



# Impacts of Visitor Spending on the Local Economy: *Wind Cave National Park, 2010*



**ON THE COVER**

Photo courtesy of Wind Cave National Park

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# **Impacts of Visitor Spending on the Local Economy:** *Wind Cave National Park, 2010*

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## Executive Summary

Wind Cave National Park hosted 577,141 recreation visits in 2010. Adjustments for visitor group size and re-entries resulted in 144,038 visitor group trips to the park in 2010. Based on a 2010 Visitor Services Project (VSP) survey conducted July 27- August 2, 28% of these visitor groups were local residents or non-locals on day trips, not staying overnight within 30 miles of the park.<sup>1</sup> Forty-one percent of visitor group trips involved an overnight stay in motels, lodges or cabins outside the park, 1% of visitor groups trips were overnight stays in park campgrounds, and 16% of visitor group trips were overnight stays in campgrounds outside the park.

Visitors reported their group's expenditures inside the park and in the surrounding communities within 30 miles of the park. In 2010, the average visitor group size was 3.5 people and spent an average of \$356 in the park and within 30 miles of the park. Overall 94% of spending took place outside the park.

Total visitor spending in 2010 within 30 miles of the park was \$49.3 million including \$949,000 inside the park. The greatest proportions of expenditures were for lodging (40%), restaurant meals and bar expenses (16%), and admissions and fees (13%). Overnight visitors staying in motels or lodges outside the park accounted for 77% of the total spending.

Twenty-one percent of visitor groups indicated the park visit was the primary reason for their trip to the area. Counting only a portion of visitor expenses if the park visit was not the primary trip purpose yields \$21.6 million in spending attributed directly to the park.

The economic impact of park visitor spending was estimated by applying the spending to an input-output model (IMPLAN) of the local economy. The local region was defined as a two county region including Custer and Fall River counties, South Dakota. This region roughly coincides with the 30 mile radius for which spending was reported.

Including direct and secondary effects, the \$21.6 million in visitor spending attributed to the park generates \$22.8 million in direct sales in the region, which supports 380 jobs. These jobs pay \$7.4 million in labor income, which is part of \$12.1 million in value added to the region.<sup>2</sup>

A separate study estimated impacts of the park employee payroll on the local economy.<sup>3</sup> The park itself employed 85 people in FY 2010 with a total payroll including benefits of \$4.2 million. Including secondary effects, the local impacts of the park payroll in FY 2010 were \$1.9 million in sales, supporting 101 jobs, \$4.8 million in labor income, and \$5.3 million in value added.

<b>Local Economic Impacts of Wind Cave National Park</b>				
	<u>Sales</u>	<u>Jobs</u>	<u>Labor Income</u>	<u>Value Added</u>
Park Visitor Spending	\$22.8M	380	\$7.4M	\$12.1M
Park Payroll	+ \$1.9M	+ 101	+ \$4.8M	+ \$5.3M
Park Visitor Spending + Payroll	\$24.7M	481	\$12.2M	\$17.4M

<sup>1</sup> Results in this study sometimes differ from those reported in the VSP survey report (Holmes et al. 2011) because the current analysis excludes some cases as outliers. See Study Limitations and Errors section.

<sup>2</sup> Jobs include fulltime and part-time jobs. Labor income consists of wages and salaries, payroll benefits and income of sole proprietors. Value added includes labor income as well as property income (dividend, royalties, interest and rents) to area businesses and indirect business taxes (sales, property, and excise taxes).

<sup>3</sup> Stynes (2011).

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# Introduction

Wind Cave National Park (NP) preserves one of the world's longest and most complex caves and the mixed-grass prairie, ponderosa pine forest, and associated wildlife on the land above. The park was established in 1903, the seventh U.S. national park, and was the first cave to be designated a national park anywhere in the world. The 28,295-acre site is located in Custer County in southwestern South Dakota. Wind Cave NP received 577,141 recreation visits in 2010, including 3,263 overnight stays (Table 1).

**Table 1.** Recreation visits and overnight stays, Wind Cave National Park, 2010.

Month	Recreation Visits	Overnight (OVN) Stays		Total OVN Stays
		Campgrounds	Backcountry	
January	11,939	3	-	3
February	10,993	3	-	3
March	19,736	16	-	16
April	36,717	5	2	7
May	56,147	180	12	192
June	77,640	596	115	711
July	123,652	928	48	976
August	120,313	645	95	740
September	68,802	457	21	478
October	26,270	121	3	124
November	13,067	11	-	11
<u>December</u>	<u>11,865</u>	<u>2</u>	<u>-</u>	<u>2</u>
<b>Total</b>	<b>577,141</b>	<b>2,967</b>	<b>296</b>	<b>3,263</b>

Source: NPS Public Use Statistics 2010.

The purpose of this study is to estimate the local economic impacts of visitors to Wind Cave NP in 2010. Economic impacts are measured as the direct and secondary sales, income, and jobs in the local region resulting from spending by park visitors. (See Appendix A: Glossary for definitions of terms.) The local economic region defined for this study includes Custer and Fall River counties, South Dakota.

This two-county region of South Dakota has a population of 15,105 (USCB 2010), gross regional product of \$385 million (MIG, Inc. 2008), median household income of \$43,040, and family poverty rate of 5.8% (USCB 2010). Food services and drinking places, and state and local governments are the major employers in the region (MIG, Inc. 2008), and the region experienced a 4.6% unemployment rate in 2010 (BLS 2010).

## Methods

The economic impact estimates are produced using the Money Generation Model 2 (MGM2) (Stynes et al. 2007). The three main 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 Wind Cave NP Visitor Services Project (VSP) visitor survey (Holmes et al. 2011), National Park Service Public Use Statistics (2010), and IMPLAN input-output modeling software (MIG, Inc. 2008). The MGM2 model provides a spreadsheet template for combining park use, spending, and regional multipliers to compute changes in sales, labor income, jobs, and value added in the region.

The VSP visitor survey was conducted at Wind Cave NP from July 27-August 2, 2010 (Holmes et al. 2011).<sup>4</sup> This survey measured visitor demographics, activities, and travel expenditures. Questionnaires were distributed to a systematic, random sample of 852 visitor groups. Visitors returned 575 questionnaires resulting in a response rate of 67.5%.

Spending and economic impact estimates for Wind Cave NP are based on the 2010 VSP survey. Visitors were asked to report expenditures within 30 miles of the park. The local region for determining economic impact was defined as a two-county area around the park including Custer and Fall River counties in southwestern South Dakota, which roughly coincides with the 30-mile radius for which visitor spending was reported.

