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Impacts of Visitor Spending on the Local Economy:
Everglades National Park, 2008

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Impacts of Visitor Spending on the Local Economy:
Everglades National Park, 2008

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U.S. Department of the Interior
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Executive Summary

Everglades National Park hosted 822,118 recreation visits in 2008. After adjusting for visitor group size and re-entries into the park, there were 240,748 visitor group trips to the park in 2008. Based on 2008 winter and spring Visitor Services Project surveys, 44% of these visitor group trips were day trips not including an overnight stay in the surrounding local region.[1] Thirty-eight percent of the visitor group trips involved an overnight stay in motels, lodges or cabins outside the park. Five percent of visitor group trips involved camping overnight, 3% inside the park and 2% outside.

Visitors reported expenditures of their group inside the park and in the surrounding communities of Florida City, Homestead, Miami, and Naples, and the Florida Keys. The average visitor group consisted of 2.7 people and spent $495 in the park and local region. On a visitor group trip basis, average spending in 2008 was $84 for visitors from the local region, $107 for non-local visitors on day trips, $117 for visitors camping inside the park, $654 for visitors camping outside the park, and $1108 for visitors staying in motels or lodges outside the park. Overall 93% of spending took place outside the park.

Total visitor spending in 2008 within the local region was $119 million including $8 million spent inside the park. The greatest proportions of expenditures were for lodging (42%) and restaurant meals and bar expenses (19%). Overnight visitors staying in motels or lodges outside the park accounted for 85% of the total spending.

Only one out of five visitor groups indicated the park visit was the primary reason for the trip to the area. Counting only a portion of visitor expenses if the park visit was not the primary trip purpose yields $55 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 three county region including Miami-Dade, Monroe, and Collier counties, Florida. This region includes the communities for which spending was reported.

Including direct and secondary effects, the $55 million in visitor spending attributed directly to the park supports 810 jobs in the area and generates $86 million in output (sales revenues), $29 million in labor income, and $50 million in value added.[2]

A separate study estimated impacts of the park employee payroll on the local economy.[3] The park itself employed 327 people in FY 2009 with a total payroll including benefits of $22.1 million. Including secondary effects, the local impact of the park payroll in FY 2009 was 431 jobs, $26.3 million in labor income, and $34.0 million total value added.

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[1] Results in this study sometimes differ from those reported in the VSP survey report (Papadogiannaki et al. 2008) for two reasons. First, the results in this report adjust for seasonal differences in visitor group trip characteristics and then combine data from the two VSP surveys. Second, the current analysis excludes some cases as outliers. See Study Limitations and Error section and Appendix C.

[2] 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).

[3] Stynes (2011).

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Introduction

Everglades National Park (NP), the largest subtropical wilderness in the United States, is 2,357 square miles in size. The park protects a network of wetland, marshland, and forested ecosystems, and is home to numerous protected wildlife species, including the Florida panther and American crocodile. The park spans portions of Dade, Monroe, and Collier counties in southern Florida. Everglades NP received 822,118 recreation visits in 2008 including 52,192 overnight visits in the park (Table 1).

Table 1. Recreation visits and overnight stays, Everglades National Park, 2008

		Overnight (OVN) Stays			
Month	**Recreation Visits**	**Camp**	**Back-country**	**Misc**	**Total OVN Stays**
January	87,123	9,312	3,520	371	13,203
February	111,172	10,110	3,774	371	14,255
March	104,390	7,352	3,712	921	11,985
April	82,543	2,270	1,429	182	3,881
May	60,147	247	506	9	762
June	50,393	18	91	0	109
July	54,174	18	158	0	176
August	44,632	17	15	0	32
September	27,457	24	36	0	60
October	43,760	48	140	0	188
November	70,884	875	587	4	1,466
December	85,443	2,947	3,122	6	6,075
Total	**822,118**	**33,238**	**17,090**	**1,864**	**52,192**
Winter (Dec-Mar)	388,128	29,721	14,128	1,669	45,518
Summer (Apr-Nov)	433,990	3,517	2,962	195	6,674

The purpose of this study is to estimate the local economic impacts of visitors to Everglades NP in 2008. 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 Miami-Dade, Monroe, and Collier counties, Florida.

