

Impacts of Visitor Spending on the Local Economy: George Washington Birthplace National Monument, 2004



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Executive Summary

George Washington Birthplace National Monument (GEWA) hosted 74,525 recreation visits in 2004. Based on the 2004 visitor survey 14% of the visitors are local residents, 53% are visitors from outside the local area not staying overnight within a forty-five minute drive of the monument, and 33% are visitors staying overnight within a forty-five minute drive. One third of the overnight visitors are staying in motels, cabins or B&B's, 25% are camping and 42 % are staying with friends or relatives or other unpaid lodging.

The average visitor group spent \$93 in the local area¹. Visitors reported expenditures of their group inside the park and within 50 miles of the park. On a party trip basis, average spending in 2004 was \$40 for local residents, \$42 for non-local day trips, \$363 for visitors in motels, \$201 for campers and \$58 for other overnight visitors. On a per night basis, visitors staying in motels spent \$199 in the local region compared to \$83 for campers and \$14 for other overnight visitors. The average per night lodging cost was \$107 per night for motels and \$23 for campgrounds.

Total visitor spending in 2004 within 50 miles of the monument was \$2.6 million including \$189,000 spent in the park. Overnight visitors staying in motels accounted for 48% of the spending. Thirty percent of the spending was for lodging, 22% restaurant meals and bar expenses, 15% gas and oil and 11% souvenirs including the park gift shop. Park admissions accounted for 3% of spending.

Not all of this spending would be lost to the region in the absence of the park. Sixty-three percent of park visitors are in the area for other activities. Only some of their spending would be lost in the absence of the park. Also, local residents would likely divert their spending to other activities in the area.

Spending directly attributed to the park was estimated by counting all spending for visitors whose primary reason for coming to the area was to visit the park and counting the equivalent of what a local resident spends on a day trip for visitors in the area for other reasons. All spending inside the park was attributed to the park, while all spending by local residents outside the park was excluded. This yields a total of \$1.35 million in spending attributed to the park.

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 an eight county area in Virginia including Fredericksburg.

Visitor spending in 2004 directly supported 22 jobs in the area outside the park, generating \$341,000 in wages and salaries and \$463,000 in value added. Value added

¹ The average of \$93 is lower than the \$135 spending average in the VSP report, due to the omission of some outliers and treatment of missing spending data as zeros.

includes wages and salaries as well as profits and rents to area businesses and sales and other indirect business taxes. An additional four jobs in the region are supported through secondary effects. The total impact on the local economy including secondary effects is 26 jobs, \$464,000 in wages and salaries and \$671,000 in value added. Visitor spending supports 10 jobs in area restaurants, 4 jobs in retail shops and 3 jobs in hotels.

Recreation visits declined by 21% in 2005. This resulted in a drop of 16% in total visitor spending and associated impacts. The park itself employed 24 people in FY 2005 with a total payroll of \$1,326,000. Including secondary effects, the local impact of park operations in 2005 was 37 jobs, \$1.64 million in personal income and \$1.85 total value added. Including both visitor spending and park operations, the total impact of the park on the local economy in 2005 was 58 jobs and \$2.41 million value added.

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Introduction

The purpose of this study is to document the local economic impacts of visitors to George Washington Birthplace National Monument (GEWA) in 2004. 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 George Washington Birthplace 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.

George Washington Birthplace National Monument

George Washington Birthplace is located in northern Virginia, 38 miles east of Fredericksburg and Interstate 95. George Washington Birthplace was established as a national monument in 1930. The park visitor center contains archaeological exhibits, an orientation film, book store and convenience facilities. Visitors can also enjoy a picnic area, one-mile nature trail, the Potomac River beach and a variety of natural ecosystems.

The monument hosted 74,525 recreation visitors in 2004. Visitation declined to 59,089 in 2005.

The Region

The local region was defined to include Caroline, Essex, King George, King and Queen, Northumberland, Richmond, Stafford, and Westmoreland counties in northern Virginia. This region roughly coincides with the 50 mile radius of the park for which spending was reported.

Table 1. Recreation Visits to George Washington Birthplace NM , 2004-2005

Month	2004	2005
January	1,010	1,028
February	4,279	1,638
March	2,208	5,778
April	7,319	6,793
May	12,378	10,185
June	9,804	9,076
July	8,936	8,549
August	8,914	2,110
September	8,103	5,177
October	6,765	4,554
November	3,164	2,731
<u>December</u>	<u>1,645</u>	<u>1,470</u>
Total	74,525	59,089

Source: NPS Public Use Statistics Office

The eight county region had a population of 214,000 in 2004. Fredericksburg is the largest city in the area with a population of 19,279 in 2000. The Richmond metropolitan area is just beyond a 50 mile radius of the park. Washington D.C. is within 100 miles.