The MGM2 model divides visitors into segments to help explain differences in spending across distinct user groups. Six segments were established for Wind Cave NP visitors based on reported trip characteristics and lodging expenditures:

**Local:** Visitors from the local region, not staying overnight inside the park.

**Day trip:** Visitors from outside the local region, not staying overnight within 30 miles of the park.

**Camp-in:** Visitors reporting camping expenses inside the park.

**Motel-out:** Visitors reporting motel expenses outside the park within 30 miles of the park.

**Camp-out:** Visitors reporting camping expenses outside the park within 30 miles of the park.

**Other overnight (Other OVN):** Visitors staying overnight in the area but not reporting any lodging expenses. This segment includes visitors staying in private homes, with friends or relatives, or in other unpaid lodging.<sup>5</sup>

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<sup>4</sup> Results in this study sometimes differ from those reported in the VSP survey report (Holmes et al. 2011) because the current analysis excludes some cases as outliers. See Study Limitations and Errors section.

<sup>5</sup> Visitors reporting multiple lodging types and expenditures were classified based on the greatest reported lodging expense. Some visitors listing motels or campgrounds as lodging types did not report any lodging expenses and were classified in the other overnight (Other OVN) category.

The VSP survey was used to estimate the percentage of visitors from each segment as well as spending averages, lengths of stay, and visitor group sizes for each segment. Segment shares from the VSP surveys were adjusted to be consistent with the park’s NPS Public Use Statistics (2010) overnight stay figures.

## Results

### Visits

Based on the VSP survey, almost one-quarter of park entries were classified as day trip visits by either local residents or visitors from outside the region, and about three-quarters were classified as overnight visits including an overnight stay in the local region (Table 2). The average visitor group size ranged from 2.4 to 3.6 people across the six segments with an average visitor group of 3.5 people.<sup>6</sup> The average length of stay in the local region on overnight trips was 2.8 nights.

**Table 2.** Selected visit/trip characteristics by segment, 2010.

Characteristic	Segment						All visitors
	Local	Day trip	Camp- in	Motel- out	Camp- out	Other OVN	
Visitor segment share (park entries)	1.5%	22.0%	1.0%	44.5%	17.0%	14.0%	100.0%
Average visitor group size	2.4	3.2	2.6	3.6	3.6	3.4	3.5
Length of stay (days or nights)	1.0	1.0	2.4	2.6	3.3	3.0	2.8
Re-entry rate (park entries per trip)	1.2	1.1	2.0	1.2	1.2	1.2	1.2
Percent primary purpose trips	100%	30%	50%	18%	21%	17%	21%

Twenty-one percent of visitor groups indicated that visiting the park was the primary reason for their trip to the area. Other stated reasons were visiting friends and relatives in the area, business, traveling through, or visiting other area attractions.

The 577,141 recreation visits in 2010 were allocated to the six segments using the visit segment shares in Table 2. Since spending is reported for the stay in the area, park entries were converted to trips to the area by dividing by the average number of times each visitor entered the park during their stay. Park re-entry rates were estimated based on the number of entries into the park reported by survey respondents.

Recreation visits were converted to 144,038 visitor group trips by dividing recreation visits by the average visitor group size and park re-entry rate for each segment (Table 3). Person trips for each segment are equal to visitor group trips multiplied by average party size. In 2010, there were 494,637 person trips to the park.

<sup>6</sup> Visitor group size reported herein is based on the number of people covered by expenditures reported in the VSP survey.

**Table 3.** Recreation visits and visitor group trips by segment, 2010.

Measure	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
Recreation visits	8,657	126,971	5,771	256,828	98,114	80,800	577,141
Visitor group trips	2,962	36,958	1,079	59,607	23,475	19,957	144,038
Percent of visitor group trips	2%	26%	1%	41%	16%	14%	100%
Person trips	7,034	116,540	2,824	215,885	83,961	68,393	494,637

## Visitor Spending

The visitor survey covered expenditures of the visitor group inside the park and within 30 miles of the park. Spending averages were computed on a visitor group trip basis for each segment. The average visitor group in 2010 spent \$356 on the trip inside the park and in the local region (Table 4). On a visitor group trip basis, average spending was \$32 for day trips by local residents and \$42 for day trips by non-local visitors. Visitor groups camping inside the park spent \$93 on their trips, while those camping outside the park spent \$435. Visitor groups staying in motels, cabins, lodges or B&B's outside the park spent an average of \$652 on their trips. Visitor groups spent about 6% of their total spending inside the park and 94% outside the park.

**Table 4.** Average spending by segment (\$ per visitor group per trip).

Expenditures	Segment						All visitors*
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
<b>Inside Park**</b>							
Camping fees	.00	.00	18.72	.00	.31	.00	.19
Admission & fees	4.85	13.26	18.90	19.21	19.10	8.32	15.86
<u>Souvenirs &amp; other expenses</u>	<u>1.15</u>	<u>5.27</u>	<u>10.96</u>	<u>4.31</u>	<u>7.21</u>	<u>2.11</u>	<u>4.71</u>
<b>Total Inside Park</b>	<b>6.00</b>	<b>18.52</b>	<b>48.59</b>	<b>23.52</b>	<b>26.61</b>	<b>10.43</b>	<b>20.76</b>
<b>Outside Park</b>							
Motel, hotel, cabin or B&B	.00	.00	.00	289.44	.00	.00	119.78
Camping fees	.00	.00	.00	3.68	91.45	.00	16.43
Restaurants & bars	9.77	5.96	7.59	103.16	56.23	4.03	54.20
Groceries & takeout food	3.85	1.86	13.69	31.91	42.18	2.02	21.02
Gas & oil	7.85	6.73	11.09	66.68	77.02	4.20	42.70
Local transportation	.00	.1.19	5.24	16.86	10.48	.87	9.15
Admission & fees	2.15	5.40	3.80	64.39	72.09	2.19	40.16
<u>Souvenirs &amp; other expenses</u>	<u>1.92</u>	<u>2.13</u>	<u>3.19</u>	<u>52.75</u>	<u>58.42</u>	<u>1.05</u>	<u>32.11</u>
<b>Total Outside Park</b>	<b>25.54</b>	<b>22.28</b>	<b>44.60</b>	<b>628.88</b>	<b>407.88</b>	<b>14.36</b>	<b>335.55</b>
<b>Total Inside &amp; Outside Park</b>	<b>31.54</b>	<b>41.80</b>	<b>93.18</b>	<b>652.40</b>	<b>434.50</b>	<b>24.79</b>	<b>356.30</b>

\*Average weighted by percent visitor group trips.

\*\*Restaurants & bars and Local transportation expenditures recorded as Inside Park in the VSP survey were moved to the respective Outside Park categories because those services and facilities do not exist inside the park. See Appendix C for details.

The relative standard error at a 95% confidence level for the overall spending average is 10%. A 95% confidence interval for the overall visitor group spending average is therefore \$356 plus or minus \$38 or between \$318 and \$394.