This three-county region of Florida has a population of 2.8 million, gross regional product of $128 billion (MIG, Inc. 2008), median household income of $44,788, and family poverty rate of 12.5% (USCB 2010). Real estate establishments and state and local governments are the major employers in the region (MIG, Inc. 2008), and the region experienced a 6.5% unemployment rate in 2008 (BLS 2008).

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 Everglades NP Visitor Services Project (VSP) surveys (Papadogiannaki et al. 2008), National Park Service Public Use Statistics (2008), 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.

VSP visitor surveys were conducted at Everglades NP from February 26-March 3 (winter) and April 29-May 5 (spring), 2008 (Papadogiannaki et al. 2008).[4] These surveys measured visitor demographics, activities, and travel expenditures. Questionnaires were distributed to a systematic, random sample of 1,094 visitor groups in the winter survey and 647 visitor groups in spring survey. Response rates were 73% and 57%, respectively.

Spending and economic impact estimates for Everglades NP are based on the winter and spring 2008 VSP surveys. Winter visitor spending averages were assumed to represent visitors from December through March. Spending averages for visitors during the remainder of the year−summer−were estimated using the spring 2008 VSP survey data. Summer spending averages were applied to visitors between April and November.

Visitors were asked to report expenditures in the park and "the surrounding area (Florida Keys, Florida City, Homestead, Miami, and Naples)." The local region for determining economic impact was defined as a three county area around the park including Miami-Dade, Monroe, and Collier counties in southern Florida, which includes the areas and communities 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 Everglades National Park 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 the local region.
Camp-in: Visitors reporting camping expenses inside the park.
Motel-out: Visitors reporting motel expenses outside the park within the local region.
Camp-out: Visitors reporting camping expenses outside the park within the local region.

[4] Results in this study sometimes differ from those reported in the VSP survey report ((Papadogiannaki et al. 2008) for two reasons. First, the results in this report adjust for seasonal differences in visitor group trip characteristics and then combine data from the two VSP surveys. Second, the current analysis excludes some cases as outliers. See Study Limitations and Error section and Appendix C.

Other overnight (Other OVN): Visitors staying overnight in the local region but not reporting any lodging expenses. This segment includes visitors staying in private homes, with friends or relatives, or in other unpaid lodging. [5]

The VSP surveys were 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 (2008) overnight stay figures.

Results

Visits

Based on the VSP surveys and park overnight stay figures, 40% of park entries were classified as day trip visits by either local residents or visitors from outside the area, and 60% were classified as overnight visits including an overnight stay inside the park or in the local region (Table 2). The average visitor group size ranged from 2.4 to 3.1 people across the six segments with the average visitor group consisting of 2.7 people.[6] The average length of stay in the local region on overnight trips was 3.5 nights.

Table 2. Selected visit/trip characteristics by segment, 2008

Characteristic	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	All visitors
Visitor segment share (park entries)	17%	23%	4%	40%	2%	14%	100%
Average visitor group size	2.6	3.1	2.7	2.6	2.4	3.1	2.7
Length of stay (days or nights)	1.0	1.0	2.5	3.4	3.6	4.0	3.5
Re-entry rate (park entries per trip)	1.0	1.1	1.5	1.4	1.5	1.2	1.3
Percent primary purpose trips	100%	23%	55%	19%	34%	20%	21%

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

The 822,118 recreation visits in 2008 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.

[5] 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.

[6] Visitor group size reported herein is based on the number of people covered by expenditures reported in the VSP surveys.

Recreation visits were converted to 240,748 visitor group trips by dividing recreation visits by the average visitor group size and park entry rate for each segment (Table 3). Total person trips in 2008 were 665,503.