Total tourist spending in the region in 2004 was \$291 million supporting over 4,000 jobs (Virginia Tourism Commission, 2006).

George Washington Birthplace NM Visitor Survey, 2004

A park visitor study was conducted at George Washington Birthplace NM from July 1-7, 2004 (Le, Littlejohn, and Hollenhorst, 2005). The Visitor Services Project (VSP) study measured visitor demographics, activities, and travel expenditures. Questionnaires were distributed to a sample of 312 visitors at the park entrance. Visitors returned 197 questionnaires for a 63% response rate. Data generated through the visitor survey were used as the basis for developing spending profiles, segment shares and trip characteristics for GEWA visitors.

Most visitors spent one or two hours at the park. Many also visited other sites on the trip including Colonial Beach, Fredericksburg, Stratford Hall, Westmoreland State Park and the Washington D.C. area. The average party size excluding large parties (>7 people) was 2.8 people.

MGM2 Visitor Segments

The MGM2 model divides visitors into segments to help explain differences in spending across distinct user groups. Five segments were established for GEWA visitors:

- Local day users:** Day visitors who reside within the local region were defined based on zipcodes.
- 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 45 minute drive of the monument
- Camp:** Visitors staying in private or public campgrounds within a 45 minute drive of the monument
- Other OVN:** Other visitors staying overnight in the area with friends or relatives or not reporting any lodging expenses

The 2004 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. Fourteen percent of the park visitors are local residents, 53% are visitors from outside the local area not staying overnight within a forty-five minute drive of the park, and 33% are visitors staying overnight within a forty-five minute drive of the park. One third of the overnight visitors are staying in motels, cabins or B&B's, 25% are camping and 42 % are staying with friends or relatives or other unpaid lodging (Table 2)². The average spending party ranged from 2.5 to 3.1 people across the five visitor segments.

Forty-two percent of all visitors indicated that visiting the park was the primary reason for the trip to the area. Twenty-one percent of park visitors came to the area to visit other attractions, 14% to visit friends or relatives, and 23% for other reasons. Local residents, visitors on day trips and campers were more likely to make the trip primarily to visit the park, while visitors staying in motels or with friends or relatives were more likely to be in the area for other reasons. Only about twenty percent of the motel and other OVN segments came to the area primarily to visit the park.

Table 2. Selected Trip Characteristics by Segment, 2004

Characteristic	Local	Day trip	Motel	Camp	Other OVN	Total
Segment share	14%	53%	11%	8%	14%	100%
Average Party size	3.1	2.8	2.5	3.0	2.6	2.8
Length of stay (days/nights)	1.1	1.0	1.8	2.4	3.4	1.5
Percent primary purpose trips	46%	51%	18%	40%	23%	42%

² These percentages vary slightly from the VSP report (Le et. al. 2005) 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.

George Washington Birthplace NM hosted 74,525 recreation visitors in 2004. Recreation visits were allocated to the five segments using the segment shares in Table 1. These visits are converted to 26,976 party trips by dividing by the average party size for each segment (Table 3). Total visitor spending is estimated by multiplying the number of party trips of each segment by the average spending estimated in the survey.

Table 3. Recreation Visits and Party Trips by Segment, 2004

Measure	Local	Day trip	Motel	Camp	Other OVN	Total
Recreation visits	10,214	39,721	8,323	6,053	10,214	74,525
Party visits/trips	3,279	14,431	3,294	2,018	3,954	26,976

Visitor spending

Spending averages were computed on a party trip basis for each segment. The survey covered expenditures of the travel party within 50 miles of the park.

The average visitor group in 2004 spent \$93 on the trip³. On a party trip basis, average spending was \$40 for local residents, \$42 for non-local day trips, \$363 for visitors in motels, \$201 for campers and \$58 for other overnight visitors (Table 4). On a per night basis, visitors in motels spent \$199 in the local region compared to \$83 for campers and \$14 for other overnight visitors. The average per night lodging cost was \$107 per night for visitors staying in motels and \$23 for visitors in campgrounds.

