

Impacts of Visitor Spending on the Local Economy: Kings Mountain National Military Park, 2006



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May 2008



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Executive Summary

Kings Mountain National Military Park (NRA) hosted 259,287 recreation visits in 2006. Based on the 2006 visitor survey 39% of the visitors are local residents, 37% are visitors from outside the local area not staying overnight within 50 miles of the park, and 24% are visitors staying overnight in the local area. About 42% of the overnight visitors are staying in motels, 38% are camping and 20% are staying with friends or relatives or other unpaid lodging.

The average visitor party spent \$83 in the local area. Visitors reported expenditures of their group inside the park and within an hour's drive of the park. On a party trip basis, average spending in 2006 was \$24 for local residents, \$33 for non-local day trips, \$395 for visitors in motels, \$196 for campers and \$80 for other overnight visitors. On a per night basis, visitors staying in motels spent \$228 in the local region compared to \$98 for campers and \$31 for other overnight visitors. The average per night lodging cost was \$130 per night for motels and \$28 for campgrounds.

Total visitor spending in 2006 within an hour drive of the park was \$8.45 million. Overnight visitors staying in motels, cabins or B&B's accounted for 54% of the total spending. Visitors on day trips from beyond the local area accounted for 16% of the spending. Thirty-five percent of the spending was for lodging, 19% for restaurant meals and bar expenses, 16% for gas and oil, and 15% for souvenirs.

Sixty percent 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 \$5.8 million in spending attributed to the park, about 69% of the \$8.45 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 covering Cherokee and York counties in South Carolina and Cleveland and Gaston counties in North Carolina. The tourism spending sales multiplier for this region is 1.49.

Including direct and secondary effects, the \$5.8 million spent by park visitors in 2006 supports 112 jobs in the area and generates \$7.2 million in sales, \$2.7 million in labor income and \$4.2 million in value added. Value added includes wages and salaries as well as profits and rents to area businesses and sales taxes. The largest direct effects are in motels and restaurants and bars. Spending associated with park visitors supports 37 jobs in hotels, 24 jobs in restaurants and 13 jobs in retail trade.

The park itself employed 17 people in FY 2006 with a total payroll including benefits of \$770,037. Including secondary effects, the local impact of the park payroll in 2006 was 23 jobs, \$943,000 in labor income and \$1.08 million total value added. Including both visitor spending and park operations, the total impact of the park on the local economy in 2006 was 135 jobs and \$5.3 million value added. Park operations account for 17% of the employment effects and 20% of value added.

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Introduction

The purpose of this study is to document the local economic impacts of visitors to Kings Mountain National Military Park (NMP) in 2006. 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 Kings Mountain NMP 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.

Kings Mountain NMP and the Local Region

Kings Mountain NMP is located near the northern border of South Carolina within an hour's drive of Greenville South Carolina and Charlotte North Carolina. The park hosted 259,287 recreation visitors in 2006 (Table 1).

The local region was defined as a four county area covering Cherokee and York counties in South Carolina and Cleveland and Gaston counties in North Carolina. This region roughly coincides with the one hour driving distance for which visitor spending was reported in the visitor survey. The region had a population of 513,000 in 2001.

A park visitor study was conducted at Kings Mountain NMP from May 21-27, 2006 (Manni, Barrie and Hollenhorst, 2007). The study measured visitor demographics, activities, and travel expenditures. Questionnaires were distributed to a sample of 343 visitors. Most of the sample was obtained at the Gambrill Mill visitor center. Visitors returned 228 questionnaires for a 66% response rate. Data generated through the visitor survey were used as the basis to develop the spending profiles, segment shares and trip characteristics for Kings Mountain NMP visitors.

Table 1. Recreation Visits to Kings Mountain NMP, 2006-2007

Month	2006	2007
January	15,963	16,373
February	18,008	15,866
March	19,036	21,577
April	22,802	23,605
May	23,950	24,660
June	22,706	23,485
July	27,474	25,377
August	20,790	25,488
September	23,055	21,859
October	25,252	25,687
November	23,605	21,594
<u>December</u>	<u>16,646</u>	<u>16,712</u>
Total	259,287	262,283

Source: NPS Public Use Statistics

About 40% of the survey respondents lived in the local area. Forty percent of the non-local visitors said that Kings Mountain NMP was their primary destination. Thirty-one percent of visitors indicated Kings Mountain NMP was one of several destinations for the trip and for 22% of visitors the park was not a planned destination.