On a per night basis, visitor groups staying in motels or lodges outside the park spent \$252 in the local region, campers in the park spent \$39, and campers outside the park spent \$133. The average reported per night lodging expense was \$112 for motels outside the park, \$28 for camping fees outside the park, and \$8 for camping fees inside the park (Table 5).

**Table 5.** Average spending per night for visitor groups on overnight trips (\$ per visitor group per night).

<b>Expenditures</b>	<b>Segment</b>			
	<b>Camp-in</b>	<b>Motel-out</b>	<b>Camp-out</b>	<b>Other OVN</b>
Motel, hotel, cabin or B&B	0.00	111.64	0.00	0.00
Camping fees	7.88	1.42	28.09	0.00
Restaurants & bars	3.20	39.79	17.21	1.34
Groceries & takeout food	5.76	12.31	12.91	0.67
Gas & oil	4.67	25.72	23.58	1.40
Local transportation	2.21	6.50	3.21	0.29
Admission & fees	9.56	32.25	27.92	3.50
<u>Souvenirs &amp; other expenses</u>	<u>5.96</u>	<u>22.01</u>	<u>20.09</u>	<u>1.05</u>
<b>Total per visitor group per night</b>	<b>39.24</b>	<b>251.64</b>	<b>133.01</b>	<b>8.26</b>

Total spending was estimated by multiplying the number of visitor group trips for each segment by the average spending per trip and summing across segments. The estimate of visitor group participating in cave tours and visiting the park bookstore was adjusted downward to reflect actual 2010 park fee and bookstore revenue (see Appendix C for details). Wind Cave NP visitors spent a total of \$49.3 million in the local region in 2010 (Table 6). Overnight visitors staying in motels outside the park account for 77% of the total spending. Lodging expenses represent 40% of the total spending, restaurant and bar expenses represent 16%, and admissions and fees represent 13% (Figure 1).

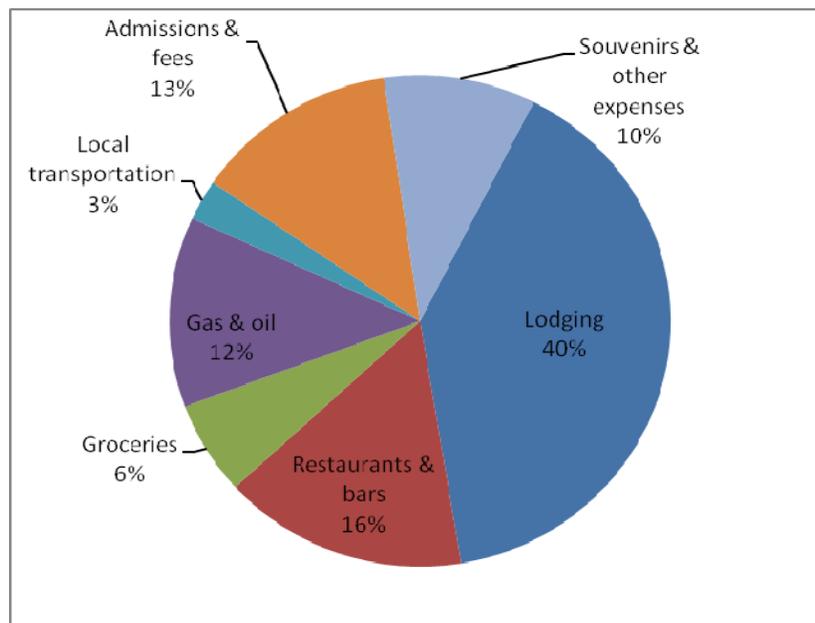
Because visitors would come to the region whether or not the park existed, not all visitor spending can be attributed to the park. Seventy-nine percent of visitor groups did not make the trip primarily to visit Wind Cave NP. Spending directly attributed to park visits was estimated by counting all spending on trips for which the park was the primary reason for the trip. If the park was not the primary trip purpose, one night of spending was counted for overnight trips and half of the spending outside the park was counted for day trips. All spending inside the park was treated as park-related spending. With these assumptions, a total of \$21.6 million in visitor spending is attributed to the park visit (Table 7). This represents 44% of the overall visitor spending total.

**Table 6.** Total visitor spending by segment, 2010 (\$000's).

Expenditures	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
<b>Inside Park</b>							
Camping fees	0	0	20	0	7	0	27
Admission & fees**	4	153	6	356	140	52	711
<u>Souvenirs &amp; other expenses**</u>	<u>1</u>	<u>61</u>	<u>4</u>	<u>80</u>	<u>53</u>	<u>13</u>	<u>211</u>
<b>Total Inside Park</b>	<b>6</b>	<b>213</b>	<b>30</b>	<b>436</b>	<b>199</b>	<b>65</b>	<b>949</b>
<b>Outside Park</b>							
Motel, hotel, cabin or B&B	0	0	0	17,253	0	0	17,253
Camping fees	0	0	0	219	2,147	0	2,366
Restaurants & bars	29	220	8	6,149	1,320	80	7,807
Groceries & takeout food	11	69	15	1,902	990	40	3,028
Gas & oil	23	249	12	3,975	1,808	84	6,150
Local transportation	0	44	6	1,005	246	17	1,318
Admission & fees	6	200	4	3,838	1,692	44	5,784
<u>Souvenirs &amp; other expenses</u>	<u>6</u>	<u>79</u>	<u>3</u>	<u>3,144</u>	<u>1,371</u>	<u>21</u>	<u>4,625</u>
<b>Total Outside Park</b>	<b>76</b>	<b>860</b>	<b>48</b>	<b>37,486</b>	<b>9,575</b>	<b>287</b>	<b>48,331</b>
<b>Total Inside &amp; Outside Park</b>	<b>81</b>	<b>1,073</b>	<b>78</b>	<b>37,922</b>	<b>9,775</b>	<b>351</b>	<b>49,281</b>
Segment Percent of Total*	<1%	2%	<1%	77%	20%	1%	100%

\*Percentages do not total 100% due to rounding.

\*\* Total visitor spending for Admission & fees and Souvenirs & other expenses based on estimate of 44,832 visitor group trips taking cave tours and visiting park bookstore. See Appendix C for details.



**Figure 1.** Wind Cave National Park visitor spending by category.

**Table 7.** Total spending attributed to park visits, 2010 (\$000's).

Expenditures	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
Motel, hotel, cabin or B&B	-	-	-	8,545	-	-	8,545
Camping fees	-	-	20	109	971	-	1,100
Restaurants & bars	-	143	6	3,046	593	36	3,823
Groceries & takeout food	-	45	10	942	445	18	1,460
Gas & oil	-	161	9	1,969	812	37	2,987
Local transportation	-	28	4	498	110	8	648
Admission & fees	4	282	15	1,050	489	59	1,899
Souvenirs & other expenses	<u>1</u>	<u>112</u>	<u>10</u>	<u>647</u>	<u>335</u>	<u>17</u>	<u>1,122</u>
<b>Total Attributed to Park</b>	<b>6</b>	<b>771</b>	<b>74</b>	<b>16,805</b>	<b>3,755</b>	<b>174</b>	<b>21,585</b>
Percent of Spending Attributed to the Park	7%	72%	95%	44%	38%	50%	44%
Percent of Attributed Spending*	<1%	4%	<1%	78%	17%	1%	100%

\*Percentages do not total 100% due to rounding.