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

	Local	Day trip	Motel	Camp	Other OVN	All Visitors
In Park						
Admissions	1.31	2.21	2.95	4.29	2.83	2.42
Gift shop	2.23	3.63	5.53	1.64	6.58	3.89
Donations	1.15	0.17	1.32	0.86	0.88	0.58
In Community						
Motel, hotel cabin or B&B	0.00	0.00	191.05	15.00	0.00	22.55
Camping fees	0.00	0.00	0.00	54.43	0.00	4.42
Restaurants & bars	12.12	9.37	78.42	35.64	17.67	20.73
Groceries, take-out food/drinks	9.38	6.00	22.63	21.36	7.50	9.77
Gas & oil	7.88	10.30	24.00	34.57	14.96	14.11
Local transportation	0.00	2.18	10.68	17.21	0.00	3.76
Admissions & fees	3.85	2.34	8.21	8.64	3.50	3.87
Souvenirs and other expenses	1.35	5.40	16.84	7.86	4.38	6.18
Donations	0.77	0.32	1.32	0.00	0.17	0.45
Grand Total	40.04	41.92	362.95	201.50	58.46	92.74
Total In park	4.69	6.01	9.79	6.79	10.29	6.90
Total Outside park	35.35	35.91	353.16	194.71	48.17	85.84

³ The average of \$93 is lower than the \$135 spending average in the VSP report (Le et. al. 2005), due to the omission of some outliers and treatment of missing spending data.

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

	Motel	Camp	Other OVN
Spending In Community			
Motel, hotel cabin or B&B	107.47	6.36	0.00
Camping fees	0.00	23.09	0.00
Restaurants & bars	44.11	15.12	5.25
Groceries, take-out food/drinks	12.73	9.06	2.23
Gas & oil	13.50	14.67	4.45
Local transportation	6.01	7.30	0.00
Admissions & fees	4.62	3.67	1.04
Souvenirs and other expenses	9.47	3.33	1.30
<u>Donations</u>	<u>0.74</u>	<u>0.00</u>	<u>0.05</u>
Grand Total	198.65	82.61	14.32

The sampling error at a 95% confidence level for the overall spending average is 25%. Only the day trip sample has at least 100 cases. Spending averages for other segments with a small number of cases are significantly influenced by a few outliers.

GEWA visitors spent a total of \$2.57 million in the local area in 2004 (Table 6). 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 accounted for 48% of the total. The gift shop accounted for almost 60% of the \$189,000 spent inside the park. Almost \$2.4 million was spent outside the park

Table 6. Total Visitor Spending by Segment, 2004 (\$000s)

	Local	Day trip	Motel	Camp	Other OVN	All Visitors
In Park						
Admissions	4.3	31.9	9.7	8.6	11.2	65.8
Gift shop	7.3	52.4	18.2	3.3	26.0	107.3
Donations	3.8	2.4	4.3	1.7	3.5	15.7
In Community						
Motel, hotel cabin or B&B	0.0	0.0	629.4	30.3	0.0	659.7
Camping fees	0.0	0.0	0.0	109.8	0.0	109.8
Restaurants & bars	39.7	135.2	258.3	71.9	69.9	575.0
Groceries, take-out food/drinks	30.8	86.6	74.6	43.1	29.7	264.7
Gas & oil	25.9	148.7	79.1	69.8	59.1	382.5
Local transportation	0.0	31.5	35.2	34.7	0.0	101.5
Admissions & fees	12.6	33.8	27.0	17.4	13.8	104.7
Souvenirs and other expenses	4.4	77.9	55.5	15.9	17.3	170.9
<u>Donations</u>	<u>2.5</u>	<u>4.6</u>	<u>4.3</u>	<u>0.0</u>	<u>0.7</u>	<u>12.1</u>
Grand Total	131	605	1,196	406	231	2,570
Total In park	15.4	86.7	32.3	13.7	40.7	189
Total Outside park	115.9	518.3	1,163.4	392.9	190.4	2,381
Segment Percent of Total	5%	23%	48%	16%	9%	100%

in the local region. Lodging accounted for 30% of the total spending, restaurants and bars 22% and gas and oil 15%.

Not all of this spending would be lost to the region in the absence of the park as many visitors come 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, and counting the equivalent of local day trip spending for trips made primarily for other reasons⁴. All spending inside the park was counted, but all spending by local visitors outside the park was excluded.

These attributions yield a total of \$1.35 million in visitor spending attributed to the park visit, representing about half of the overall visitor spending total. Only 28% of the spending of visitors in motels is attributed to the park, as no lodging expenses or extra nights in the area are counted if the park visit was not the primary reason for the trip. Most of the spending by visitors on day trips is counted even though only half of these trips were made primarily to visit the George Washington Birthplace NM (Table 7).