MGM2 Visitor Segments

MGM2 divides visitors into segments to help explain differences in spending across distinct user groups. Five segments were established for Kings Mountain NMP visitors:

- Local day users:** Day visitors who reside within the local region, defined as one hour 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 one hour drive of the park
- Camp:** Visitors staying in private or public campgrounds within a one hour drive of the park
- Other OVN:** Other visitors staying overnight in the area with friends or relatives or not reporting any lodging expenses

The 2006 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. Thirty-nine percent of the visitors are local residents, 37% are visitors from outside the local area not staying overnight within a sixty minute drive of the park, and 24% are visitors staying overnight within a sixty minute drive of the park. Forty-two percent of the overnight visitors are staying in motels, cabins or B&B's, 38% are camping and 20%

are staying with friends or relatives or other unpaid lodging (Table 2)¹. The average spending party size was 2.6 people.

Local residents were assumed to be making the trip primarily to visit the park. About 40% of non-local visitors indicated the park was their primary destination.

Table 2. Selected Visit/Trip Characteristics by Segment, 2006

Characteristic	Local	Day trip	Motel	Camp	Other OVN	Total
Segment share (survey)	39%	37%	10%	9%	5%	100%
Average Party size	2.73	2.33	2.27	3.86	2.18	2.56
Length of stay (days/nights)	1.00	1.00	1.73	2.00	2.57	1.23
Percent primary purpose trips	100%	39%	55%	10%	36%	39% ^a

a. Excludes local visitors.

Kings Mountain NMP hosted 259,287 recreation visitors in 2006. Recreation visits were allocated to the five segments using the segment shares in Table 2. These visits are converted to 101,444 party trips by dividing by the average party size for each segment (Table 3).

Table 3. Recreation Visits and Party Trips by Segment, 2006

Measure	Local	Day trip	Motel	Camp	Other OVN	Total
Recreation visits	101,213	95,527	26,156	23,882	12,509	259,287
Party visits/trips	37,070	40,940	11,509	6,192	5,734	101,444
Percent of party trips	37%	40%	11%	6%	6%	100%
Party nights	37,070	40,940	19,948	12,383	14,743	125,085

Visitor spending

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

The average visitor party spent \$83 in the local area². On a party trip basis, average spending in 2006 was \$24 for local residents, \$33 for non-local day trips, \$395 for visitors in motels, \$196 for campers and \$80 for other overnight visitors (Table 4).

¹ These percentages vary slightly from the VSP report (Manni, Barrie and Hollenhorst, 2007) 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.

² The average of \$83 is lower than the \$115 spending average in the VSP report (Manni, Barrie and Hollenhorst 2007) due to the omission of outliers and treatment of missing spending data. One outlier reporting \$4,800 in spending was omitted and spending on airfares was excluded.

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

	Local	Day trip	Motel	Camp	Other OVN	Total
In Park						
Souvenirs	2.92	5.75	0.31	8.38	4.64	4.20
In Community						
Motel, hotel cabin or B&B	0.00	0.00	224.64	0.00	0.00	25.48
Camping fees	0.00	0.00	0.00	57.01	0.00	3.48
Restaurants & bars	4.43	5.70	83.81	15.48	20.18	15.51
Groceries, take-out food/drinks	2.49	1.98	12.73	42.20	4.55	5.99
Gas & oil	7.20	12.89	22.95	32.48	13.91	13.21
Local transportation	0.00	1.49	18.18	0.48	0.00	2.69
Admissions & fees	0.53	0.89	11.50	27.52	18.18	4.57
<u>Souvenirs and other expenses</u>	<u>6.05</u>	<u>4.04</u>	<u>21.14</u>	<u>12.38</u>	<u>18.18</u>	<u>8.02</u>
Grand Total	23.62	32.74	395.26	195.92	79.64	83.15
Total in park	2.92	5.75	0.31	8.38	4.64	4.20
Total Outside park	20.71	26.99	394.94	187.54	75.00	78.95

On a per night basis, visitors staying in motels spent \$228 in the local region compared to \$98 for campers and \$31 for other overnight visitors. The average per night lodging cost was \$130 per night for motels and \$28 for campgrounds.

The sampling error (95% confidence level) for the overall spending average is 29%. A 95% confidence interval for the spending average is therefore \$83 plus or minus \$24 or (\$59, \$107). Sampling error is fairly large due to the small sample size and large variances for the spending average.

