70	104	\$165	104	\$122	\$108
1	White Mountain	\$100	30	\$229	92	\$189	\$152
3	White River	\$32	196	\$269	197	\$188	\$127
Average Spending							
2	Allegheny	\$38	42	\$141	80	\$83	\$79
1	Beaverhead-Deerlodge	\$46	61	\$150	61	\$100	\$88
3	Bridger-Teton	\$20	167	\$181	121	\$75	\$84
1	Caribbean	\$43	18	\$112	51	\$105	\$71
1	Caribou-Targhee	\$64	55	\$157	109	\$98	\$101
4	Carson	\$36	46	\$238	65	\$177	\$117
4	Chattahoochee-Oconee	\$31	82	\$173	47	\$86	\$88
3	Cherokee	\$21	83	\$167	85	\$60	\$80
2	Chugach	\$57	35	\$191	36	\$76	\$111
2	Cleveland	\$47	115	\$166	57	\$68	\$95
1	Columbia Gorge NSR	\$18	169	\$183	58	\$36	\$84
2	Coronado	\$30	166	\$152	80	\$63	\$79
3	Dakota Prairie	\$31	14	\$123	15	\$70	\$68
3	Deschutes	\$36	62	\$166	76	\$97	\$88
4	Dixie	\$50	42	\$215	70	\$144	\$116
3	Fishlake	\$22	27	\$168	53	\$104	\$80
2	Fremont	\$43	28	\$148	43	\$99	\$85
2	Gifford-Pinchot	\$26	67	\$155	63	\$79	\$78
2	Gila	\$84	10	\$110	42	\$102	\$94
1	Green Mountain	\$28	65	\$174	47	\$76	\$86
1	Hiawatha	\$31	24	\$155	48	\$98	\$81
1	Humboldt-Toiyabe	\$26	32	\$182	31	\$93	\$89

Table A-1 (Continued). Spending Averages by Forest and Day Versus Overnight Trip Segments, \$ per party per trip^a

NVUM Year	Forest	Day Trips		Overnight Trips		Overall Spending Average	
		Spending	N	Spending	N	Forest Sample	Standard ized
Average Spending (continued)							
2	Huron-Manistee	\$43	26	\$163	84	\$111	\$91
4	Idaho Panhandle	\$55	126	\$198	117	\$94	\$112
1	Kaibab	\$37	27	\$143	38	\$89	\$80
3	Land Between the Lakes	\$25	22	\$154	19	\$74	\$77
1	Lassen	\$33	17	\$231	61	\$144	\$112
4	Malheur	\$33	27	\$181	57	\$114	\$92
2	Manti-La Sal	\$43	37	\$149	36	\$78	\$86
4	Midewin Tallgrass Prairie	\$25	23	\$0	0	\$25	\$15
4	Monongahela	\$47	75	\$200	170	\$137	\$108
4	Mt. Hood	\$40	131	\$194	136	\$102	\$101
3	Nebraska	\$33	18	\$190	31	\$107	\$95
1	Nez Perce	\$72	15	\$116	19	\$99	\$89
4	NFS of Alabama	\$36	41	\$167	56	\$69	\$88
1	NFS of Florida	\$67	50	\$131	23	\$82	\$93
3	NFS of Mississippi	\$52	30	\$128	57	\$76	\$83
2	NFS of North Carolina	\$33	53	\$210	93	\$120	\$104
4	NFS of Texas	\$32	31	\$235	26	\$103	\$113
1	Okanogan	\$45	19	\$192	69	\$145	\$104
1	Olympic	\$51	69	\$167	89	\$92	\$97
1	Ouachita	\$39	81	\$149	77	\$69	\$83
2	Ozark-St. Francis	\$36	54	\$190	59	\$122	\$98
3	Payette	\$47	37	\$158	49	\$94	\$91
2	Pike San Isabel	\$35	130	\$150	91	\$79	\$81
1	Plumas	\$42	75	\$134	111	\$75	\$79
1	Rio Grande	\$29	9	\$280	20	\$139	\$130
3	Rogue River	\$62	12	\$211	15	\$139	\$121
4	San Bernardino	\$36	171	\$212	77	\$75	\$107
1	San Juan	\$22	57	\$219	45	\$124	\$100
4	Shoshone	\$35	54	\$214	58	\$126	\$107
3	Sierra	\$62	57	\$153	119	\$117	\$98
3	Siskiyou	\$24	34	\$185	38	\$93	\$88
3	Siuslaw	\$32	32	\$208	54	\$108	\$103
4	Six Rivers	\$29	42	\$173	51	\$107	\$87
4	Stanislaus	\$70	78	\$179	218	\$127	\$114
1	Superior	\$35	17	\$176	43	\$101	\$92
2	Tahoe	\$34	163	\$162	172	\$89	\$85
2	Umpqua	\$36	33	\$190	68	\$119	\$98
2	Winema	\$25	20	\$167	15	\$99	\$82

Table A-1 (Continued). Spending Averages by Forest and Day Versus Overnight Trip Segments, \$ per party per trip^a

NVUM Year	Forest	Day Trips		Overnight Trips		Overall Spending Average	
		Spending	N	Spending	N	Forest Sample	Standard ized
Below-average Spending							
1	Angeles	\$47	206	\$54	24	\$48	\$50
1	Arapaho-Roosevelt	\$28	153	\$122	79	\$60	\$66
2	Bighorn	\$43	52	\$107	81	\$76	\$69
3	Bitterroot	\$26	140	\$107	58	\$46	\$59
1	Boise	\$43	36	\$104	44	\$60	\$67
1	Cibola	\$29	128	\$111	41	\$53	\$62
2	Clearwater	\$43	36	\$106	56	\$81	\$69
4	Colville	\$33	50	\$103	45	\$56	\$61
3	Custer	\$21	36	\$90	36	\$44	\$49
3	Daniel Boone	\$40	81	\$105	100	\$58	\$66
4	Eldorado	\$30	158	\$125	171	\$62	\$68
3	Francis Marion and Sumter	\$30	99	\$134	32	\$52	\$72
1	G. Washington & Jefferson	\$55	97	\$102	75	\$66	\$74
4	Helena	\$39	91	\$148	33	\$56	\$83
4	Hoosier	\$38	72	\$105	44	\$55	\$64
2	Kisatchie	\$21	22	\$81	9	\$22	\$45
2	Klamath	\$30	39	\$106	33	\$58	\$60
3	Kootenai	\$34	101	\$127	74	\$67	\$71
2	Lewis and Clark	\$41	44	\$116	45	\$77	\$71
2	Lolo	\$19	96	\$107	23	\$40	\$54
2	Los Padres	\$18	126	\$123	46	\$34	\$60
3	Mark Twain	\$26	73	\$103	59	\$37	\$57
3	Medicine Bow	\$29	73	\$101	115	\$62	\$58
3	Mendocino	\$15	126	\$91	112	\$34	\$46
1	Modoc	\$28	13	\$55	31	\$39	\$39
1	Mt. Baker-Snoqualmie	\$26	129	\$62	71	\$43	\$40
1	Ochoco	\$21	9	\$135	25	\$101	\$67
3	Prescott	\$26	163	\$120	79	\$48	\$64
4	Salmon-Challis	\$26	30	\$138	131	\$103	\$71
4	Santa Fe	\$25	229	\$148	132	\$55	\$74
2	Shawnee	\$27	64	\$118	72	\$62	\$64
3	Tonto	\$36	358	\$115	187	\$60	\$68
2	Uinta	\$29	265	\$129	89	\$49	\$69
4	Umatilla	\$47	125	\$120	51	\$80	\$76
4	Wasatch-Cache	\$18	284	\$167	105	\$48	\$78
4	Wayne	\$41	83	\$134	40	\$63	\$78
3	Willamette	\$50	159	\$112	172	\$71	\$75
	Three-Year Avg. ^b	\$35	6,424	\$169	6,352	\$89	\$89
	FY2003 Avg. ^b	\$37	2,712	\$194	2,566	\$100	\$100