## Economic Impacts of Visitor Spending

The economic impacts of Wind Cave NP visitor spending on the local economy are estimated by applying visitor spending to a set of economic ratios and multipliers in MGM2 representing the economy of the two-county region.<sup>7</sup> Economic ratios and multipliers for the region were estimated using the *Impact Analysis for Planning (IMPLAN) Professional software* (version 3, MIG, Inc. 2008) with 2008 data.<sup>8</sup> Employment multipliers were adjusted to take into account price changes from 2008 to 2010 (see Study Limitations and Errors section below).

Not all visitor spending is counted as direct sales to the region. The amount a visitor spends for a retail good is made up of the cost of the good from the producer, a markup by a wholesaler, and a markup by a retailer. In MGM2, retail and wholesale margins for grocery & takeout food, gas & oil, and souvenirs & other expenses are applied to visitor spending to account for mark-ups by retailers and wholesalers. The retail margins for the three sectors are 25.3%, 22.3%, and 50.0%, respectively, and the wholesale margins are 12.3%, 8.3%, and 11.4%. In addition, regional purchase coefficients from IMPLAN for all sectors are used to account for the proportion of demand within the region satisfied by imports into the region.

The tourism output sales multiplier for the region is 1.28. Every dollar of direct sales to visitors generates another \$0.28 in secondary sales through indirect and induced effects.<sup>9</sup> (See Appendix A: Glossary for further explanation of terms.)

<sup>7</sup> Economic ratios convert between various economic measures, e.g., direct spending to the directly associated jobs, labor income, and value added in each sector. Economic multipliers capture the secondary effects of economic measures.

<sup>8</sup> See Appendix B: Economic Ratios and Multipliers for the region.

<sup>9</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.

Impacts are estimated based first on all visitor spending and then based on the visitor spending attributed to the park. Including all visitor spending accounts for the overall contribution visitors make to the economy of the local region. Including only visitor spending attributable to the park accounts for the impact or contribution the park makes to the economy of the local region.

Using all visitor spending and including direct and secondary effects, the \$49.3 million spent by park visitors generates \$51.5 million in sales, which supports 877 jobs in the local region (Table 8). These jobs pay \$16.9 million in labor income, which is part of \$27.8 million in value added to the region.<sup>10</sup>

**Table 8.** Impacts of all visitor spending on the local economy, 2010.

<b>Sector/Expenditure category</b>	<b>Sales (\$000's)</b>	<b>Jobs</b>	<b>Labor Income (\$000's)</b>	<b>Value Added (\$000's)</b>
<b>Direct Effects</b>				
Motel, hotel, cabin or B&B	17,253	267	5,110	9,072
Camping fees	2,394	29	759	1,226
Restaurants & bars	7,807	167	2,482	3,490
Groceries & takeout food	766	16	395	631
Gas & oil	1,372	32	684	1,142
Local transportation	1,318	40	574	721
Admission & fees	6,495	144	2,041	3,121
Souvenirs & other expenses	2,418	58	1,202	1,952
Wholesale trade	358	3	137	229
<u>Local production of goods</u>	<u>11</u>	<u>0</u>	<u>2</u>	<u>3</u>
<b>Total Direct Effects</b>	<b>40,191</b>	<b>756</b>	<b>13,385</b>	<b>21,587</b>
<u>Secondary Effects</u>	<u>11,355</u>	<u>121</u>	<u>3,508</u>	<u>6,164</u>
<b>Total Effects</b>	<b>51,547</b>	<b>877</b>	<b>16,893</b>	<b>27,751</b>

Note: Impacts of \$49.3 million in visitor spending reported in Table 6.

Value added is the preferred measure of the contribution of visitors 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 that accrue to government units. Value added impacts are also comparable to Gross Regional Product, the broadest measure of total economic activity in a region. The largest direct effects are in lodging establishments, restaurants, and admission fees.

Using only visitor spending attributable to the park by including only some spending on trips where the primary trip purpose was not to visit Wind Cave NP reduces the overall impacts by about 56% (Table 9; see spending inclusion assumptions in previous section). Including direct and secondary effects, the \$21.6 million spent by park visitors and attributable to the park generates \$22.8 million in sales, which supports 380 jobs in the local region. These jobs pay \$7.4 million in labor income, which is part of \$12.1 million in value added to the region.

<sup>10</sup> Labor income consists of wages and salaries, payroll benefits and income of sole proprietors. Value added includes labor income as well as profits and rents to area businesses and sales and excise taxes.

**Table 9.** Economic impacts of visitor spending attributed to the park, 2010.

<b>Sector/Expenditure category</b>	<b>Sales (\$000's)</b>	<b>Jobs</b>	<b>Labor Income (\$000's)</b>	<b>Value Added (\$000's)</b>
<b>Direct Effects</b>				
Motel, hotel, cabin or B&B	8,545	132	2,531	4,493
Camping fees	1,100	14	349	563
Restaurants & bars	3,823	82	1,215	1,709
Groceries & takeout food	369	8	190	304
Gas & oil	666	16	332	555
Local transportation	648	20	282	355
Admission & fees	1,899	42	597	913
Souvenirs & other expenses	561	13	279	453
Wholesale trade	139	1	53	89
<u>Local production of goods</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>1</u>
<b>Total Direct Effects</b>	<b>17,753</b>	<b>327</b>	<b>5,829</b>	<b>9,434</b>
<u>Secondary Effects</u>	<u>5,011</u>	<u>53</u>	<u>1,551</u>	<u>2,716</u>
<b>Total Effects</b>	<b>22,764</b>	<b>380</b>	<b>7,380</b>	<b>12,150</b>

Note: Impacts of \$21.6 million in visitor spending attributed to park reported in Table 7.

### Impacts of the NPS Park Payroll

In addition to visitor spending, spending by park employees also impacts the local region. A separate study (Stynes 2011) estimated the impacts of park payroll by applying economic multipliers to wage and salary data to capture the induced effects of NPS employee spending on local economies. Wind Cave NP itself employed 85 people in FY 2010 with a total payroll including benefits of \$4.2 million. Including secondary effects, the local impacts of the park payroll in FY 2010 were \$1.9 million in sales, 101 jobs, \$4.8 million in labor income, and \$5.3 million value added (Stynes 2011).