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	129.60	0.00	0.00
Camping fees	0.00	28.50	0.00
Restaurants & bars	48.35	7.74	7.85
Groceries, take-out food/drinks	7.34	21.10	1.77
Gas & oil	13.24	16.24	5.41
Local transportation	10.49	0.24	0.00
Admissions & fees	6.63	13.76	7.07
<u>Souvenirs and other expenses</u>	<u>12.38</u>	<u>10.38</u>	<u>8.87</u>
Grand Total	228.03	97.96	30.97

Kings Mountain NMP visitors spent a total of \$8.45 million in the local area in 2006 (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, cabins or B&B's accounted for 54% of the total spending. Visitors on day trips from beyond the local area accounted for 16% of the spending. Thirty-five percent of the spending was for lodging, 19% for restaurant meals and bar expenses, 16% for gas and oil, and 15% for souvenirs.

Not all of this spending would be lost to the region in the absence of the park as 42% of the visitors are local residents and over 60% of non-residents came to the area for reasons other than visiting Kings Mountain NMP. Spending directly attributed to the park visit was estimated by counting all spending for trips where the park was the primary reason for the trip³. Half of the spending outside the park was counted for day trips if the trip was not made primarily to visit Kings Mountain NMP. 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.⁴ All spending inside the park was counted, but all spending by local visitors outside the park was excluded.

These attributions yield a total of \$5.8 million in visitor spending attributed to the park visit, representing 69% of the overall visitor spending total (Table 7).

Table 6. Total Visitor Spending by Segment, 2006 (\$000s)

	Local	Day trip	Motel	Camp	Other OVN	Total
In Park						
Souvenirs	108	235	4	52	27	426
In Community						
Motel, hotel cabin or B&B	0	0	2,585	0	0	2,585
Camping fees	0	0	0	353	0	353
Restaurants & bars	164	233	965	96	116	1,574
Groceries, take-out food/drinks	92	81	146	261	26	607
Gas & oil	267	528	264	201	80	1,340
Local transportation	0	61	209	3	0	273
Admissions & fees	20	37	132	170	104	463
<u>Souvenirs and other expenses</u>	<u>224</u>	<u>165</u>	<u>243</u>	<u>77</u>	<u>104</u>	<u>814</u>
Grand Total	876	1,340	4,549	1,213	457	8,435
Total excluding park admissions	876	1,340	4,549	1,213	457	8,435
Segment Percent of Total	10%	16%	54%	14%	5%	100%

³ Visitors who identified a recreation activity as their primary reason were also included as primary purpose trips.

⁴ This assumes that these visitors spent an extra night in the area to visit Kings Mountain NMP.

Table 7. Total Spending Attributed to Park Visits, 2006 (\$000s)

Spending category	Local	Day trip	Motel	Camp	Other OVN	Total
In Park						
Souvenirs	108	235	4	52	27	426
In Community						
Motel, hotel cabin or B&B		0	2,088	0	0	2,088
Camping fees		0	0	193	0	193
Restaurants & bars		163	779	52	71	1,065
Groceries, take-out food/drinks		56	118	143	16	334
Gas & oil		368	213	110	49	740
Local transportation		42	169	2	0	213
Admissions & fees		25	107	93	64	289
Souvenirs and other expenses		115	197	65	70	448
Total Attributed to Park	108	1,005	3,676	711	296	5,796
Percent of spending attributed to the park visit	12%	75%	81%	59%	65%	69%

Economic Impacts of Visitor Spending

The economic impacts of Kings Mountain NMP 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 1.49. Every dollar of direct sales to visitors generates another \$.49 in secondary sales through indirect and induced effects⁵.

Impacts are estimated based on the visitor spending attributed to the park in Table 7, excluding fees paid to the park⁶. Including direct and secondary effects, the \$5.8 million spent by park visitors supports 112 jobs in the area and generates \$7.2 million in sales, \$2.7 million in labor income and \$4.2 million in value added (Table 8).

Labor 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.

⁵ 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.

⁶ The local economic impact of all \$8.4 million in visitor spending (Table 6) is reported in Appendix C.

Table 8. Economic Impacts of Visitor Spending Attributed to the Park, 2006.

Sector/Spending category	Sales \$000's	Jobs	Labor Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	2,088	37	913	1,479
Camping fees	193	2	28	65
Restaurants & bars	1,065	24	412	465
Admissions & fees	289	7	105	177
Local transportation	213	3	119	134
Grocery stores	84	2	34	45
Gas stations	165	2	68	89
Other retail	437	9	207	289
Wholesale Trade	145	3	81	92
<u>Local Production of goods</u>	<u>124</u>	<u>0</u>	<u>23</u>	<u>35</u>
Total Direct Effects	4,804^a	89	1,990	2,870
<u>Secondary Effects</u>	<u>2,354</u>	<u>24</u>	<u>753</u>	<u>1,347</u>
Total Effects	7,158	112	2,743	4,216

a. Total direct sales are less than visitor spending as direct sales excludes the cost of goods sold at retail unless the good is locally made.