^a A standardized average is computed using a fixed mix of day trips (60%) and overnight trips (40%) for each forest. The standardized averages should not be used to represent visitors to a particular forest, as they are based on a fixed mix of day and overnight visitors. The forest sample average is computed based upon the forest's mix of day and overnight visitors as shown in Table A-2 (excluding non-primary visitors). As the spending averages reported at the forest-level are generally based upon very limited sample sizes these figures may not be reliable.

^b Forests sampled in the first three years are compared to the three year standardized average and forests in year 4 are compared to the FY 2003 standardized average.

Table A-2. Full Information Segment Shares by Forest

Forest	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
National Average	8%	7%	19%	46%	6%	7%	7%	100%
Allegheny	4%	6%	29%	50%	2%	6%	3%	100%
Angeles	9%	0%	1%	81%	5%	4%	0%	100%
Apache-Sitgreaves	3%	42%	35%	8%	4%	6%	2%	100%
Arapaho-Roosevelt	5%	2%	10%	54%	8%	11%	10%	100%
Ashley	16%	20%	24%	18%	5%	6%	11%	100%
Beaverhead-Deerlodge	2%	11%	6%	39%	6%	22%	14%	100%
Bighorn	9%	8%	15%	32%	8%	11%	17%	100%
Bitterroot	10%	2%	5%	63%	9%	8%	3%	100%
Black Hills	0%	5%	11%	65%	6%	0%	13%	100%
Boise	7%	1%	1%	64%	13%	13%	1%	100%
Bridger-Teton	9%	6%	16%	52%	3%	7%	7%	100%
Caribbean	5%	0%	44%	2%	0%	20%	29%	100%
Caribou-Targhee	0%	4%	11%	57%	12%	7%	9%	100%
Carson	6%	9%	51%	22%	3%	1%	8%	100%
Chattahoochee-Oconee	10%	9%	14%	50%	14%	1%	2%	100%
Chequamegon-Nicolet	17%	5%	35%	34%	2%	3%	4%	100%
Cherokee	11%	3%	3%	56%	16%	3%	8%	100%
Chippewa	5%	16%	17%	53%	3%	5%	1%	100%
Chugach	12%	0%	4%	47%	5%	1%	31%	100%
Cibola	5%	0%	18%	60%	2%	7%	8%	100%
Clearwater	12%	21%	3%	22%	20%	9%	13%	100%
Cleveland	0%	1%	7%	79%	6%	3%	4%	100%
Coconino	16%	7%	24%	31%	2%	4%	16%	100%
Columbia Gorge NSR	5%	1%	6%	72%	1%	2%	13%	100%
Colville	11%	15%	7%	51%	9%	0%	7%	100%
Coronado	7%	5%	9%	62%	4%	7%	6%	100%
Custer	31%	11%	17%	31%	2%	0%	8%	100%
Dakota Prairie	4%	6%	14%	49%	1%	18%	8%	100%
Daniel Boone	8%	9%	7%	65%	8%	3%	0%	100%
Deschutes	5%	11%	19%	43%	4%	8%	10%	100%
Dixie	1%	9%	26%	35%	4%	9%	16%	100%
Eldorado	21%	13%	12%	40%	6%	1%	7%	100%
Fishlake	10%	19%	16%	31%	5%	12%	7%	100%
Flathead	0%	2%	15%	55%	3%	20%	5%	100%
Francis Marion and Sumter	7%	4%	5%	70%	4%	8%	2%	100%
Fremont	17%	14%	20%	30%	12%	6%	1%	100%
Gallatin	2%	4%	18%	59%	7%	2%	8%	100%
Gifford-Pinchot	13%	7%	17%	40%	6%	7%	10%	100%
Gila	1%	11%	22%	24%	5%	16%	21%	100%
Grand Mesa, Uncompahgre and Gunnison	5%	10%	13%	56%	6%	6%	4%	100%
Green Mountain	16%	4%	19%	49%	3%	6%	3%	100%
George Washington & Jefferson	2%	5%	6%	70%	4%	6%	7%	100%
Helena	14%	4%	4%	66%	5%	2%	5%	100%
Hiawatha	1%	4%	31%	35%	2%	6%	21%	100%
Hoosier	13%	12%	2%	60%	9%	1%	3%	100%
Humboldt-Toiyabe	1%	4%	29%	52%	5%	2%	7%	100%
Huron-Manistee	19%	5%	44%	24%	2%	5%	1%	100%
Idaho Panhandle	5%	4%	3%	65%	11%	8%	4%	100%