Table 3. Recreation visits and visitor group trips by segment, 2008

Measure	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	All visitors
Recreation visits	139,760	189,087	32,885	328,847	16,442	115,097	822,118
Visitor group trips	50,878	54,656	8,239	90,834	4,550	31,592	240,748
Percent of visitor group trips	21%	23%	3%	38%	2%	13%	100%
Visitor group nights	50,878	54,656	20,421	312,751	16,450	126,776	581,932
Person trips	134,488	168,107	22,291	231,648	10,948	98,022	665,503

Visitor Spending

The visitor surveys covered expenditures of the visitor group inside the park and outside the park in the surrounding local region. Spending averages were computed on a visitor group trip basis for each segment. The average visitor group in 2008 spent $495 on the trip inside the park and in the local region. On a visitor group trip basis, average spending was $84 for day trips by local residents, $107 for day trips by non-local visitors, and $117 for campers inside the park (Table 4). Visitor groups staying in motels, cabins, lodges or B&B's outside the park spent an average of $1109 on their trips and those camping outside the park spent $654.

Visitor groups spent about 7% of their total spending inside the park and 93% outside the park. As one would expect, visitor groups camping overnight inside the park spent the majority of their money inside the park, while visitor groups staying outside the park spent most of their money in surrounding communities. A higher percentage of camper's spending is on groceries, while visitor groups staying in lodges, cabins and motels spend more on restaurant meals.

The relative standard error at a 95% confidence level for the overall spending average is 11%. A 95% confidence interval for the overall visitor group spending average is therefore $495 plus or minus $57 or between $438 and $552.

On a per night basis, visitor groups staying in motels or lodges outside the park spent $322 in the local region compared to $181 per night for visitor groups camping outside the park (Table 5). The average reported per night lodging expense was $154 for motels outside the park, and $10 for camping fees inside the park and $58 for camping fees outside the park.

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

	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	All visitors*
Inside Park							
Camping fees	0.00	0.00	23.34	0.36	4.85	0.00	1.03
Groceries & takeout food	1.80	1.18	18.00	2.38	1.03	1.96	2.44
Gas & oil	1.00	1.43	6.68	1.26	0.00	1.42	1.43
Local transportation	1.78	4.35	4.57	1.66	1.86	2.26	2.48
Admission & fees	18.24	23.74	17.93	24.85	16.11	10.47	20.91
Souvenirs & other expenses	6.92	6.29	9.42	7.37	15.14	2.55	6.62
Total Inside Park	**29.75**	**37.00**	**79.94**	**37.90**	**38.99**	**18.65**	**34.91**
Outside Park							
Motel, hotel, cabin or B&B	0.00	0.00	0.00	530.30	16.28	0.00	200.39
Camping fees	0.00	0.00	0.69	0.15	205.78	0.00	3.97
Restaurants & bars	12.92	21.49	6.50	212.00	72.91	41.44	94.63
Groceries & takeout food	10.57	10.35	8.83	37.46	93.08	18.16	23.16
Gas & oil	18.78	14.36	18.11	63.98	94.13	18.75	36.23
Local transportation	4.06	8.97	0.00	84.84	34.73	16.24	37.69
Admission & fees	4.48	6.92	1.28	75.33	77.58	12.23	34.05
Souvenirs & other expenses	3.02	8.32	1.41	66.90	20.62	11.73	29.75
Total Outside Park	**53.83**	**70.41**	**36.83**	**1070.95**	**615.11**	**118.55**	**459.87**
Total Inside & Outside Park	**83.58**	**107.40**	**116.78**	**1108.84**	**654.10**	**137.20**	**494.77**

*Weighted by percent visitor group trips in winter and summer samples. See Appendix C: Comparison of Winter and Summer Visitors.

