

# Impacts of Visitor Spending on the Local Economy: Harpers Ferry National Historical Park, 2005



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## **Executive Summary**

Harpers Ferry National Historical Park (NHP) hosted 241,807 recreation visits in 2005. Based on the 2005 visitor survey 20% of the visitors are local residents, 42% are visitors from outside the local area not staying overnight within an hours drive of the park, and 38% are visitors staying overnight in the local area. About two thirds of the overnight visitors (63%) are staying in motels, cabins or B&B's, 13% are camping and 24% are staying with friends or relatives or other unpaid lodging.

The average visitor party spent \$127 in the local area. Visitors reported expenditures of their group inside the park and within an hours drive of the park. On a party trip basis, average spending in 2005 was \$55 for local residents, \$49 for non-local day trips, \$336 for visitors in motels, \$237 for campers and \$45 for other overnight visitors. On a per night basis, visitors staying in motels spent \$204 in the local region compared to \$111 for campers and \$18 for other overnight visitors. The average per night lodging cost was \$90 per night for motels and \$47 for campgrounds.

Total visitor spending in 2005 within an hours drive of the park was \$8.6 million excluding park admission fees. Thirty-two percent of the spending was for lodging, 27% restaurant meals and bar expenses, and 17% souvenirs including the park gift shop. Overnight visitors staying in motels, cabins or B&B's accounted for 64% of the spending.

About half of the non-local visitors indicated the park visit was not the primary reason for coming to the area, so only a portion of their expenses can be attributed to the park visit. Omitting spending by local visitors and reducing spending attributed to the park visit for visitors in the area for other reasons yields a total of \$5.9 million in spending attributed to the park, about 70% of the \$8.6 million spent by park visitors on the trip.

The economic impact of park visitor spending is estimated by applying this spending to a model of the local economy. The local region was defined as a four county area including Washington and Frederick counties in Maryland, Loudoun county in Virginia, and Jefferson county in West Virginia. The tourism spending sales multiplier for the region is 1.54.

Visitor spending in 2005 directly supported 98 jobs in the area outside the park, generating \$2.1 million in wages and salaries and \$3.0 million in value added. Value added includes wages and salaries as well as profits and rents to area businesses and sales taxes. An additional thirty jobs are supported through secondary effects. The total impact on the local economy including direct and secondary effects is 128 jobs, \$3.1 million in wages and salaries and \$4.6 million in value added. Visitor spending supports 34 jobs in hotels and 33 jobs in area restaurants.

The park itself employed 103 people in FY 2005 with a total payroll of \$5.47 million. Including secondary effects, the local impact of the park payroll in 2005 was 153 jobs, \$6.73 million in personal income and \$7.60 million total value added. Including both visitor spending and park operations, the total impact of the park on the local economy in 2005 was 281 jobs and \$12.2 million value added. Park operations account for 54% of the employment effects and 62% of value added.

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## **Introduction**

The purpose of this study is to document the local economic impacts of visitors to Harpers Ferry National Historical Park (HAFE) in 2005. Economic impacts are measured as the direct and secondary sales, income and jobs in the local area resulting from spending by park visitors. The economic estimates are produced using the Money Generation Model 2 (MGM2) (Stynes and Propst, 2000). Three major inputs to the model are:

- 1) Number of visits broken down by lodging-based segments,
- 2) Spending averages for each segment, and
- 3) Economic multipliers for the local region

Inputs are estimated from the Harpers Ferry NHP Visitor Survey, National Park Service Public Use Statistics, and IMPLAN input-output modeling software. The MGM2 model provides a spreadsheet template for combining park use, spending and regional multipliers to compute changes in sales, personal income, jobs and value added in the region.

## **Harpers Ferry NHP and the Local Region**

Harpers Ferry NHP is located in the historic town of Harpers Ferry at the confluence of the Potomac and Shenandoah rivers. The Appalachian trail runs through the town, which includes numerous restaurants and shops as well as many exhibits, museums, trails and battlefield sites. The park hosted 241,807 recreation visitors in 2005 (Table 1).