Table A-2 (Continued). Full Information Segment Shares by Forest

Forest	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Inyo	2%	10%	62%	16%	0%	1%	9%	100%
Kaibab	7%	12%	23%	33%	1%	2%	22%	100%
Kisatchie	2%	1%	0%	97%	0%	0%	0%	100%
Klamath	2%	9%	13%	55%	4%	7%	10%	100%
Kootenai	10%	4%	8%	49%	3%	17%	9%	100%
Lake Tahoe Mgmt. Unit	9%	2%	48%	27%	1%	2%	11%	100%
Land Between the Lakes	10%	12%	13%	51%	10%	2%	2%	100%
Lassen	3%	15%	26%	38%	4%	7%	7%	100%
Lewis and Clark	11%	7%	20%	38%	11%	8%	5%	100%
Lincoln	14%	12%	27%	36%	3%	4%	4%	100%
Lolo	4%	3%	10%	70%	5%	5%	3%	100%
Los Padres	12%	3%	5%	71%	5%	2%	2%	100%
Malheur	1%	23%	24%	40%	2%	1%	9%	100%
Manti-La Sal	2%	6%	3%	41%	4%	8%	36%	100%
Mark Twain	6%	5%	1%	77%	7%	1%	3%	100%
Medicine Bow	10%	14%	13%	40%	9%	7%	7%	100%
Mendocino	27%	16%	5%	48%	3%	1%	0%	100%
Midewin Tallgrass Prairie	21%	0%	0%	78%	0%	0%	1%	100%
Modoc	4%	5%	8%	50%	5%	19%	9%	100%
Monongahela	11%	11%	33%	25%	4%	4%	12%	100%
Mt. Hood	13%	11%	12%	41%	10%	3%	10%	100%
Mt. Baker-Snoqualmie	7%	5%	11%	43%	4%	22%	8%	100%
Nebraska	2%	15%	18%	41%	3%	2%	19%	100%
Nez Perce	7%	18%	36%	28%	0%	2%	9%	100%
NFS of Alabama	4%	5%	3%	70%	8%	9%	1%	100%
NFS of Florida	5%	9%	5%	67%	0%	8%	6%	100%
NFS of Mississippi	1%	2%	3%	65%	6%	20%	3%	100%
NFS of North Carolina	9%	4%	24%	38%	5%	13%	7%	100%
NFS of Texas	3%	4%	20%	62%	10%	1%	0%	100%
Ochoco	0%	17%	10%	30%	18%	24%	1%	100%
Okanogan	2%	8%	50%	28%	5%	1%	6%	100%
Olympic	1%	2%	12%	52%	6%	9%	18%	100%
Ottawa	4%	5%	24%	18%	1%	9%	39%	100%
Ouachita	2%	6%	9%	67%	7%	3%	6%	100%
Ozark-St. Francis	9%	2%	24%	33%	2%	26%	4%	100%
Payette	26%	14%	23%	30%	2%	1%	4%	100%
Pike San Isabel	6%	2%	12%	50%	3%	17%	10%	100%
Plumas	11%	9%	11%	49%	8%	6%	6%	100%
Prescott	17%	7%	9%	58%	3%	4%	2%	100%
Rio Grande	3%	4%	8%	37%	1%	19%	28%	100%
Rogue River	2%	3%	9%	35%	5%	23%	23%	100%
Routt	3%	9%	41%	34%	1%	4%	8%	100%
Salmon-Challis	16%	31%	26%	14%	5%	4%	4%	100%
San Bernardino	27%	7%	6%	45%	7%	0%	8%	100%
San Juan	4%	8%	22%	38%	5%	11%	12%	100%
Santa Fe	16%	7%	11%	54%	4%	0%	8%	100%
Sawtooth	10%	8%	18%	41%	9%	10%	4%	100%
Sequoia	5%	17%	18%	38%	8%	2%	12%	100%
Shasta-Trinity	4%	13%	15%	38%	8%	14%	8%	100%

Table A-2 (Continued). Full Information Segment Shares by Forest

Forest	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Shawnee	12%	5%	15%	46%	4%	12%	6%	100%
Shoshone	3%	11%	13%	35%	12%	4%	22%	100%
Sierra	8%	18%	14%	31%	9%	18%	2%	100%
Siskiyou	1%	3%	14%	48%	10%	10%	14%	100%
Siuslaw	11%	19%	14%	39%	3%	1%	13%	100%
Six Rivers	3%	9%	15%	35%	10%	11%	17%	100%
Stanislaus	21%	26%	18%	24%	4%	0%	7%	100%
Superior	2%	13%	24%	49%	5%	3%	4%	100%
Tahoe	9%	4%	28%	43%	3%	5%	8%	100%
Tongass (All Years)	1%	1%	24%	62%	2%	6%	6%	100%
Tonto	9%	4%	1%	60%	22%	3%	1%	100%
Uinta	9%	2%	2%	67%	10%	5%	5%	100%
Umatilla	13%	11%	17%	40%	11%	5%	3%	100%
Umpqua	2%	13%	8%	37%	13%	11%	16%	100%
Wallowa-Whitman	18%	13%	10%	43%	6%	2%	8%	100%
Wasatch-Cache	2%	2%	7%	76%	9%	1%	3%	100%
Wayne	17%	8%	7%	57%	2%	7%	2%	100%
Wenatchee	17%	5%	21%	27%	3%	25%	2%	100%
White Mountain	10%	15%	48%	20%	1%	3%	3%	100%
White River	13%	2%	57%	20%	1%	4%	3%	100%
Willamette	15%	9%	9%	46%	7%	6%	8%	100%
Winema	4%	5%	24%	44%	11%	11%	1%	100%

NOTE: The full information segment shares are computed using NVUM case weights and some information from the general portion of the NVUM survey. Questions for distinguishing day and overnight trips and to identify non-primary purpose trips were only asked on the economics portion of the survey.

Table A-3. People per Vehicle by Segment by Forest^a

Forest	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Allegheny		2.3	2.5	1.8				2.1
Angeles	2.9			2.4				2.5
Apache-Sitgreaves		2.9	2.8	2.2				2.7
Arapaho-Roosevelt	2.5		4.4	1.9	2.4	2.9	2.6	2.3
Ashley	2.8	2.9	2.2	2.0			2.3	2.5
Beaverhead-Deerlodge		2.9		2.3	3.2			2.8
Bighorn		1.8	2.5	2.4			2.5	2.4
Bitterroot	3.8			2.0	2.2			2.2
Black Hills		3.2	2.1	1.9				2.2
Boise				2.1	2.4			2.5
Bridger-Teton	1.9	2.6	2.3	2.3		2.4	2.9	2.4
Caribbean			2.4					2.6
Caribou-Targhee			2.1	2.0	2.3	2.6	2.9	2.1
Carson		2.8	2.8	1.8				2.4
Chattahoochee-Oconee	1.6			1.8	2.8			2.1
Chequamegon-Nicolet	1.7	2.6	2.6	2.0			2.5	2.3
Cherokee		1.9		2.1	2.3			2.2
Chippewa		2.1	2.7	1.9				2.1
Chugach				2.5			3.5	2.7
Cibola			3.2	2.3			3.6	2.6
Clearwater		3.0		2.6				2.5
Cleveland				2.3	2.5			2.1
Coconino	2.5	2.7	2.6	1.4			2.2	2.1
Columbia Gorge NSR	2.5		2.6	2.4			2.5	2.4
Colville		2.6		1.8				2.0
Coronado	2.2		2.5	2.0	2.4			2.1
Custer	2.7	3.0						2.7
Dakota Prairie								2.5
Daniel Boone	2.7	2.4		1.7	2.4			2.0
Deschutes		2.2	2.6	1.9			2.9	2.2
Dixie		2.8	2.5	2.7			2.6	2.6
Eldorado	3.0	2.2	2.9	2.1	1.9		2.6	2.4
Fishlake		2.9	2.5	2.0				2.3
Flathead				1.9				2.3
Francis Marion and Sumter	2.5			1.9				2.0
Fremont				2.1				2.3
Gallatin			2.7	1.9	1.9		2.5	2.1
Gifford-Pincho	2.4		2.9	2.6	2.1		2.8	2.5
Gila			2.4					2.1
Grand Mesa, Uncompahgre and Gunnison	1.6	2.1	2.2	2.2	2.0		2.1	2.2
Green Mountain			2.2	2.3				2.1
George Washington & Jefferson			1.5	1.6		2.9		1.8
Helena				2.4				2.7
Hiawatha			2.3	1.5			2.4	2.2
Hoosier		2.9		2.4	1.7			2.4
Humboldt-Toiyabe				2.3				2.6