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

	Camp-in	Motel-out	Camp-out	Other OVN
Motel, hotel, cabin or B&B	0.00	154.02	4.50	0.00
Camping fees	9.69	0.15	58.26	0.00
Restaurants & bars	2.62	61.57	20.17	10.33
Groceries & takeout food	10.83	11.57	26.03	5.01
Gas & oil	10.00	18.95	26.04	5.03
Local transportation	1.84	25.12	10.12	4.61
Admission & fees	7.75	29.10	25.92	5.66
Souvenirs & other expenses	4.37	21.57	9.89	3.56
Total per visitor group per night	**47.11**	**322.05**	**180.93**	**34.19**

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. Everglades NP visitors spent a total of $119 million in the local region in 2008 (Table 6). Overnight visitors staying in motels outside the park account for 85% of the total spending. Lodging expenses represent 42% of the total spending, and restaurant and bar expenses represent 19% (Figure 1).

Table 6. Total visitor spending by segment, 2008 ($000's).

	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	All visitors*
Inside Park							
Camping fees	0	0	192	33	22	0	247
Groceries & takeout food	92	65	148	216	5	62	588
Gas & oil	51	78	55	115	0	45	344
Local transportation	90	238	38	151	8	71	597
Admission & fees	928	1,297	148	2,258	73	331	5,035
Souvenirs & other expenses	352	344	78	670	69	81	1,593
Total Inside Park	**1,514**	**2,022**	**659**	**3,442**	**177**	**589**	**8,403**
Outside Park							
Motel, hotel, cabin or B&B	0	0	0	48,169	74	0	48,244
Camping fees	0	0	6	13	936	0	955
Restaurants & bars	657	1,175	54	19,256	332	1,309	22,783
Groceries & takeout food	538	566	73	3,402	424	574	5,576
Gas & oil	955	785	149	5,811	428	592	8,721
Local transportation	207	490	0	7,706	158	513	9,074
Admission & fees	228	378	11	6,842	353	386	8,198
Souvenirs & other expenses	154	455	12	6,077	94	370	7,162
Total Outside Park	**2,739**	**3,848**	**303**	**97,278**	**2,799**	**3,745**	**110,713**
Total Inside & Outside Park	**4,252**	**5,870**	**962**	**100,720**	**2,976**	**4,334**	**119,116**
Segment Percent of Total**	4%	5%	1%	85%	2%	4%	100%

*Weighted by percent visitor group trips in winter and summer samples.
**Percentages do not total to 100% due to rounding.