The local region was defined as a four county area including Washington and Frederick counties in Maryland, Loudoun county in Virginia, and Jefferson county in West Virginia. This region roughly coincides with an hours driving distance for which spending was reported in the visitor survey. The four county region had a population of 686,000 in 2006.

**Table 1. Recreation Visits to Harpers Ferry NHP, 2005**

<b>Month</b>	<b>Rec. Visits</b>
January	1,856
February	3,094
March	9,237
April	18,463
May	30,673
June	32,096
July	41,113
August	27,732
September	23,445
October	28,982
November	19,881
<u>December</u>	<u>5,235</u>
<b>Total</b>	<b>241,807</b>

Source: NPS Public Use Statistics

## **Harpers Ferry NHP Visitor Survey, 2005**

A park visitor study was conducted at Harpers Ferry NHP from July 22-31, 2005 (Meldrum, Morgan and Hollenhorst, 2006). The study measured visitor demographics, activities, and travel expenditures. Questionnaires were distributed to a sample of 605 visitors at the park visitors center and three other sites in town<sup>1</sup>. Visitors returned 367 questionnaires for a 61% response rate. Data generated through the visitor survey were used as the basis to develop the spending profiles, segment shares and trip characteristics for Harpers Ferry visitors.

Most visitors (79%) spent three or more hours visiting the park. Seven percent visited the park on more than one day during their stay in the area. About half of the non-local visitors came to the area primarily to visit the Harpers Ferry NHP. Twenty-four percent of visitors came to visit other attractions in the area; ten percent were visiting friends or relatives in the area.

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<sup>1</sup> Roughly two thirds of the surveys were distributed at the visitor center.

## MGM2 Visitor Segments

MGM2 divides visitors into segments to help explain differences in spending across distinct user groups. Five segments were established for Harpers Ferry NHP visitors:

**Local day users:** Day visitors who reside within the local region, defined as a 60 minute drive of the park.

**Non-local day users:** Visitors from outside the region, not staying overnight in the area. This includes day trips as well as pass-through travelers, who may be staying overnight on their trip outside the region.

**Motel:** Visitors staying in motels, hotels, cabins, or B&B's within a 60 minute drive of the park

**Camp:** Visitors staying in private or public campgrounds within a 60 minute drive of the park

**Other OVN:** Other visitors staying overnight in the area with friends or relatives or not reporting any lodging expenses

The 2005 visitor survey was used to estimate the percentage of visitors from each segment as well as spending averages, lengths of stay and party sizes for each segment. Twenty percent of the visitors are local residents, 42% are visitors from outside the local area not staying overnight within a sixty minute drive of the park, and 38% are visitors staying overnight within a sixty minute drive of the park. About two thirds of the overnight visitors (63%) are staying in motels, cabins or B&B's, 13% are camping and 24% are staying with friends or relatives or other unpaid lodging (Table 2)<sup>2</sup>. The average spending party ranged from 3.0 to 3.6 people across the five visitor segments.

Local residents were assumed to be making the trip primarily to visit the park. Non-local visitors on day trips and campers were more likely to make the trip primarily to visit the park than visitors staying in motels or with friends and relatives.

**Table 2. Selected Visit/Trip Characteristics by Segment, 2005**

Characteristic	Local	Day trip	Motel	Camp	Other OVN	Total
Segment share (survey)	14%	42%	28%	7%	9%	100%
Segment share (adjusted) <sup>a</sup>	20%	42%	24%	5%	9%	100%
Average Party size	3.61	3.22	3.00	3.32	3.62	3.26
Length of stay (days/nights)	1.00	1.00	1.60	2.12	2.38	1.36
Re-entry rate <sup>b</sup>	1.00	1.00	1.13	1.32	1.04	
Percent primary purpose trips	100%	57%	37%	64%	27%	49%

a. Shares were adjusted to take into account more local visitors and fewer campers during periods not covered by the visitor survey.

b. The re-entry rate is the number of times a visitor is counted as a park visitor during their stay in the area. The rate was estimated based on the percentage of respondents who reported visiting the park on more than one day and assuming two visits for these visitors.