Table 7. Total Spending Attributed to Park Visits, 2004 (\$000s)

	Local	Day trip	Motel	Camp	Other OVN	All Visitors
In Park						
Admissions	4.3	31.9	9.7	8.6	11.2	65.8
Gift shop	7.3	52.4	18.2	3.3	26.0	107.3
Donations	3.8	2.4	4.3	1.7	3.5	15.7
In Community						
Motel, hotel cabin or B&B		0.0	114.4	12.1	0.0	126.5
Camping fees		0.0	0.0	43.9	0.0	43.9
Restaurants & bars		154.6	79.6	43.4	53.0	330.7
Groceries, take-out food/drinks		110.5	38.9	28.6	35.4	213.4
Gas & oil		131.6	35.6	37.4	37.6	242.3
Local transportation		16.1	6.4	13.9	0.0	36.4
Admissions & fees		44.4	15.3	11.6	14.9	86.2
Souvenirs and other expenses		49.2	13.7	8.0	8.1	79.0
Donations		0.0	0.0	0.0	0.0	0.0
Total Attributed to Park	15.4	593	336	213	190	1,347
Percent of spending attributed to the park		98%	28%	52%	82%	52%

⁴ The rationale is that these visitors are already in the area for other reasons and would incur expenses similar to local residents on a day trip to visit the park.

Economic Impacts of Visitor Spending

The economic impacts of park visitor spending on the local economy are estimated by applying the spending attributed to the park 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 1.38, which means for every dollar of direct sales to visitors another \$.38 in secondary sales is generated through indirect and induced effects.

Impacts are estimated based on the visitor spending attributed to the park in Table 7⁵. Including direct and secondary effects, \$1.27 million spent by park visitors excluding park admissions and donations⁶ supports 26 jobs in the area and generates \$1.2 million in sales⁷, \$464,000 in personal income and \$ 671,000 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 accruing to government. The largest direct effects are in restaurants, retail trade, and lodging establishments.

Table 8. Economic Impacts of Visitor Spending Attributed to the Park, 2004.

Sector/Spending category	Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	146	3	64	104
Camping fees	51	0	6	15
Restaurants & bars	340	10	128	144
Admissions & fees	87	2	32	53
Local transportation	40	1	19	21
Retail Trade	185	4	81	105
Wholesale Trade	30	0	12	20
<u>Local Production of goods</u>	<u>15</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Direct Effects	895	22	341	463
<u>Secondary Effects</u>	<u>342</u>	<u>4</u>	<u>123</u>	<u>208</u>
Total Effects	1,237	26	464	671

⁵ The local economic impact of all \$2.5 million in visitor spending (Table 6) is reported in Appendix C.

⁶ 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.

⁷ Direct sales are less than spending as the costs of goods sold at retail (gas, groceries and souvenirs) that are not made in the local area are not included as direct sales. The local region captures 70% of the visitor spending as direct sales.

2005 Update

The spending and impact estimates may be updated to 2005 based on reported recreation visits in 2005. Recreation visits declined in 2005 to 59,089. The visitor segment mix, party sizes and lengths of stay are assumed unchanged from 2004. Spending averages measured in the 2004 visitor survey were price adjusted to 2005 using Bureau of Labor Statistics price indices for each spending category. Spending averages increased by about six percent compared to 2004.

Total spending declines by sixteen percent to \$2.16 million in 2005 due to the drop in reported recreation visits. Spending directly attributed to the park also drops by 16% to just over one million dollars (Table 9).

Table 9. Update of Spending Estimates to 2005

	Local	Day trip	Motel	Camp	Other OVN	Total
Average Spending						
2004	40.04	41.92	362.95	201.50	58.46	92.74
2005	42.49	44.94	380.78	214.69	62.80	98.34
Total Spending (\$000's)						
2004	131	605	1,196	407	231	2,570
2005	110	514	995	343	197	2,160
Spending Attributed to the Park (\$000's)						
2004		549	344	223	164	1,279
2005		467	286	188	140	1,080

The park itself employed 24 people in FY 2005 with a total payroll of \$1,326. Including secondary effects of the park payroll, the local impacts of park operations are 37 jobs, \$1.64 million in personal income and \$1.85 total value added. Including both visitor spending and park operations, the total impact on the local economy in 2005 was 58 jobs and \$2.41 million 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.

Spending averages are derived from the 2004 George Washington Birthplace NM 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 spending averages are subject to sampling errors of 25%.