The combined impacts to the region of visitor spending attributable to the park and NPS payroll are \$24.7 million in sales which support 481 jobs with labor income of \$12.2 million, which is part of a total value added of \$17.4 million.<sup>11</sup> These 481 jobs represent about 5.7% of the 8,370 jobs in this two-county region of South Dakota (BLS 2010).

<sup>11</sup> To the extent NPS recreation fees reported as visitor spending contribute to NPS payroll, there is some double counting of the impacts of recreation fees. Data about recreation fee contributions to NPS payroll are unavailable, but the overlap is believed to be minor.

## Study Limitations and Errors

The accuracy of the MGM2 estimates rests on the accuracy of three inputs: visits, spending averages, and multipliers. Visits are taken from NPS Public Use Statistics (2010). Recreation visit estimates rely on counting procedures at the park, which may miss some visitors and count others more than once during their visit. Wind Cave NP relies on inductive loop traffic counters at three entrances along major highways for initial vehicle counts, which are then reduced to account for non-reportable and non-recreation vehicles (NPS Public Use Statistics Office 2004). The accuracy of the counting procedure is unknown, but comparison of recreation visit estimates based on traffic counts with estimates based on cave tour and park bookstore revenue suggests that recreation visit counts may be high. (See Appendix C for details.)

Re-entry rates also are important to adjust the park visit counts to reflect the number of visitor trips to the region rather than park entries. Re-entry rates were estimated based on visitor responses to a park re-entry question in the VSP survey.

Spending averages are derived from the 2010 Wind Cave NP VSP visitor survey (Holmes et al. 2010). Estimates from the surveys are subject to sampling errors, measurement errors, and potential seasonal/sampling biases. The overall spending averages are subject to sampling errors of 10%.

Spending averages are also sensitive to decisions about outliers and treatment of missing data. In order to estimate spending averages, incomplete spending data was filled with zeros. Visitor groups of more than 8 people (13 cases), visiting the local region for more than 7 nights (13 cases), spending greater than \$1,825 (the mean plus two times the standard deviation of the mean for spending, 20 cases), or arriving in more than four vehicles (1 case) were omitted from the analysis. These are conservative assumptions about outliers and likely result in conservative estimates of economic impacts.

The sample only covers visitors during late July and early August. To extrapolate to annual totals, it was assumed that this sample represented visitors throughout the year. Analysis of park cave tour records and bookstore revenues suggest this assumption does not hold for the propensity of visitors to take cave tours, i.e., lower proportions of visitors take cave tours in other seasons. Adjustments to the number of visitor groups taking cave tours and visiting the park bookstore were made to account for this seasonal effect (see Appendix C for details.) Additionally, a separate analysis of the economic impacts of visitor spending by only those visitor groups who took cave tours was conducted (see Appendix D).

Multipliers are derived from an input-output model of the local economy using IMPLAN (MIG, Inc. 2008). The basic assumptions of input-output models are that sectors have homogeneous, fixed and linear production functions, that prices are constant, and that there are no supply constraints. The IMPLAN system uses national average production functions for each of 440 sectors based on the NAICS system (see Appendix B, Table B2). The most recent local IMPLAN datasets available for this analysis were 2008. It was therefore assumed that most multipliers have remained stable through 2010. Employment multipliers were adjusted to take

into account price changes. Local job to sales ratios were adjusted from 2008 to 2010 based on the percentage changes in national job to sales ratios between 2008 and 2010 and then adjusted to 2010 based on consumer price indices.

Sorting out how much spending to attribute to the park when the park is not the primary reason for the trip is somewhat subjective. Because four out of five visitor groups to Wind Cave NP did not make the trip primarily to visit the park and most spending occurred outside the park, adjustments for non-primary purpose trips have a significant effect on the overall spending and impact estimates.

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## Appendix A: Glossary

Term	Definition
Direct effects	Changes in sales, income and jobs in those business or agencies that directly receive visitor spending.
Economic multiplier	Captures the size of secondary effects and are usually expressed as a ratio of total effects to direct effects.
Economic ratio	Converts various economic measures from one to another. For example, direct sales can be used to estimate direct effects on jobs, personal income, and value added by applying economic ratios. I.e., $\text{Direct jobs} = \text{direct sales} * \text{jobs to sales ratio}$ $\text{Direct personal income} = \text{direct sales} * \text{personal income to sales ratio}$ $\text{Direct value added} = \text{direct sales} * \text{value added to sales ratio}$
Indirect effects	Changes in sales, income and jobs in industries that supply goods and services to the businesses that sell directly to visitors, i.e., businesses in the supply chain. 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 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. IMPLAN's Social Accounting Matrix (SAM) multipliers also include induced effects resulting from local/state/federal government spending.
Jobs	The number of jobs in the region supported by visitor spending. Job estimates are not full time equivalents, but include both fulltime and part-time positions.
Labor income	Wage and salary income, sole proprietor (business owner) income and employee payroll benefits.
Regional purchase coefficient (RPC)	The proportion of demand within a region supplied by producers within that region.
Retail margin	The markup to the price of a product when a product is sold through a retail trade activity. Retail margin is calculated as sales receipts minus the cost of goods sold.
Sales	Direct sales (retail goods and services) by firms within the region to park visitors.

<b>Term</b>	<b>Definition</b>
Secondary effects	Changes in the economic activity in the region that result from the re-circulation of money spent by visitors. Secondary effects include indirect and induced effects.
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>
Value added	Labor income plus property income (rents, dividends, royalties, interest) 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, property, 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.
Visitor group	A group of people traveling together to visit the park. Visitor group is the basic sampling unit for VSP surveys; each visitor group receives only one questionnaire.
Wholesale margin	The markup to the price of a product when a product is sold through wholesale trade. Wholesale margin is calculated as wholesale sales minus the cost of the goods sold.

## Appendix B: Economic Multipliers and IMPLAN Sectors

**Table B1.** Economic ratios and multipliers for selected tourism-related sectors, Wind Cave NP region, 2010.

Sector	Direct effects			Total effects multipliers				
	Jobs/\$ MM sales	Income /sales	Value added/ sales	Sales I	Sales SAM	Jobs II/ MM sales	Income II/ sales	Value added II/ sales
Motel, hotel, cabin or B&B	15.46	0.30	0.53	1.16	1.30	18.71	0.39	0.69
Camping fees	12.28	0.32	0.51	1.17	1.29	15.45	0.40	0.66
Restaurants & bars	21.39	0.32	0.45	1.13	1.26	24.04	0.40	0.59
Groceries & takeout food	20.71	0.52	0.82	1.12	1.29	23.74	0.60	0.99
Gas & oil	23.55	0.50	0.83	1.10	1.22	25.90	0.57	0.96
Local transportation	30.22	0.44	0.55	1.07	1.22	32.55	0.50	0.67
Admission & fees	22.22	0.31	0.48	1.20	1.28	25.24	0.40	0.63
Souvenirs & other expenses	23.81	0.50	0.81	1.12	1.29	26.86	0.59	0.97
Local production of goods	7.72	0.15	0.25	1.09	1.16	9.28	0.20	0.33
Wholesale trade	7.12	0.38	0.64	1.10	1.25	9.83	0.46	0.78

Source: IMPLAN (MIG, Inc. 2008) updated to 2010.