<sup>2</sup> These percentages vary slightly from the VSP report (Meldrum, Morgan and Hollenhorst. 2006) as some visitors listing motels or campgrounds as lodging types did not report any lodging expenses and are classified here in the other OVN category.

Harpers Ferry NHP hosted 241,807 recreation visitors in 2005. Recreation visits were allocated to the five segments using the segment shares in Table 1. These visits are converted to 70,732 party trips by dividing by the average party size and re-entry rate for each segment (Table 3)..

**Table 3. Recreation Visits and Party Trips by Segment, 2005**

Measure	Local	Day trip	Motel	Camp	Other OVN	Total
Recreation visits	48,361	101,559	58,034	12,090	21,763	241,807
Party visits/trips	13,401	31,581	17,195	2,759	5,796	70,732
Person trips	48,361	101,559	51,585	9,159	20,985	231,651
Percent of party trips	19%	45%	24%	4%	8%	100%

## Visitor spending

Spending averages were computed on a party trip basis for each segment. The survey covered expenditures of the travel party within an hours drive of the park.

The average visitor party spent \$127 in the local area<sup>3</sup>. Visitors reported expenditures of their group within an hours drive of the park. On a party trip basis, average spending in 2005 was \$55 for local residents, \$49 for non-local day trips, \$336 for visitors in motels, \$237 for campers and \$45 for other overnight visitors (Table 4).

**Table 4. Average Visitor Spending by Segment (\$ per party per trip)**

Spending Category	Local	Day trip	Motel	Camp	Other OVN	All Visitors
<b>In Park</b>						
Admissions	4.59	5.21	7.78	1.60	1.86	5.30
Gift shop <sup>a</sup>	3.84	3.78	9.07	7.01	0.49	4.93
<b>In Community</b>						
Motel, hotel cabin or B&B	0.00	0.00	144.47	0.00	0.00	35.12
Camping fees	0.00	0.00	1.69	99.08	0.00	4.27
Restaurants & bars	19.30	16.25	79.90	45.24	11.79	33.07
Groceries, take-out food/drinks	6.00	2.03	7.53	21.20	1.03	4.78
Gas & oil	7.67	7.54	19.99	27.44	2.21	10.93
Local transportation	0.00	0.61	16.74	1.44	17.79	5.86
Admissions & fees	4.54	6.22	12.04	12.80	4.34	7.42
Souvenirs and other expenses <sup>a</sup>	8.81	7.85	36.49	20.75	4.99	15.26
<b>Total</b>	<b>54.76</b>	<b>49.49</b>	<b>335.70</b>	<b>236.56</b>	<b>44.52</b>	<b>126.96</b>

a. Half of the spending reported in the park gift shop category was reallocated to purchases in souvenir shops in town. This balances the estimate of total spending in the gift shop with reported gift shop sales of \$349,000 in FY2005.

<sup>3</sup> The average of \$127 is lower than the \$216 spending average in the VSP report (Meldrum, Morgan and Hollenhorst 2005) due to the omission of outliers, adjustments of segment shares, and treatment of missing spending data.

On a per night basis, visitors staying in motels spent \$204 in the local region compared to \$111 for campers and \$18 for other overnight visitors. The average per night lodging cost was \$90 per night for motels and \$47 for campgrounds.

The sampling error (95% confidence level) for the overall spending average is 15%. A 95% confidence interval for the spending average is therefore \$127 plus or minus \$19 or (\$108, \$146).

**Table 5. Average Spending per Night for Visitors on Overnight Trips (\$ per party per night)**

Spending category	Motel	Camp	Other OVN
Motel, hotel cabin or B&B	90.03	0.00	0.00
Camping fees	1.05	46.74	0.00
Restaurants & bars	49.79	21.34	4.95
Groceries, take-out food/drinks	4.69	10.00	0.43
Gas & oil	12.46	12.94	0.93
Local transportation	10.43	0.68	7.46
Admissions & fees	7.51	6.04	1.82
<u>Souvenirs and other expenses</u>	<u>28.39</u>	<u>13.09</u>	<u>2.30</u>
<b>Total</b>	<b>204.36</b>	<b>110.83</b>	<b>17.89</b>

Note: Excludes park admissions

Harpers Ferry NHP visitors spent a total of \$8.98 million in the local area in 2005 (Table 6). Excluding park admission fees<sup>4</sup>, the total is \$8.60 million. Total spending was estimated by multiplying the number of party trips for each segment by the average spending per trip and summing across segments.