Table A-3 (Continued). People per Vehicle by Segment by Forest^a

Forest	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Huron-Manistee			2.4	1.8		2.1		2.2
Idaho Panhandle	1.6	2.3		2.1	3.1	2.1	2.6	2.3
Inyo		2.3	2.5	1.2			2.3	2.3
Kaibab			3.5	2.3			2.8	2.8
Kisatchie				2.4				2.4
Klamath				1.6				1.7
Kootenai		2.3	4.0	2.3		1.8	2.6	2.5
Lake Tahoe Mgmt. Unit	1.8	2.4	2.5	1.7			2.8	2.1
Land Between the Lakes				2.3				2.3
Lassen		2.7	2.5					2.6
Lewis and Clark				2.2				2.5
Lincoln	2.9	2.0	2.7	2.7				2.5
Lolo				1.9				1.9
Los Padres	2.2			1.7				1.8
Malheur		2.0		2.9				2.8
Manti-La Sal				2.2				2.6
Mark Twain		2.2		2.2				2.3
Medicine Bow	1.9	2.6	3.0	1.9	2.8		1.5	2.2
Mendocino	1.8	2.6	2.7	1.9				2.0
Midwin Tallgrass Prairie				1.6				1.5
Modoc								2.7
Monongahela	2.1	3.0	2.4	2.1	2.2		2.6	2.4
Mt. Hood	2.5	2.4	2.5	2.5	2.2			2.5
Mt. Baker-Snoqualmie	2.0			2.6	2.2	2.1	2.4	2.8
Nebraska		2.4		2.3				2.7
Nez Perce								2.4
NFS of Alabama				1.7	3.0			1.8
NFS of Florida				2.4				2.5
NFS of Mississippi		2.0		1.6	3.2	1.9		1.7
NFS of North Carolina		2.6	2.3	1.6		2.7	2.7	2.1
NFS of Texas				2.3				2.3
Ochoco								1.9
Okanogan		2.6	2.4					2.2
Olympic			2.5	1.8	2.7	2.6	2.5	2.1
Ottawa		1.6	2.4	2.2			2.1	2.2
Ouachita		2.5	1.4	2.3				2.3
Ozark-St. Francis			4.0	2.5		1.8		2.5
Payette	2.1	2.0	3.6	2.4				2.4
Pike San Isabel			3.1	1.6		2.6	2.0	2.0
Plumas		2.5	2.2	2.2	2.4	2.2		2.3
Prescott	2.1	2.9	2.3	1.7				2.0
Rio Grande								2.5
Rogue River							2.7	2.7
Routt		1.7	2.2	3.1				2.6
Salmon-Challis		2.8	3.0	1.6	2.2			2.7
San Bernardino	2.8	2.8	3.8	2.8	4.1		2.5	2.9
San Juan		3.0	2.5	1.9			2.7	2.2
Santa Fe	2.9	3.1	2.7	2.0	3.3		2.3	2.4
Sawtooth		3.1	2.3	1.8		2.9		2.4
Sequoia		3.2	3.4	2.4	2.3		2.8	2.7

Table A-3 (Continued). People per Vehicle by Segment by Forest^a

Forest	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Shasta-Trinity		2.2	2.4	2.6	3.2		2.8	2.6
Shawnee	2.8	3.1	2.8	2.4		3.1		2.6
Shoshone		3.0	3.3	1.9			2.3	2.4
Sierra		2.6	3.9	2.6	2.1	2.4		2.7
Siskiyou				2.6				2.6
Siuslaw		3.1	2.1	2.7			3.4	2.6
Six Rivers				2.7	2.0		2.6	2.3
Stanislaus	2.6	2.6	3.3	3.2	2.0			2.7
Superior			2.9					2.1
Tahoe	1.5	2.5	2.1	1.7	2.4	2.8	1.8	1.9
Tongass (All Years)			2.2	1.9				2.0
Tonto	2.3	2.1	3.0	2.3	3.1	3.2		2.4
Uinta	2.7			2.4	3.7	2.4	2.5	2.6
Umatilla	2.4	2.7		2.2				2.4
Umpqua		2.8		2.3	2.5		2.2	2.4
Wallowa-Whitman		2.5	3.0	1.8			2.4	2.1
Wasatch-Cache			3.7	2.3	3.0			2.5
Wayne	2.0	2.4		2.3				2.3
Wenatchee	2.8	2.1	3.4	2.2		3.6		2.9
White Mountain		2.0	3.3	2.3				2.6
White River	2.2	1.9	2.7	1.7	2.0	2.1	2.3	2.2
Willamette	2.5	2.4	2.5	2.3	2.4	2.4	2.4	2.4
Winema				2.3				2.7
National Average	2.3	2.5	2.7	2.1	2.5	2.5	2.6	2.3

^a If a forest has less than 15 cases in a segment the value is left blank. In these instances the national average at the bottom of the column may be used.