Spending averages are also sensitive to decisions about outliers and treatment of missing data. Of the 197 respondents to the survey, 170 reported some spending, 10 cases reported zero spending and 27 cases did not complete the spending question at all (See Appendix B for details). These patterns are not unusual for spending questions in mailed surveys. The estimated spending averages will be conservative in that missing spending data were filled with zeros. The majority of cases with missing spending data or reporting zero expenses were local visitors, day trips (including visitors passing through), or visitors staying with friends and relatives. It is not unreasonable for a small percentage of these visitors to incur no expenses in the local area.

Dropping the 14% of cases with missing spending data instead of treating them as zeros would increase the overall spending average from \$93 to \$108. This change would increase spending totals and impacts by 16%.

The small samples also make the spending averages sensitive to outliers. Four cases reporting spending of more than \$1,000 were dropped in computing the spending averages. Seven cases with party sizes or lengths of stay greater than seven were also omitted, yielding a final sample of 186 cases for the spending analysis⁸. The overall spending average is \$93 omitting outliers compared to \$116 with outliers (See Appendix B).

⁸ Reports of spending for long stays and large parties are deemed less reliable. 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 the park visit. Since spending averages are applied to all visits, the procedures are equivalent to substituting the average of all other visitors for these outliers.

Although sample sizes are small for most segments, the spending averages are consistent with those at other historical sites. Nightly room and campsite rates are reasonable. 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.

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. Visits are taken from NPS public use statistics.

More problematic than the errors in visits, spending or multipliers is sorting out how much of the spending to attribute to the park. As the park was not the primary motivation for the trip to the region for over half of the visitors, much 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 half of all visitors spending being attributed to the park visits.

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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"> ▪ Direct effects accrue largely to tourism-related businesses in the area ▪ Indirect effects accrue to a broader set of businesses that serve these tourism firms. ▪ Induced effects are distributed widely across a variety of local businesses.

Appendix B: Handling of Missing Spending Data and Outliers

Of the 197 cases in the visitor survey, only 89 cases reported spending both inside and outside the park. To compute spending averages and to sum spending across categories, spending categories with missing spending data were filled. If spending was reported in any category, the remaining categories were assumed to be zero. This yielded 170 cases with valid spending data and 27 cases with no spending data reported. The majority of cases with no spending data were local residents or day trips. It was assumed that these cases spent no money in the local area.

Table B-1 . Valid, zero and missing spending data

	Segment					Total
	Local	Day trip	Motel	Camp	Other OVN	
Report spending in and out	12	42	14	10	11	89
Only outside	9	35	8	6	7	65
Only inside	0	4	0	0	2	6
<u>Report zero spending</u>	<u>3</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>10</u>
Valid spending	24	86	22	16	22	170
<u>No spending data</u>	<u>3</u>	<u>19</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>27</u>
Total cases	27	105	22	16	27	197
Percent with no spending data	11%	18%	0%	0%	19%	14%

Four cases reporting spending more than \$1,000 were dropped when computing spending averages,. Seven cases with party sizes or lengths of stay greater than 7 were also omitted, yielding a final sample of 186 cases for the spending analysis. The overall spending average is \$93 omitting outliers compared to \$116 with outliers. The outliers primarily affect the motel and camper spending averages.

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

Segment	With outliers			Without outliers			Pct Error ^a
	Mean	N	Std. Deviation	Mean	N	Std. Deviation	
Local	41	27	53	40	26	54	52%
Day trip	41	105	62	42	103	62	29%
Motel	416	22	325	363	19	282	35%
Camp	379	16	527	202	14	168	44%
<u>Other OVN</u>	<u>84</u>	<u>27</u>	<u>120</u>	<u>58</u>	<u>24</u>	<u>83</u>	<u>57%</u>
Total	116	197	238	93	186	153	24%

a. Pct errors computed at a 95% confidence level

Appendix C. Impacts of all Visitor Spending, 2004

Table C1 gives the economic impacts of visitor spending counting all visitor spending (\$2.57 million). All visitor spending in the region except park admissions and donations is included in this analysis. Impact estimates are roughly double those directly attributed to the park, as reported in Table 6.

Table C-1. Impacts on Local Economy

Sector/Spending category	Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Motel, hotel cabin or B&B	660	15	289	467
Camping fees	110	1	14	33
Restaurants & bars	575	16	216	243
Admissions & fees	105	2	38	64
Local transportation	101	4	48	54
Retail Trade	291	7	127	166
Wholesale Trade	45	0	17	30
<u>Local Production of goods</u>	<u>21</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Direct Effects	1,909	46	748	1,056
<u>Secondary Effects</u>	<u>714</u>	<u>9</u>	<u>255</u>	<u>431</u>
Total Effects	2,623	55	1,003	1,488