Overnight visitors staying in motels, cabins or B&B's accounted for 64% of the total spending. Thirty-two percent of the spending was for lodging, 27% restaurant meals and bar expenses, and 17% souvenirs including the park gift shop.

Not all of this spending would be lost to the region in the absence of the park as some visitors are local residents and many non-residents came to the area for other reasons. Spending directly attributed to the park visit was estimated by counting all spending for trips where the park was the primary reason for the trip. Half of the spending outside the park was counted for day trips if the trip was not made primarily to visit Harpers Ferry NHP. The equivalent of one night of spending was attributed to the park visit for overnight trips made to visit other attractions, friends or relatives or on business.<sup>5</sup> All spending inside the park was counted, but all spending by local visitors outside the park was excluded.

<sup>4</sup> Park admission fees are excluded to avoid double counting. Revenues accruing to the NPS from visitor spending are covered in the estimation of the impacts of the NPS payroll on page 8.

<sup>5</sup> This assumes that these visitors spent an extra night in the area to visit Harpers Ferry NHP.

These attributions yield a total of \$5.67 million in visitor spending attributed to the park visit (excluding park admission fees), representing about two-thirds of the overall visitor spending total. Visitors in motels account for three-fourths of the spending under these attributions (Table 7).

**Table 6. Total Visitor Spending by Segment, 2005 (\$000s)**

	Local	Day trip	Motel	Camp	Other OVN	All Visitors
<b>In Park</b>						
Admissions	61.5	164.7	133.7	4.4	10.8	375
Gift shop <sup>a</sup>	51.5	119.3	156.0	19.3	2.8	349
<b>In Community</b>						
Motel, hotel cabin or B&B	0.0	0.0	2,484.2	0.0	0.0	2,484
Camping fees	0.0	0.0	29.0	273.3	0.0	302
Restaurants & bars	258.7	513.2	1,373.9	124.8	68.4	2,339
Groceries, take-out food/drinks	80.4	64.1	129.4	58.5	6.0	338
Gas & oil	102.8	238.2	343.7	75.7	12.8	773
Local transportation	0.0	19.2	287.9	4.0	103.1	414
Admissions & fees	60.9	196.5	207.1	35.3	25.2	525
<u>Souvenirs and other expenses</u>	<u>118.1</u>	<u>248.0</u>	<u>627.4</u>	<u>57.2</u>	<u>28.9</u>	<u>1,080</u>
<b>Grand Total</b>	<b>733.9</b>	<b>1,563.0</b>	<b>5,772.4</b>	<b>652.6</b>	<b>258.0</b>	<b>8,980</b>
Total excluding park admissions	672.4	1,398.4	5,638.7	648.2	247.2	8,605
Segment Percent of Total	8%	17%	64%	7%	3%	100%

**Table 7. Total Spending Attributed to Park Visits, 2005 (\$000s)**

Spending Category	Local	Day trip	Motel	Camp	Other OVN	All Visitors
<b>In Park</b>						
Admissions	61.5	164.7	133.7	4.4	10.8	375
Gift shop	51.5	119.3	156.0	19.3	2.8	349
<b>In Community</b>						
Motel, hotel cabin or B&B		0.0	1,892.4	0.0	0.0	1,892
Camping fees		0.0	22.1	220.8	0.0	243
Restaurants & bars		171.4	1,046.6	100.8	39.5	1,358
Groceries, take-out food/drinks		21.4	98.6	47.3	3.5	171
Gas & oil		79.6	261.8	61.2	7.4	410
Local transportation		6.4	219.3	3.2	59.6	288
Admissions & fees		65.6	157.8	28.5	14.5	266
<u>Souvenirs and other expenses</u>		<u>82.8</u>	<u>539.4</u>	<u>49.6</u>	<u>17.6</u>	<u>689</u>
<b>Total Attributed to Park</b>	<b>113.0</b>	<b>711.2</b>	<b>4,527.8</b>	<b>535.1</b>	<b>155.7</b>	<b>6,043</b>
Excluding park admissions	51.5	546.5	4,394.1	530.7	144.9	5,668
Percent of spending attributed to the park	15%	46%	78%	82%	60%	67%