### Explanation of table

**Direct effects** are economic ratios to convert sales in each sector to jobs, income and value added.

Jobs/\$MM sales is jobs per million dollars in sales.

Income/sales is the percentage of sales going to wages, salaries, and employee benefits.

Value added/sales is the percentage of sales that is value added (Value added covers all income, rents and profits and indirect business taxes).

**Total effects** are multipliers that capture the total effect relative to direct sales.

Sales I captures only direct and indirect sales.

Sales SAM is the SAM sales multiplier = (direct + indirect + induced sales) / direct sales.

Job II/ MM sales = total jobs (direct + indirect + induced) per \$ million in direct sales.

Income II /sales = total income (direct + indirect + induced) per \$ of direct sales.

VA II/sales = total value added (direct + indirect + induced) per \$ of direct sales.

### Using the hotel sector row to illustrate

**Direct Effects:** Every million dollars in hotel sales creates 15.5 jobs in hotels. Fifty-three percent of hotel sales are value added, including 30% that goes to wages and salaries of hotel employees. That means 47% of hotel sales goes to purchase inputs by hotels (e.g., linens, cleaning supplies). The wage and salary income creates the induced effects and the 47% spent on purchases by the hotel starts the rounds of indirect effects.

**Multiplier effects:** There is an additional 16 cents of indirect sales in the region for every dollar of direct hotel sales (type I sales multiplier = 1.16). Total secondary sales are 30 cents per dollar of direct sales, which means 16 cents in indirect effects and 14 cents in induced effects. An additional 3.2 jobs are created from secondary effects of each million dollars in hotel sales (18.7

total jobs – 15.5 direct jobs per \$million). These jobs are distributed across other sectors of the local economy. Similarly, the secondary effects on value added for each dollar of hotel sales are 16% (69%-53%), including the secondary effects on labor income of 9% (39%-30%). Including secondary effects, every million dollar of hotel sales in the region yields \$1.30 million in sales, which support 18.7 jobs. Those jobs pay \$390,000 in labor income, which is part of the overall value added of \$690,000.

**Table B2.** MGM2 sector correspondence to IMPLAN and 2007 NAICS sectors.

<b>MGM sector</b>	<b>IMPLAN</b>		<b>2007 NAICS</b>
	<b>No.</b>	<b>Name</b>	
Motel, hotel, cabin or B&B	411	Hotels and motels, including casino hotels	72111-2
Camping fees	412	Other accommodations	72119, 7212-3
Restaurants & bars	413	Food services and drinking places	722
Groceries & takeout food	324	Retail - Food and beverage	445
Gas & oil	326	Retail - Gasoline stations	447
Local transportation	336	Transit and ground passenger transportation	485
Admission & fees	410	Other amusement and recreation industries	71391-3, 71399
Souvenirs & other expenses	329	Retail - General merchandise	452
Local production of goods	317	All other miscellaneous manufacturing	339993, 339995, 339999
Wholesale trade	319	Wholesale trade	42

Source: IMPLAN (MIG, Inc. 2008).

## Appendix C: Adjustments to Visitor Spending Estimates

Initial estimates of total visitor spending inside Wind Cave NP based on the VSP survey were too high compared to actual revenue in 2010 reported by park managers. Wind Cave NP managers reported two in-park revenue sources: \$210,341 from the park bookstore and \$701,349 from the park campground and cave tours. Based on the VSP average spending per visitor group and estimated annual total number of visitor groups, the initial estimate for total visitor spending inside the park for Souvenirs & other expenses (i.e., bookstore) was \$680,000 and for Admission & fees (i.e., cave tours) was \$2.3 million.

Several reasons could explain the overestimation of revenue. First, the VSP survey took place during the summer when the likelihood of visitors taking a cave tour is greatest. Visitation figures from park managers indicate that the percentage of visitors (recreation visits) taking cave tours is 28% during July, but only about 2% during the winter months (Table C1). The assumption that visitors during the VSP sampling period represent visitors throughout the year appears not to be valid for the propensity of visitors to take cave tours.

**Table C1.** Recreation visits, participation in cave tours, and adjustment to VSP participation rate, 2010.

Month	Recreation visits (RV)*	Cave tours**	Percent RV taking cave tour	Percent of July cave tour participation	Adjusted VSP estimate
January	11,939	198	2%	6%	5%
February	10,993	241	2%	8%	6%
March	19,736	1,386	7%	25%	19%
April	36,717	2,446	7%	24%	18%
May	56,147	7,483	13%	47%	36%
June	77,640	22,567	29%	103%	79%
July	123,652	34,780	28%	100%	77%***
August	120,313	22,004	18%	65%	50%
September	68,802	9,265	14%	48%	37%
October	26,270	2,787	11%	38%	29%
November	13,067	558	4%	15%	12%
December	11,865	313	3%	9%	7%
<b>Total</b>	<b>577,141</b>	<b>104,028</b>	<b>18%</b>		<b>31%</b>

\*From NPS Public Use Statistics Office (2010).

\*\*From Wind Cave NP managers.

\*\*\*From VSP survey (Holmes et al. 2011).

In addition, the VSP sample may have over-represented visitor groups participating in cave tours by oversampling at the park's visitor center where cave tours begin. The VSP sample found that overall 77% of visitor groups had at least one member participate in a cave tour, which is higher than participation based on park figures (Table C1). However, there were significant differences in the percentage of visitor groups taking cave tours depending on where they were sampled (Chi-square=62.17, df=4, p<0.001; Table C2), with visitor groups sampled at the visitor center having a high cave tour participation rate.

**Table C2.** Visitation by park entrance, and visitor groups taking cave tour by sampling site, 2010.

	<b>South Entrance</b>	<b>North Entrance</b>	<b>West Entrance</b>	<b>Jct. Co. Hwys. 5 &amp; 6</b>	<b>Visitor Center</b>	<b>Total</b>
Percent of park visitation*	44%	11%	44%	N/A	N/A	100%
Percent of VSP sample**	35%	26%	12%	1%	26%	100%
Percent of visitor groups in VSP sample that took cave tour**	74%	57%	94%	60%	91%	77%

\*From NPS Public Use Statistics Office 2010. Percentages do not add to 100% due to rounding.

\*\*Computed from VSP survey data (Holmes et al. 2011).

It is also suspected that the method by which the park counts visitors overestimates the number of visitors stopping at the visitor center and taking cave tours. The park uses traffic induction loops at three entrances to the park, which are on major U.S. and state highways (NPS Public Use Statistics Office 2004). Although the park adjusts the traffic counts downward for non-recreational traffic, the accuracy of the adjusted visitation estimates is unknown.