Table A-4. Economic Sub-Sample Size by Forest and Segment^a

Forest	Non-local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Allegheny	6	17	47	35	4	10	6	125
Angeles	20	0	2	177	7	13	1	220
Apache-Sitgreaves	8	96	61	15	5	9	5	199
Arapaho-Roosevelt	15	7	16	135	18	38	32	261
Ashley	27	37	36	18	7	13	20	158
Beaverhead-Deerlodge	4	15	13	54	17	13	9	125
Bighorn	13	36	24	37	8	11	39	168
Bitterroot	21	9	8	114	29	11	12	204
Black Hills	3	28	20	46	11	1	11	120
Boise	3	4	3	31	25	12	1	79
Bridger-Teton	25	41	43	137	12	20	51	329
Caribbean	2	0	19	6	0	3	10	40
Caribou-Targhee	4	6	33	50	24	41	23	181
Carson	7	21	32	36	6	3	13	118
Chattahoochee-Oconee	22	11	13	58	18	4	10	136
Chequamegon-Nicolet	15	28	53	48	12	8	16	180
Cherokee	14	15	9	66	53	3	7	167
Chippewa	6	32	23	33	3	5	3	105
Chugach	7	1	5	22	8	3	21	67
Cibola	10	0	25	116	3	12	18	184
Clearwater	14	16	13	21	8	12	9	93
Cleveland	4	4	11	105	29	8	7	168
Coconino	19	18	55	45	8	6	22	173
Columbia Gorge NSR	22	13	28	141	6	9	43	262
Colville	10	21	7	39	14	1	12	104
Coronado	20	13	17	144	33	13	10	250
Custer	21	22	9	12	4	0	9	77
Dakota Prairie	2	2	4	11	4	4	2	29
Daniel Boone	15	53	14	64	23	6	3	178
Deschutes	6	29	32	54	7	5	17	150
Dixie	3	25	29	37	10	5	23	132
Eldorado	42	102	18	116	47	4	18	347
Fishlake	7	22	15	19	8	8	6	85
Flathead	1	5	12	42	8	11	14	93
Francis Marion and Sumter	18	8	10	77	8	4	8	133
Fremont	2	14	11	26	9	6	4	72
Gallatin	11	14	46	173	16	12	31	303
Gifford-Pinchet	20	6	29	42	15	11	20	143
Gila	4	6	20	5	3	6	9	53
Grand Mesa, Uncompahgre and Gunnison	15	32	41	129	23	9	26	275
Green Mountain	10	8	27	53	3	9	6	116
George Washington & Jefferson	4	11	15	87	13	23	5	158
Helena	8	6	10	83	12	5	9	133
Hiawatha	1	9	28	20	3	6	23	90
Hoosier	12	21	7	58	15	1	10	124
Humboldt-Toiyabe	1	2	12	31	8	5	6	65
Huron-Manistee	10	12	46	15	8	15	3	109
Idaho Panhandle	15	20	13	106	61	20	15	250

Table A-4 (Continued). Economic Sub-Sample Size by Forest and Segment^a

Forest	Non-local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Inyo	10	126	134	27	5	6	61	369
Kaibab	8	7	24	19	2	4	37	101
Kisatchie	2	2	1	18	3	2	1	29
Klamath	1	8	10	35	7	7	6	74
Kootenai	12	15	15	89	7	36	15	189
Lake Tahoe Mgmt. Unit	28	22	121	73	6	13	38	301
Land Between the Lakes	3	9	3	17	1	4	4	41
Lassen	3	16	24	13	12	5	7	80
Lewis and Clark	12	6	14	29	11	12	9	93
Lincoln	17	26	26	44	5	3	7	128
Lolo	8	7	5	86	5	6	5	122
Los Padres	15	8	8	102	13	9	5	160
Malheur	6	41	7	20	7	1	8	90
Manti-La Sal	6	9	10	30	8	9	14	86
Mark Twain	11	31	9	60	13	5	6	135
Medicine Bow	17	43	30	53	21	14	16	194
Mendocino	53	84	15	70	8	1	2	233
Midwin Tallgrass Prairie	7	0	0	16	0	0	2	25
Modoc	2	14	6	11	6	4	7	50
Monongahela	23	69	76	51	17	7	38	281
Mt. Hood	21	37	25	110	62	9	13	277
Mt. Baker-Snoqualmie	17	4	12	106	20	33	19	211
Nebraska	2	16	12	16	1	1	9	57
Nez Perce	3	5	13	12	0	1	4	38
NFS of Alabama	9	14	4	31	32	6	7	103
NFS of Florida	8	1	10	40	0	10	4	73
NFS of Mississippi	4	18	5	23	17	16	2	85
NFS of North Carolina	12	15	41	39	12	24	19	162
NFS of Texas	2	9	2	28	14	1	1	57
Ochoco	0	6	7	6	3	8	2	32
Okanogan	5	24	36	13	6	3	13	100
Olympic	4	11	23	59	22	31	43	193
Ottawa	7	29	36	20	8	5	48	153
Ouachita	14	39	23	66	11	4	5	162
Ozark-St. Francis	6	6	31	47	5	15	6	116
Payette	15	25	16	20	5	1	6	88
Pike San Isabel	13	7	25	109	13	37	26	230
Plumas	14	26	27	60	32	24	12	195
Prescott	39	37	18	118	14	6	5	237
Rio Grande	1	8	5	5	3	2	9	33
Rogue River	3	4	1	9	5	5	18	45
Routt	4	20	33	27	3	10	12	109
Salmon-Challis	13	66	37	17	17	10	10	170
San Bernardino	43	26	19	118	26	4	19	255
San Juan	5	15	17	51	2	11	19	120
Santa Fe	81	67	33	145	27	3	24	380
Sawtooth	7	25	24	28	8	16	8	116
Sequoia	11	102	46	52	19	6	31	267
Shasta-Trinity	11	51	27	55	19	11	17	191
Shawnee	17	17	30	47	6	17	5	139

Table A-4 (Continued). Economic Sub-Sample Size by Forest and Segment^a

Forest	Non-local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Shoshone	10	21	18	44	14	5	20	132
Sierra	11	48	23	44	29	18	6	179
Siskiyou	1	8	7	31	14	9	11	81
Siuslaw	7	20	21	25	10	1	28	112
Six Rivers	7	11	11	35	20	9	20	113
Stanislaus	45	143	48	31	18	2	13	300
Superior	2	14	22	13	4	3	5	63
Tahoe	32	60	65	129	25	22	20	353
Tongass (All Years)	8	3	44	182	8	11	13	269
Tonto	36	34	18	300	104	25	11	528
Uinta	31	8	9	227	48	21	20	364
Umatilla	43	20	12	79	14	1	2	171
Umpqua	2	27	8	29	20	7	17	110
Wallowa-Whitman	7	34	32	53	10	8	26	170
Wasatch-Cache	3	8	15	281	71	10	12	400
Wayne	16	19	5	66	12	2	2	122
Wenatchee	43	28	42	56	14	19	3	205
White Mountain	9	40	39	18	1	6	8	121
White River	53	34	121	141	21	18	24	412
Willamette	48	71	34	110	49	17	36	365
Winema	2	3	6	18	2	4	2	37
Total	1,600	2,845	2,840	7,241	1,753	1,153	1,681	19,113

^a Excludes outliers and cases with missing Zip codes.

Table A-5. Trip Segment Distribution by Primary Activity^a

Primary Activity	Non-Local Segments			Local Segments			Non-Primary	Total
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
National Average ^b	8%	7%	19%	46%	6%	7%	7%	100%
Biking ^c	5%	1%	22%	59%	3%	4%	6%	100%
Boating ^c	11%	11%	15%	43%	9%	7%	5%	100%
Cross-country skiing	10%	3%	29%	53%	2%	3%	1%	100%
Developed Camping	1%	32%	12%	2%	35%	12%	7%	100%
Downhill skiing	15%	1%	31%	43%	1%	6%	2%	100%
Driving	6%	1%	8%	71%	0%	3%	11%	100%
Fishing	11%	12%	13%	50%	7%	5%	4%	100%
General/Relaxing	8%	18%	12%	36%	14%	7%	5%	100%
Hiking	8%	3%	12%	64%	2%	4%	6%	100%
Hunting	5%	13%	7%	50%	10%	12%	3%	100%
Multiple activities	11%	14%	11%	32%	7%	14%	11%	100%
Nature-related ^c	10%	3%	22%	43%	2%	5%	16%	100%
No primary activity	4%	18%	17%	44%	8%	5%	5%	100%
OHV use ^c	11%	11%	11%	49%	8%	5%	5%	100%
Other ^c	8%	3%	7%	60%	6%	9%	7%	100%
Other non-motorized	10%	3%	6%	74%	2%	2%	2%	100%
Picnic	6%	2%	10%	60%	2%	5%	16%	100%
Prim. camp/Backpacking	0%	33%	14%	4%	33%	13%	2%	100%
Resort	3%	16%	12%	9%	26%	15%	19%	100%
Snowmobile	7%	2%	11%	56%	6%	7%	10%	100%

^a Excludes cases with missing Zip codes, activity segment distributions are case weighted using the economic subsample.