## Economic Impacts of Visitor Spending

The economic impacts of Harpers Ferry NHP visitor spending on the local economy are estimated by applying the spending attributed to the park (Table 7) to a set of economic ratios and multipliers representing the local economy. Multipliers for the region were estimated with the IMPLAN system using 2001 data. The tourism sales multiplier for the region is 1.54. Every dollar of direct sales to visitors generates another \$ .54 in secondary sales through indirect and induced effects<sup>6</sup>.

Impacts are estimated based on the visitor spending attributed to the park in Table 7, excluding park admission fees<sup>7</sup>. Including direct and secondary effects, the \$5.67 million spent by park visitors<sup>8</sup> supports 128 jobs in the area and generates \$7.8 million in sales, \$3.1 million in personal income and \$4.6 million in value added (Table 8).

Personal income covers wages and salaries, including payroll benefits. Value added is the preferred measure of the contribution to the local economy as it includes all sources of income to the area -- payroll benefits to workers, profits and rents to businesses, and sales and other indirect business taxes.

The largest direct effects are in lodging establishments and restaurants. Spending associated with park visits supports 34 jobs in hotels, 33 jobs in restaurants and 13 jobs in retail trade. The contribution to the local economy in terms of value added is \$1.34 million in the hotel sector, \$651,000 in the restaurant sector and \$446,000 in retail trade.

**Table 8. Economic Impacts of Visitor Spending Attributed to the Park, 2005.**

<b>Sector/Spending category</b>	<b>Sales \$000's</b>	<b>Jobs</b>	<b>Personal Income \$000's</b>	<b>Value Added \$000's</b>
Motel, hotel cabin or B&B	1,892	34	826	1,340
Camping fees	243	2	35	85
Restaurants & bars	1,358	33	577	651
Admissions & fees	405	5	152	254
Local transportation	288	11	131	148
Retail Trade	717	13	341	446
Wholesale Trade	135	1	52	90
Local Production of goods	14	-	-	-
<b>Total Direct Effects</b>	<b>5,053</b>	<b>98</b>	<b>2,115</b>	<b>3,014</b>
<b>Secondary Effects</b>	<b>2,729</b>	<b>30</b>	<b>976</b>	<b>1,608</b>
<b>Total Effects</b>	<b>\$ 7,782</b>	<b>128</b>	<b>\$ 3,091</b>	<b>\$ 4,622</b>

<sup>6</sup> Indirect effects result from tourism businesses buying goods and services from local firms, while induced effects stem from household spending of income earned from visitor spending.

<sup>7</sup> The local economic impact of all \$8.6 million in visitor spending (Table 6) is reported in Appendix C.

<sup>8</sup> Revenues received by the park (park admissions and donations) are excluded in estimating visitor spending impacts as the impacts resulting from park revenues are covered as part of park operations.

## **Impacts of the NPS Park Payroll**

The park itself employed 103 people in FY 2005 with a total payroll including benefits of \$5.47 million. Including secondary effects, the local impact of the park payroll in 2005 was 153 jobs, \$6.73 million in personal income and \$7.60 million total value added. Including both visitor spending and park operations, the total impact of the park on the local economy in 2005 was 281 jobs and \$12.2 million value added. Park operations account for 54% of the employment effects and 62% of value added.

## **Study Limitations and Error**

The accuracy of the MGM2 estimates rests on the accuracy of the three inputs: visits, spending averages, and multipliers. Recreation visit estimates rely on counting procedures at the park, which may miss some visitors and count others more than once during their visit. Recreation visits were adjusted for double counting based on the number of days respondents reported visiting the park during their stay in the area.