Several measures indicate that overestimation of the number of visitor groups taking cave tours is the source of the overestimation of revenue problem. The VSP average spending on Admissions & fees per visitor group of \$15.86 appears reasonable given cave tour prices and group sizes. Dividing the park's revenue for cave tours by average spending per visitor group trip on Admissions & fees yields 43,304 visitor group trips taking cave tours.<sup>12</sup> Similarly, dividing the park's bookstore revenue by the average spending per visitor group trip on Souvenirs & other expenses yields 47,195 visitor group trips spending money in the park bookstore, which is located in the visitor center where cave tours begin. Lastly, multiplying the estimated number of visitor group trips for the entire year (144,038; see Table 3) by the adjusted annual percentage of visitor groups taking cave tours (31%; see Table C1) yields 44,832 visitor group trips taking cave tours.

The adjusted estimate of 44,832 visitor group trips taking cave tours was used to revise the estimates for total revenue for Admissions & fees and Souvenirs & other expenses in Table 6. The revised estimates of \$711,000 for Admissions & fees and \$211,000 for Souvenirs & other expenses inside the park are more in line with the park's reported revenue for 2010.

Two other adjustments to visitor spending reported in the VSP survey also were made. The VSP survey asked visitors about spending at "Bars/restaurants/snack bars" inside the park. However, the only food and beverage service available inside the park is at vending machines in the park visitor center. Spending reported in this category was higher than expected, and it is hypothesized that respondents were reporting food and beverage expenditures that took place outside the park, including in the adjacent Custer State Park that has restaurants, or in the nearby towns of Custer and Hot Springs. Therefore, all reported restaurant and bar expenditures were counted as taking place outside the park.

Similarly, the VSP survey asked visitors about "Other transportation expenses (rental cars, taxis, auto repairs, but NOT airfare)" inside the park. Again, none of these local transportation services are available inside the park, so all reported local transportation expenditures were counted as occurring outside the park.

<sup>12</sup> Fee revenue reported by the park includes camping fees and could not be obtained separately. However, few overnight camping visits to the park (see Table 1) are reported so camping fee revenues are small. Visitor groups may be slightly overestimated by this calculation.

## Appendix D: Economic Impacts of Visitor Spending by Visitor Groups That Took Cave Tours

Managers at Wind Cave NP requested the economic impacts of visitor spending be computed for only the estimated 44,832 visitor group trips that included cave tours. (See Appendix C for description of visitor counting issues and estimate revision.) Park visit and trip characteristics and visitor spending patterns were re-computed using only responses from visitor groups that indicated one or more group members had taken cave tours.

Overall, visitor groups who took cave tours were slightly more likely to be on a trip where the primary purpose was visiting the park, in slightly larger groups, and stayed slightly less time than visitors groups as a whole (Table D1 compared to Table 2). Because their group sizes and trip characteristics are slightly different from all visitor groups, the 44, 832 visitor group trips that included cave tours were allocated across the six segments in slightly different proportions (Table D2 compared to Table 3).

**Table D1.** Selected visit/trip characteristics for visitor groups that took cave tours, by segment, 2010.\*

Characteristic	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
Average visitor group size	2.4	3.3	2.8	3.8	3.5	3.3	3.6
Length of stay (days or nights)	1.0	1.0	2.7	2.6	3.4	3.1	2.9
Re-entry rate (park entries per trip)	1.1	1.1	2.1	1.2	1.2	1.2	1.2
Percent primary purpose trips	100%	35%	50%	21%	25%	20%	25%

\*Corresponds to Table 2 in main section of report.

**Table D2.** Visitor group trips by visitor groups that took cave tours, by segment, 2010.\*

Measure	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
Visitor group trips	671	10,525	320	18,857	7,874	6,585	44,832
Percent of visitor group trips	1%	23%	1%	42%	18%	15%	100%

\*Corresponds to same measures in Table 3 in main section of report.

For visitor groups that took cave tours, spending averages were computed on a visitor group trip basis for each segment (Table D3). Overall, visitor groups that took cave tours spent more on their trips than visitor groups as a whole (Table D3 compared to Table 4).

**Table D3.** Average spending by visitor groups that took cave tours, by segment (\$ per visitor group per trip).\*

Expenditures	Segment						All visitors*
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
<b><u>Inside Park***</u></b>							
Camping fees	.00	.00	18.08	.00	.39	.00	.20
Admission & fees	9.00	18.44	23.65	24.34	23.74	10.65	20.60
<u>Souvenirs &amp; other expenses</u>	<u>.00</u>	<u>6.96</u>	<u>12.12</u>	<u>4.70</u>	<u>8.17</u>	<u>2.70</u>	<u>5.53</u>
<b>Total Inside Park</b>	<b>9.00</b>	<b>25.40</b>	<b>53.85</b>	<b>29.04</b>	<b>32.30</b>	<b>13.35</b>	<b>26.33</b>
<b><u>Outside Park</u></b>							
Motel, hotel, cabin or B&B	.00	.00	.00	295.24	.00	.00	124.18
Camping fees	.00	.00	.00	2.90	95.26	.00	17.95
Restaurants & bars	15.29	6.26	9.50	104.25	48.61	3.94	54.73
Groceries & takeout food	5.71	1.84	17.12	31.05	37.51	2.58	20.67
Gas & oil	7.14	6.50	13.13	68.92	72.43	4.38	44.08
Local transportation	.00	1.65	1.00	15.25	13.45	.00	9.17
Admission & fees	.00	6.00	4.47	69.69	67.01	1.80	42.79
<u>Souvenirs &amp; other expenses</u>	<u>.00</u>	<u>2.63</u>	<u>3.99</u>	<u>52.02</u>	<u>59.56</u>	<u>1.35</u>	<u>33.19</u>
<b>Total Outside Park</b>	<b>28.14</b>	<b>24.88</b>	<b>49.22</b>	<b>639.33</b>	<b>393.83</b>	<b>14.05</b>	<b>346.76</b>
<b>Total Inside &amp; Outside Park</b>	<b>37.14</b>	<b>50.28</b>	<b>103.07</b>	<b>668.37</b>	<b>426.13</b>	<b>27.40</b>	<b>373.08</b>

\*Corresponds to Table 4 in main section of report.

\*\*Average weighted by percent visitor group trips.

\*\*\*Restaurants & bars and Local transportation expenditures recorded as Inside Park in the VSP survey were moved to the respective Outside Park categories because those services and facilities do not exist inside the park. See Appendix C for details.

Total visitor spending by visitor groups that took cave tours was computed by multiplying the number of visitor group trips in each segment by the average spending per trip and summing across segments. Total visitor spending by visitor groups that took cave tours was \$16.7 million (Table D4).