^b National average segment shares are computed using case weights and information from both the economics and general sections of the survey.

^c "Nature-related" activities include viewing wildlife, viewing natural features, nature study, visiting a nature center, or viewing forest. "OHV use" also includes other motorized activity. "Boating" combines motorized and non-motorized boating. The "other" category includes gathering, visiting historic sites, and horseback riding

Table A-6. Participation in Recreation Activities and Reported Primary Activity on the Trip

Recreation Activity	Percent Participating ^a	Percent Primary Activity ^a	Number of Cases (Full Sample)	Number of Cases (Economic Sample)
Biking	5%	3%	1,766	448
Boating ^b	6%	2%	2,014	579
Cross-country skiing	4%	3%	1,651	425
Developed Camping	11%	4%	5,409	1,583
Downhill skiing	15%	14%	3,875	971
Driving	23%	4%	2,688	703
Fishing	15%	8%	7,011	1,843
General/Relaxing	40%	7%	8,100	2,223
Hiking	39%	14%	14,827	4,067
Hunting	10%	8%	4,189	1,079
Nature-related ^b	60%	10%	9,175	2,300
OHV use ^b	7%	3%	2,119	599
Other Activity ^b	13%	3%	2,358	646
Other non-motorized	9%	3%	2,830	760
Picnic	13%	2%	2,363	572
Prim. camp/Backpacking	9%	2%	2,759	791
Resort	4%	1%	689	168
Snowmobile	3%	2%	1,702	434
Multiple primary activities	---	4%	3,382	750
No primary activity	---	3%	2,370	465
Total	---	100%	81,277	21,406

^a Estimated using case weights on full sample.

^b "Nature-related" activities include viewing wildlife, viewing natural features, nature study, visiting a nature center, or viewing forest. "OHV use" also includes other motorized activity. "Boating" combines motorized and non-motorized boating. The "other" category includes gathering, visiting historic sites, and horseback riding.

Appendix B.

Spending Profiles of Wildlife-Related National Forest Visitors

This Appendix presents two sets of spending profiles for national forest visitors. One set is for visitors whose primary activity on the forest was wildlife-related. The other set is for visitors whose primary activity was one of 23 other general recreation activities (non-wildlife-related). The wildlife-related activity spending profiles can be used to evaluate the economic contribution of wildlife-related recreation activity on National Forests. Estimates are based on the National Forest Visitor Use Monitoring Project (NVUM) data for the first four years of the NVUM cycle (calendar year 2000 through fiscal year 2003)²¹.

Wildlife-related visitors were identified by their response to two questions on the NVUM Survey: “What activities have you participated in while on this visit?” and “Of these, which was your primary recreation activity?”. Respondents who selected viewing wildlife, hunting, or fishing were considered wildlife-related visitors.

Forty-four percent of national forest visitors participated in a wildlife-related activity during their visit (Table B-1). Twenty-eight percent engaged in wildlife viewing, 15 percent fished, and 10 percent hunted. Nineteen percent of visitors stated that their primary activity during their visit was wildlife-related. Only one percent of visitors cited viewing wildlife as their primary activity, while eight percent cited fishing and nine percent stated hunting was their primary activity. Only respondents to the economic portion of the survey who stated that their primary recreation activity was wildlife-related are used in the subsequent analysis²².

“Viewing wildlife” was not included in the list of activities in the first year of NVUM sampling so the four year sample underestimates the percentage of wildlife viewers. Based on the data from years 2001, 2002, and 2003, 20 percent of national forest visitors came primarily for a wildlife-related activity, two percent of these were wildlife viewing, nine percent were fishing and nine percent were hunting.

²¹ Wildlife viewing was not included in the activity list during the first year of the NVUM survey. The percentage of visitors engaged in wildlife-related activities (Table B-1) is therefore also estimated based on the last three years of data. Spending averages are based on data from all four years.

²² The patterns of wildlife-related recreation participation in the economic sub-sample are similar to that of the general sample.

Table B-1. Participation in Wildlife-Related Recreation by NVUM Respondents

	All Respondents	Any Wildlife-Related	Viewing Wildlife	Fishing	Hunting
NVUM General Survey					
Participated, N	81,277	42,972	31,893	15,551	5,180
Raw Percent	100%	53%	39%	19%	6%
Weighted ^a		44%	28%	15%	10%
Last 3 years, weighted ^{a,b}		54%	40%	16%	10%
Primary Activity, N ^{a,b}	75,525	12,298	1098	7,011	4,189
Raw Percent	100%	16%	1%	9%	6%
Weighted ^a		19%	1%	8%	9%
Last 3 years, weighted ^{a,b}		20%	2%	9%	9%
Economic Subsample					
Primary Activity, N ^{a,b}	20,191	3,225	303	1,843	1,079
Raw Percent	100%	16%	2%	9%	5%
Weighted ^a		18%	1%	8%	9%
Last 3 years, weighted ^{a,b}		19%	2%	8%	9%

Note: Respondents identifying multiple primary activities or failing to provide a primary activity are excluded from primary activity figures.

^a Weighted figures adjust the sample for sampling exposure and disproportionate sampling across NVUM strata using NVUM case weights.

^b The four year data underestimates viewing wildlife as this activity was not included during the first year of NVUM sampling. We therefore recommend using estimates based on the last three years.

Spending Profiles by Trip Segments

The average spending of wildlife-related visitors was not significantly different than non-wildlife related visitors, although there were significant differences within particular visitor segments (Table B-2). Wildlife-related visitors in the OVN-NF trip segments and the local day trip segment spent more per trip than non-wildlife visitors. Non-local visitors on day trips whose primary activity was wildlife-related spent less than their non-wildlife-related counterparts

The higher spending for the OVN-NF segments is mostly explained by longer stays of wildlife-related visitors. On a per night basis wildlife-related visitors in both OVN-NF segments spent less than non-wildlife related visitors. Local visitors on day trips spent significantly more if their primary activity was wildlife-related, while non-local visitors on day trips spend less than average if their primary activity was wildlife-related. The difference in the day trip segments stems largely from a higher percentage of visitors “viewing wildlife” in the non-local day trip segment compared to the local day trip segment. Visitors on day trips whose primary activity was “viewing wildlife” spent between \$10 and \$25 less than day trip visitors whose primary activity was “hunting” or “fishing”.