Spending averages are derived from the 2005 Harpers Ferry NHP Visitor Survey. Estimates from the survey are subject to sampling errors, measurement errors and seasonal/sampling biases. Due to relatively small samples and considerable variation in spending, the overall spending average is subject to sampling errors of 15%.

Spending averages are also sensitive to decisions about outliers and treatment of missing data. To carry out the analysis incomplete spending data had to be completed and decisions had to be made about the handling of missing spending data and zero spending reports. Conservative assumptions were adopted.

First, cases reporting some expenses but leaving other categories blank were completed with zeros. Respondents that did not complete the spending question were assumed to spend no money on the trip. Nine percent of the cases had missing spending data. Dropping these cases instead of treating them as zeros would increase the overall spending average from \$127 to \$140. This change would increase spending totals and impacts by 9%.

The small samples make the spending averages somewhat sensitive to outliers. One case reporting spending of more than \$5,000 and another ten cases reporting more than \$1,000 in spending were dropped in computing the spending averages. Another 26 cases involving large parties (more than seven people) and one case staying more than seven nights were also omitted, yielding a final sample of 329 cases for the spending analysis<sup>9</sup>. The overall spending average was \$127 omitting outliers compared to \$167 with outliers (See Appendix B for details).

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<sup>9</sup> Reports of spending for long stays and large parties are deemed unreliable. Spending reported for large parties may not include everyone in the party. Recall of spending for very long stays may also be unreliable and such stays frequently involve multiple stops and activities, so that much of the spending is unrelated to

Although sample sizes are small for most segments, the spending averages are consistent with those at other historical sites. Estimated nightly room and campsite rates are also reasonable for the area. As the sample only covers visitors during a single week, we must assume these visitors are representative of visitors during the rest of the year to extrapolate to annual totals.

The estimate of total spending in the park gift shop was compared with gift shop sales reported for FY 2005. The original estimate was twice the \$349,000 reported by the park. The discrepancy could be due either to an overestimate of actual park visits or an inflated estimate of the average spending in the gift shop. Inspection of individual cases revealed no large outliers for gift shop purchases. The original overall average was about \$10. We assumed the inflated estimate of gift shop sales was due to confusion among respondents between the park gift shop and numerous other gift and souvenir shops in town. Half of the spending reported in the gift shop category was reallocated to the souvenirs category to balance the gift shop total with actual reported sales.

Multipliers are derived from an input-output model of the local economy using IMPLAN. Input-output models rest on a number of assumptions, however, errors due to the multipliers will be small compared to potential errors in visit counts and spending estimates.

Somewhat more problematic than the errors in visits, spending or multipliers is sorting out how much of the spending to attribute to the park. It is difficult to separate the park from the many historical sites and attractions in the area. As the park was not the primary motivation for the trip to the region for all visitors, some of the spending would likely not be lost in the absence of the park. The procedures for attributing spending to the park are somewhat subjective, but reasonable. They result in about two thirds of all visitor spending being attributed to park visits.

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the park visit. Since spending averages are applied to all visits, the procedures are equivalent to substituting the average of visitors in the corresponding visitor segment for these outliers.

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## Appendix A: Definitions of Economic Terms

Term	Definition
Sales	Sales of firms within the region to park visitors.
Jobs	The number of jobs in the region supported by the visitor spending. Job estimates are not full time equivalents, but include part time positions.
Personal income	Wage and salary income, sole proprietor's income and employee payroll benefits.
Value added	Personal income plus rents and profits and indirect business taxes. As the name implies, it is the net value added to the region's economy. For example, the value added by a hotel includes wages and salaries paid to employees, their payroll benefits, profits of the hotel, and sales and other indirect business taxes. The hotel's non-labor operating costs such as purchases of supplies and services from other firms are not included as value added by the hotel.
Direct effects	Direct effects are the changes in sales, income and jobs in those business or agencies that directly receive the visitor spending.
Secondary effects	These are the changes in the economic activity in the region that result from the re-circulation of the money spent by visitors. Secondary effects include indirect and induced effects.
Indirect effects	Changes in sales, income and jobs in industries that supply goods and services to the businesses that sell directly to the visitors. For example, linen suppliers benefit from visitor spending at lodging establishments.
Induced effects	Changes in economic activity in the region resulting from household spending of income earned through a direct or indirect effect of the visitor spending. For example, motel and linen supply employees live in the region and spend their incomes on housing, groceries, education, clothing and other goods and services.
Total effects	Sum of direct, indirect and induced effects. <ul style="list-style-type: none"> <li>▪ Direct effects accrue largely to tourism-related businesses in the area</li> <li>▪ Indirect effects accrue to a broader set of businesses that serve these tourism firms.</li> <li>▪ Induced effects are distributed widely across a variety of local businesses.</li> </ul>