**Table D4.** Total visitor spending by visitor groups that took cave tours, by segment, 2010 (\$000's).\*

Expenditures	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
<b>Inside Park</b>							
Camping fees	0	0	6	0	3	0	9
Admission & fees	6	194	8	459	187	70	924
<u>Souvenirs &amp; other expenses</u>	<u>0</u>	<u>73</u>	<u>4</u>	<u>89</u>	<u>64</u>	<u>18</u>	<u>248</u>
<b>Total Inside Park</b>	<b>6</b>	<b>267</b>	<b>17</b>	<b>548</b>	<b>254</b>	<b>88</b>	<b>1,180</b>
<b>Outside Park</b>							
Motel, hotel, cabin or B&B	0	0	0	5,567	0	0	5,567
Camping fees	0	0	0	55	750	0	805
Restaurants & bars	10	66	3	1,966	383	26	2,454
Groceries & takeout food	4	19	5	586	295	17	927
Gas & oil	5	68	4	1,300	570	29	1,976
Local transportation	0	17	0	288	106	0	411
Admission & fees	0	63	1	1,314	528	12	1,918
<u>Souvenirs &amp; other expenses</u>	<u>0</u>	<u>28</u>	<u>1</u>	<u>981</u>	<u>469</u>	<u>9</u>	<u>1,488</u>
<b>Total Outside Park</b>	<b>19</b>	<b>262</b>	<b>16</b>	<b>12,056</b>	<b>3,101</b>	<b>92</b>	<b>15,546</b>
<b>Total Inside &amp; Outside Park</b>	<b>25</b>	<b>529</b>	<b>33</b>	<b>12,603</b>	<b>3,355</b>	<b>180</b>	<b>16,726</b>
Segment Percent of Total**	<1%	3%	<1%	75%	20%	1%	100%

\*Corresponds to Table 6 in main section of report.

\*\*Percentages do not total 100% due to rounding..

As with all park visitors, not all spending by visitors who took cave tours can be attributed to the park because some visitors would come to the region whether or not the park existed. Using the same assumptions outlined in the main section of this report (page 5), a total of \$8.1 million in spending by visitor groups that took cave tours is attributed to the park visit (Table D5). This represents 49% of the overall spending by these visitors.

The economic impacts of the total spending by visitor groups that took cave tours were estimated using the same methods and economic ratios and multipliers outlined in the Economic Impacts of Visitor Spending section of the main report (page 7). Using all visitor spending and including direct and secondary effects, the \$16.7 million spent by park visitors generates \$17.6 million in sales, which support 302 jobs in the local region (Table D6). These jobs pay \$5.8 million in labor income, which is part of \$9.5 million in value added to the region.

Using only visitor spending attributable to the park by including only some spending on trips where the primary trip purpose was not to visit Wind Cave NP reduces the overall impacts by about 51% (Table D7). Including direct and secondary effects, the \$8.1 million spent by park visitors and attributable to the park generates \$8.7 million in sales, which support 148 jobs in the local region. These jobs pay \$2.8 million in labor income, which is part of \$4.6 million in value added to the region.

**Table D5.** Total spending attributed to park visits by visitor groups that took cave tours, 2010 (\$000's).\*

Expenditures	Segment						All visitors
	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	
Motel, hotel, cabin or B&B	0	0	0	2,838	0	0	2,838
Camping fees	0	0	6	28	355	0	389
Restaurants & bars	0	44	2	1,002	180	12	1,240
Groceries & takeout food	0	13	4	298	139	8	462
Gas & oil	0	46	3	662	267	13	992
Local transportation	0	12	0	147	50	0	208
Admission & fees	6	237	15	739	320	73	1,389
<u>Souvenirs &amp; other expenses</u>	<u>0</u>	<u>92</u>	<u>9</u>	<u>298</u>	<u>182</u>	<u>20</u>	<u>599</u>
<b>Total Attributed to Park</b>	<b>6</b>	<b>444</b>	<b>38</b>	<b>6,011</b>	<b>1,492</b>	<b>125</b>	<b>8,116</b>
Percent of Spending Attributed to the Park	24%	84%	116%	48%	44%	69%	49%
Percent of Attributed Spending**	<1%	5%	<1%	74%	18%	2%	100%

\*Corresponds to Table 7 in main section of report.

\*\*Percentages do not total 100% due to rounding.

**Table D6.** Impacts of all spending on the local economy by visitor groups that took cave tours, 2010.\*

Sector/Expenditure category	Sales (\$000's)	Jobs	Labor Income (\$000's)	Value Added (\$000's)
<b>Direct Effects</b>				
Motel, hotel, cabin or B&B	5,567	86	1,649	2,927
Camping fees	814	10	258	417
Restaurants & bars	2,454	52	780	1,097
Groceries & takeout food	234	5	121	193
Gas & oil	441	10	220	367
Local transportation	411	12	179	225
Admission & fees	2,842	63	893	1,366
Souvenirs & other expenses	868	21	431	701
Wholesale trade	119	1	45	76
<u>Local production of goods</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>1</u>
<b>Total Direct Effects</b>	<b>13,753</b>	<b>261</b>	<b>4,577</b>	<b>7,369</b>
<u>Secondary Effects</u>	<u>3,890</u>	<u>41</u>	<u>1,201</u>	<u>2,112</u>
<b>Total Effects</b>	<b>17,643</b>	<b>302</b>	<b>5,778</b>	<b>9,481</b>

\*Corresponds to Table 8 in main section of report.

Note: Impacts of \$16.7 million in visitor spending reported in Table D4.

**Table D7.** Economic impacts of spending attributed to the park by visitor groups that took cave tours, 2010.\*

<b>Sector/Expenditure category</b>	<b>Sales (\$000's)</b>	<b>Jobs</b>	<b>Labor Income (\$000's)</b>	<b>Value Added (\$000's)</b>
<b>Direct Effects</b>				
Motel, hotel, cabin or B&B	2,838	44	840	1,492
Camping fees	389	5	123	199
Restaurants & bars	1,240	27	394	554
Groceries & takeout food	117	2	60	96
Gas & oil	221	5	110	184
Local transportation	208	6	91	114
Admission & fees	1,389	31	436	667
Souvenirs & other expenses	300	7	149	242
Wholesale trade	52	0	20	33
<u>Local production of goods</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total Direct Effects</b>	<b>6,754</b>	<b>127</b>	<b>2,224</b>	<b>3,582</b>
<u>Secondary Effects</u>	<u>1,910</u>	<u>20</u>	<u>590</u>	<u>1,036</u>
<b>Total Effects</b>	<b>8,664</b>	<b>148</b>	<b>2,814</b>	<b>4,618</b>

\*Corresponds to Table 9 in main section of report.

Note: Impacts of \$8.1 million in visitor spending attributed to park reported in Table D5.



The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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**National Park Service**  
**U.S. Department of the Interior**



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