Table B-2. Comparison of Wildlife-Related and Not Wildlife-Related Visitor Spending^a

Spending category	Non-Local Segments			Local Segments			Total ^b	
	Day	OVN-NF	OVN	Day	OVN-NF	Non-OVN Primary		
Spending per party per trip								
Wildlife-related	\$41*	\$204*	250	\$44*	\$152*	\$116	\$195	\$104
Non-wildlife-related	\$54*	\$151*	244	\$31*	\$120*	\$116	\$182	\$105
Full Information Segment Shares^c								
Wildlife-related	6.9%	10.7%	10.4%	50.5%	8.9%	8.8%	3.9%	100%
Non-wildlife-related	8.4%	6.5%	20.4%	45.9%	5.1%	6.4%	7.4%	100%
Spending per night on the NF								
Wildlife-related		\$57			\$46			
Non-wildlife-related		\$63			\$57			

^a All dollar figures expressed in 2003 dollars.

* Averages that are statistically different (95% confidence level) are designated by an asterisk

^b Spending averages are computed as a weighted average of the columns using the full information segment shares.

^c The full information segment shares are computed using NVUM case weights and some information from cases that did not complete the economics portion of the survey.

Tables B-3 and B-4 provide the detailed spending patterns for wildlife-related and non-wildlife-related visitors, respectively. The spending profiles for non-wildlife-related visitors are similar to the overall national averages, since the majority of visitors fall into this group. The higher spending by wildlife-related visitors in some trip segments is due primarily to higher spending on gas and oil, and groceries.

Table B-3. Wildlife-related Visitor Spending by Trip Type Segment and Spending Category, \$ per party per trip^a

Spending category	Non-Local Segments			Local Segments			Non-Primary	All Visits ^b
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Lodging	0.00	31.62	63.70	0.00	15.02	14.87	47.56	14.50
Restaurant	8.39	28.44	57.76	6.19	15.15	18.44	37.70	17.18
Groceries	7.00	48.53	33.62	8.11	49.42	24.67	25.08	20.80
Gas & oil	16.00	54.31	47.04	15.51	38.40	34.89	34.17	27.44
Other transp.	0.00	2.10	1.74	0.02	0.52	0.16	1.62	0.54
Activities	2.97	8.47	18.81	1.81	3.28	4.58	20.06	5.46
Admissions/fees	2.44	8.03	6.50	2.81	6.47	3.46	5.36	4.21
<u>Souvenirs/other</u>	<u>3.91</u>	<u>22.28</u>	<u>20.78</u>	<u>9.58</u>	<u>23.66</u>	<u>15.42</u>	<u>23.40</u>	<u>14.02</u>
Total	40.71	203.78	249.95	44.03	151.92	116.49	194.95	104.15
N(unwtd)	262	501	406	1117	270	206	134	2,896
Std. Dev. of Total	65	220	231	82	165	184	239	183
SE Mean of Total	4.0	9.9	11.8	2.5	10.1	12.9	17.6	3.4
Pct Error (95% level)	20%	10%	9%	11%	13%	22%	18%	7%

^a Outliers are excluded and exposure weights are applied in estimating spending averages. All figures expressed in 2003 dollars.

^b All visits averages are computed as a weighted average across columns using full information segment shares for wildlife related visitors (Table B-2). The inclusion of cases without spending data in estimating segment shares explains why both the wildlife and nonwildlife “all visits” averages are less than the overall average of 105.57 in Table 2.

Table B-4. Not Wildlife Related Visitor Spending by Trip Type Segment and Spending Category, \$ per party per trip^a

Spending category	Non-Local Segments			Local Segments			Non-Primary	All Visits ^b
	Day	OVN-NF	OVN	Day	OVN-NF	OVN		
Lodging	0.00	23.82	65.05	0.00	16.44	18.24	48.90	20.42
Restaurant	14.64	24.52	59.11	6.11	13.33	22.19	45.48	23.12
Groceries	7.73	33.76	30.88	4.92	39.65	23.18	20.66	16.41
Gas & oil	15.99	33.31	33.84	10.96	25.76	23.85	27.99	20.33
Other transp.	1.17	3.21	8.55	0.24	0.15	1.30	5.43	2.65
Activities	4.05	7.94	14.91	1.82	3.89	7.27	8.69	6.03
Admissions/fees	5.79	10.74	9.46	3.53	11.28	9.51	7.12	6.44
<u>Souvenirs/others</u>	<u>4.39</u>	<u>14.03</u>	<u>22.66</u>	<u>3.21</u>	<u>8.99</u>	<u>10.49</u>	<u>18.19</u>	<u>9.84</u>
Total	53.76	151.33	244.46	30.79	119.49	116.03	182.46	105.24
N(unwtd)	1,338	2,344	2,434	6,124	1,483	947	1,547	16,217
Std. Dev. of Total	88	196	252	61	143	157	228	180
SE Mean of Total	2.4	4.0	5.1	0.8	3.7	5.1	5.8	1.4
Pct Error (95% level)	9%	5%	4%	5%	6%	9%	6%	3%

^a Outliers are excluded and exposure weights are applied in estimating spending averages. All figures expressed in 2003 dollars.

^b All visits averages are computed as a weighted average across columns using full information segment shares for non-wildlife related visitors only (Table B-2).

Wildlife-related Visitor Trip and Party Characteristics

Visitors whose primary activity was wildlife-related had smaller party sizes and were less likely to include children in the party than visitors whose primary activity was not wildlife-related (Table B-5). Wildlife-related visitors staying overnight on the national forest had longer stays, averaging at least an extra night compared to OVN-NF visitors in general.

The percentage of visitor parties whose primary activity was wildlife-related varies across forests (Table B-6). For some forests, the percentages are sensitive to the choice of weights. For example, for Land Between the Lakes the raw percentage of wildlife-related visitor parties in the NVUM sample is 59%, but drops to 44% when case weights are applied. Conversely, 13% of the NVUM sample on the Cherokee National Forest were wildlife-related visitors, but after case weighting, the share of wildlife-related visitors increases to 30%. Figures in Table B-6 should be used cautiously if the weighted and unweighted estimates are very different. The percentage of the NVUM sample classified as wildlife-related on each forest depends somewhat on the relative proportion of site days assigned to distinct locations and seasons, as these may differentially attract wildlife-related visitors.

The percentage of visitors identified as wildlife-related depends on the proportion of wildlife viewers, hunters and anglers on each forest who identified the activity as their primary activity. While most trips involving hunting identified hunting as the primary activity, only about half of the trips in which someone in the party fished identified angling as the primary activity, and less than 5% of trips involving wildlife viewing identified it as the primary activity (Table B-1). The percentage of visitors identified as wildlife-related is therefore sensitive to the proportions of wildlife viewers and anglers on each forest who identify the activity as their primary one.