The largest direct effects are in motels and restaurants and bars. Spending associated with park visits supports 37 jobs in hotels, 24 jobs in restaurants and 13 jobs in retail trade. The direct contribution to the local economy in terms of value added is \$1.5 million in the hotel sector, \$465,000 in the restaurant sector and \$423,000 in retail trade. Retail trade includes gas stations, grocery stores and other retail establishments.

Impacts of the NPS Park Payroll

The park itself employed 17 people in FY 2006 with a total payroll including benefits of \$770,037. Including secondary effects, the local impact of the park payroll in 2006 was 23 jobs, \$943,000 in labor income and \$1.08 million total value added. Including both visitor spending and park operations, the total impact of the park on the local economy in 2006 was 135 jobs and \$5.3 million value added. Park operations account for 17% of the employment effects and 20% 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.

Spending averages are derived from the 2006 Kings Mountain NMP visitor survey. Estimates from the survey are subject to sampling errors, measurement errors and seasonal/sampling biases. The overall spending average is subject to sampling errors of 29%.

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.

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. Thirteen cases had missing spending data and 45 cases reported zero spending. Dropping the missing cases instead of treating them as zeros would increase the overall spending average from \$83 to \$88.

One case reporting spending of \$4,800 was dropped from the analysis. Transportation expenses for a handful of other cases reporting more than \$200 in transportation expenses were also adjusted, as they were assumed to be airfares. The overall spending average was \$82 omitting outliers compared to \$102 with outliers and \$109 including all reported transportation expenses (See Appendix B for details).

Although sample sizes are small for most segments, the spending averages are consistent with those at similar recreation areas. 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.

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.

Sorting out the contribution of the park in attracting visitors on multi-purpose or multi-destination trips is inherently difficult. As the park was not the primary reason 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 69% of all visitor spending being attributed to 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.
Labor 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

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 170 cases with valid spending data, 45 cases reporting zero spending and 13 cases not completing the spending question. Cases with zero or missing spending 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	56	64	23	21	6	170
Missing spending data	6	3	0	0	4	13
<u>Zero spending</u>	<u>27</u>	<u>17</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>45</u>
Total cases	89	84	23	21	11	228
Percent zero	30%	20%	0%	0%	9%	20%
Percent missing	7%	4%	0%	0%	36%	6%

Only one outlier reporting spending of \$4,800 was omitted from the spending analysis. Cases reporting more than \$200 in transportation expenses were assumed to cover airfares. Transportation spending for these cases was set to zero. The overall spending average is \$83 omitting outliers compared to \$102 with outliers and \$109 including all transportation expenses.

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	24	89	48	24	89	48	43%
Day trip	33	84	37	33	84	37	24%
Motel	587	23	988	395	22	372	39%
Camp	196	21	231	196	21	231	50%
<u>Other OVN</u>	<u>80</u>	<u>11</u>	<u>223</u>	<u>80</u>	<u>11</u>	<u>223</u>	<u>165%</u>
Total	102	228	363	83	227	185	29%

a. Pct errors computed at a 95% confidence level

Appendix C. Impacts of all Visitor Spending, 2006

Table C1 gives the impacts of \$5.8 million in visitor spending on the local economy. All visitor spending in the region except donations and airfares are included in this analysis. Impacts including all visitor spending are roughly 40% 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, 2006

Sector/Spending category	Sales \$000's	Jobs	Labor Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	2,585	46	1,130	1,831
Camping fees	353	4	50	119
Restaurants & bars	1,574	36	609	687
Admissions & fees	463	10	169	283
Local transportation	273	4	152	172
Grocery stores	154	3	61	82
Gas stations	299	3	124	161
Other retail	620	12	293	410
Wholesale Trade	235	5	131	148
<u>Local Production of goods</u>	<u>225</u>	<u>1</u>	<u>42</u>	<u>64</u>
Total Direct Effects	6,780^a	124	2,762	3,957
<u>Secondary Effects</u>	<u>3,360</u>	<u>34</u>	<u>1,066</u>	<u>1,922</u>
Total Effects	10,140	158	3,828	5,879

a. Total direct sales are less than visitor spending as direct sales excludes the cost of goods sold at retail unless the good is locally made.