## Appendix B: Handling of Missing Spending Data and Outliers

To compute spending averages and to sum spending across categories, spending categories with missing spending data had to be filled. If spending was reported in any category, the remaining categories were assumed to be zero. This yielded 328 cases with valid spending data, 5 cases reporting zero spending and 34 cases not completing the spending question. Cases with no spending data were on day trips or overnight trips reporting no lodging expenses. It was assumed that these cases spent no money in the local area.

**Table B-1. Cases with Valid, Zero and Missing Spending Data by Segment**

	Local	Day trip	Motel	Camp	Other OVN	Total
Report some spending	48	133	101	26	20	328
Missing spending data	3	17	0	0	14	34
<u>Zero spending</u>	<u>0</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>
Total cases	51	155	101	26	34	367
Percent zero	0%	3%	0%	0%	0%	1%
Percent missing	6%	11%	0%	0%	41%	9%

Thirty eight cases were omitted from the spending analysis. Twenty six of these were large parties of more than seven people. One case was an extended stay of more than seven nights. Eleven cases, all staying overnight in motels, reported expenses of more than \$1,000. One of these cases reported spending \$5,842 for 24 people for eight nights. Another ten cases reported spending of from \$1,000 to \$2,500. The overall spending average is \$121 omitting outliers compared to \$167 with outliers. The outliers primarily affect the motel spending average.

**Table B-2. Spending Averages by Segment, with and without outliers**

Segment	With outliers			Without outliers			Pct Error <sup>a</sup>
	Mean	N	Std. Deviation	Mean	N	Std. Deviation	
Local	56	51	72	50	46	69	40%
Day trip	51	155	61	44	140	46	17%
Motel	497	101	686	328	89	219	14%
Camp	241	26	142	235	25	141	23%
<u>Other OVN</u>	<u>36</u>	<u>34</u>	<u>83</u>	<u>43</u>	<u>29</u>	<u>88</u>	<u>75%</u>
Total	167	367	392	121	329	172	15%

Note: Spending averages exclude park admission fees.

a. Pct errors computed at a 95% confidence level

## Appendix C. Impacts of all Visitor Spending, 2005

Table C1 gives the impacts of \$8.6 million in visitor spending on the local economy. All visitor spending in the region except park admissions and donations is included in this analysis. Impacts including all visitor spending are roughly 45% higher than those reported in Table 8, which count only spending directly attributable to the park visits.

**Table C-1. Impacts of all Visitor Spending on the Local Economy, 2005**

<b>Sector/Spending category</b>	<b>Sales \$000's</b>	<b>Jobs</b>	<b>Personal Income \$000's</b>	<b>Value Added \$000's</b>
<b>Direct Effects</b>				
Motel, hotel cabin or B&B	2,484	44	1,085	1,759
Camping fees	302	2	44	105
Restaurants & bars	2,339	56	994	1,121
Admissions & fees	525	7	197	330
Local transportation	414	16	189	213
Retail Trade	972	18	463	605
Wholesale Trade	193	1	74	130
<u>Local Production of goods</u>	<u>22</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total Direct Effects</b>	7,252	144	3,045	4,262
<u>Secondary Effects</u>	<u>3,950</u>	<u>44</u>	<u>1,407</u>	<u>2,321</u>
<b>Total Effects</b>	11,202	187	4,451	6,583