Table B-5. Wildlife-Related and Not Wildlife-Related Visitor Characteristics

Characteristic	Wildlife-related	Non-Local Segments			Local Segments			Non-Primary	Total
		Day	OVN-NF	OVN	DAY	OVN-NF	OVN		
Segment Share ^a	Yes	6.9%	10.7%	10.4%	50.5%	8.9%	8.8%	3.9%	100%
	No	8.4%	6.5%	20.4%	45.9%	5.1%	6.4%	7.4%	100%
People per Vehicle ^b	Yes	2.0	2.1	2.2	1.9	2.0	2.2	2.1	2.0
	No	2.4	2.6	2.7	2.1	2.6	2.5	2.7	2.4
Children Under 16 ^b	Yes	0.3	0.2	0.4	0.3	0.3	0.4	0.4	0.3
	No	0.3	0.6	0.5	0.4	0.7	0.6	0.5	0.5
Nights on the National Forest ^b	Yes	0.0	3.6	0.5	0.0	3.3	0.1	2.6	2.5
	No	0.0	2.4	0.2	0.0	2.1	0.1	1.0	1.6

^a Based on full-information segment shares computed using NVUM case weights and some information from cases that did not complete the economics portion of the survey.

^b Outliers and cases with missing Zip codes excluded, case weighted

Table B-6. Percentage of Wildlife-Related Visits by Forest

Forest	Un-weighted	Exposure Weights	Case Weights
National Average	16%	17%	19%
Allegheny	24%	27%	44%
Angeles	8%	8%	9%
Apache-Sitgreaves	18%	19%	21%
Arapaho-Roosevelt	11%	12%	9%
Ashley	33%	33%	41%
Beaverhead-Deerlodge	42%	42%	39%
Bighorn	18%	17%	28%
Bitterroot	10%	10%	19%
Black Hills	16%	19%	31%
Boise	15%	17%	18%
Bridger-Teton	13%	12%	13%
Caribbean	0%	0%	0%
Caribou-Targhee	8%	7%	29%
Carson	9%	10%	9%
Chattahoochee-Oconee	30%	29%	21%
Chequamegon-Nicolet	32%	33%	39%
Cherokee	13%	14%	30%
Chippewa	54%	53%	58%
Chugach	39%	36%	32%
Cibola	7%	6%	8%
Clearwater	18%	19%	20%
Cleveland	8%	8%	12%
Coconino	7%	7%	9%
Columbia Gorge NSR	2%	2%	2%
Colville	20%	21%	22%
Coronado	9%	7%	10%
Custer	21%	19%	33%
Dakota Prairie	41%	44%	42%
Daniel Boone	18%	20%	33%
Deschutes	28%	28%	21%
Dixie	23%	24%	21%
Eldorado	16%	18%	13%
Fishlake	51%	51%	57%
Flathead	20%	21%	19%
Francis Marion and Sumter	35%	36%	41%
Fremont	44%	45%	50%
Gallatin	11%	10%	19%
Gifford-Pinchot	11%	13%	17%
Gila	18%	21%	33%
Grand Mesa, Uncompahgre and Gunnison	12%	11%	18%
Green Mountain	12%	12%	9%
George Washington & Jefferson	23%	23%	37%
Helena	39%	40%	49%
Hiawatha	9%	9%	23%
Hoosier	20%	21%	39%
Humboldt-Toiyabe	10%	7%	15%
Huron-Manistee	29%	31%	30%
Idaho Panhandle	21%	22%	28%
Inyo	23%	22%	13%
Kaibab	11%	10%	18%
Kisatchie	14%	18%	20%

Table B-6 (Continued). Percentage of Wildlife-Related Visits by Forest

Forest	Un-weighted	Exposure Weights	Case Weights
Klamath	21%	19%	12%
Kootenai	22%	22%	39%
Lake Tahoe Mgmt. Unit	2%	2%	4%
Land Between the Lakes	59%	61%	44%
Lassen	31%	28%	25%
Lewis and Clark	25%	25%	31%
Lincoln	4%	3%	2%
Lolo	13%	12%	21%
Los Padres	7%	6%	13%
Malheur	35%	34%	32%
Manti-La Sal	21%	23%	17%
Mark Twain	11%	11%	21%
Medicine Bow	21%	23%	24%
Mendocino	13%	13%	18%
Midewin Tallgrass Prairie	47%	47%	85%
Modoc	36%	34%	25%
Monongahela	23%	25%	29%
Mt. Hood	7%	7%	3%
Mt. Baker-Snoqualmie	5%	6%	3%
Nebraska	31%	35%	29%
Nez Perce	20%	21%	29%
NFS of Alabama	14%	14%	36%
NFS of Florida	7%	6%	35%
NFS of Mississippi	34%	34%	74%
NFS of North Carolina	11%	13%	15%
NFS of Texas	29%	32%	55%
Ochoco	18%	18%	24%
Okanogan	5%	5%	7%
Olympic	9%	10%	15%
Ottawa	20%	21%	27%
Ouachita	19%	23%	52%
Ozark-St. Francis	21%	22%	32%
Payette	28%	29%	27%
Pike San Isabel	10%	11%	15%
Plumas	25%	25%	21%
Prescott	13%	14%	15%
Rio Grande	20%	18%	20%
Rogue River	16%	16%	19%
Routt	16%	17%	11%
Salmon-Challis	37%	41%	41%
San Bernardino	6%	5%	2%
San Juan	14%	15%	16%
Santa Fe	12%	11%	8%
Sawtooth	5%	5%	6%
Sequoia	14%	17%	25%
Shasta-Trinity	18%	19%	34%
Shawnee	11%	14%	17%
Shoshone	21%	21%	24%
Sierra	12%	11%	10%
Siskiyou	8%	9%	8%
Siuslaw	16%	19%	11%
Six Rivers	23%	24%	31%
Stanislaus	15%	15%	16%

Table B-6 (Continued). Percentage of Wildlife-Related Visits by Forest

Forest	Un-weighted	Exposure Weights	Case Weights
Superior	35%	37%	27%
Tahoe	13%	13%	8%
Tongass (All Years)	9%	9%	7%
Tonto	17%	17%	23%
Uinta	21%	19%	21%
Umatilla	21%	19%	36%
Umpqua	21%	23%	26%
Wallowa-Whitman	13%	15%	37%
Wasatch-Cache	9%	8%	9%
Wayne	16%	16%	23%
Wenatchee	9%	9%	12%
White Mountain	2%	2%	1%
White River	9%	9%	2%
Willamette	17%	18%	19%
Winema	18%	19%	38%

Note: WR percentages are estimated using the full sample. Respondents reporting multiple primary activities or failing to provide a primary activity are excluded.