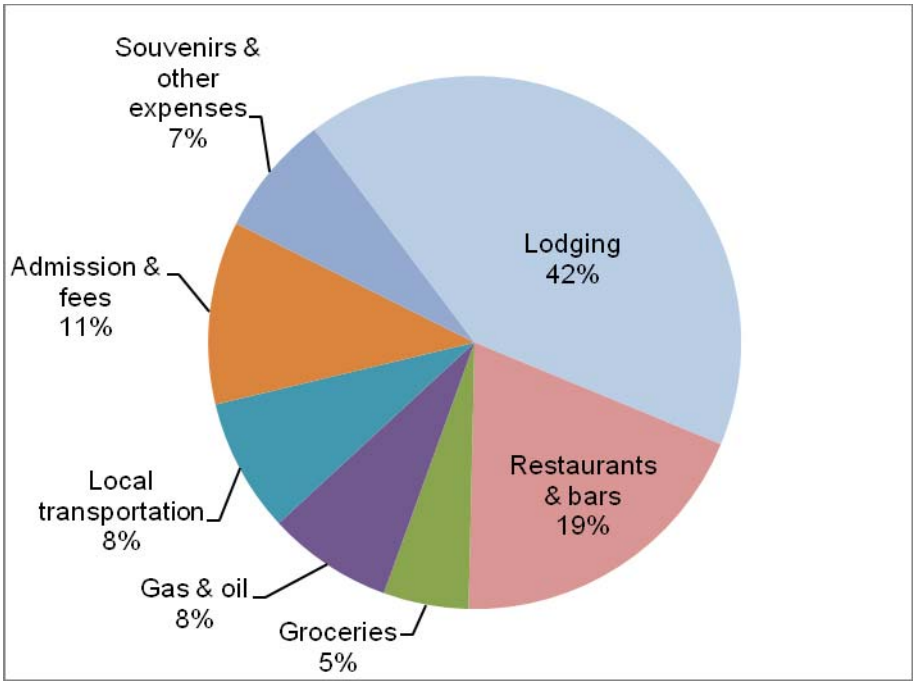

Figure 1. Everglades National Park visitor spending by category.

Visitors would still come to the region even if the park did not exist, so not all visitor spending can be attributed to the park. Seventy-nine percent of visitor groups did not make the trip primarily to visit Everglades NP. Spending directly attributed to park visits was estimated by counting all spending for trips where 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 $55 million in visitor spending is attributed to the park visit (Table 7). This represents 46% of the overall visitor spending total.

Table 7. Total spending attributed to park visits, 2008 ($000's).

	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	All visitors*
Motel, hotel, cabin or B&B	0	0	0	20,417	39	0	20,456
Camping fees	0	0	196	39	513	0	748
Restaurants & bars	0	724	39	8,162	174	521	9,621
Groceries & takeout food	92	414	202	1,659	227	290	2,883
Gas & oil	51	562	165	2,578	225	281	3,861
Local transportation	90	540	38	3,417	91	276	4,453
Admission & fees	928	1,531	155	5,158	258	484	8,515
Souvenirs & other expenses	352	624	86	3,246	118	228	4,655
Total Attributed to Park	**1,514**	**4,395**	**881**	**44,675**	**1,646**	**2,080**	**55,191**
Percent of Spending Attributed to the Park	36%	75%	92%	44%	55%	48%	46%
Percent of Attributed Spending	3%	8%	2%	81%	3%	4%	100%

Economic Impacts of Visitor Spending

The economic impacts of Everglades National Park 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 three county region.[7] 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.[8]

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.

[7] 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.

[8] See Appendix B: Economic Ratios and Multipliers for the region.

The tourism output sales multiplier for the region is 1.73. Every dollar of direct sales to visitors generates another $0.73 in secondary sales through indirect and induced effects.[9] (See Appendix A: Glossary for further explanation of terms.)

Impacts are estimated based first on all visitor spending and then based on the visitor spending attributed to the park. Including all visitor spending estimates the overall contribution park visitors make to the local region. Including only visitor spending attributable to the park estimates 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 $119 million spent by park visitors supports 1,759 jobs in the local region and generates $184 million in sales, $64 million in labor income and $109 million in value added (Table 8).[10]

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 and restaurants.

Table 8. Impacts of all visitor spending on the local economy, 2008.

Sector/Spending category	Sales ($000's)	Jobs	Labor Income ($000's)	Value Added ($000's)
Direct Effects				
Motel, hotel, cabin or B&B	48,244	400	16,824	30,770
Camping fees	1,203	10	385	691
Restaurants & bars	22,783	337	8,711	12,770
Groceries & takeout food	1,559	24	657	1,009
Gas & oil	2,022	21	608	1,395
Local transportation	9,671	206	4,121	5,887
Admission & fees	13,233	89	3,388	5,957
Souvenirs & other expenses	4,377	70	1,952	2,904
Wholesale trade	2,426	25	730	1,674
Local production of goods	858	4	184	240
Total Direct Effects	**106,375**	**1,186**	**37,560**	**63,298**
Secondary Effects	77,604	572	26,222	45,237
Total Effects	**183,979**	**1,759**	**63,782**	**108,535**

Note: Impacts of $119 million in visitor spending reported in Table 6.

[9] 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.

[10] Jobs include full 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 profits and rents to area businesses and sales and excise taxes.

Using only visitor spending attributable to the park by including only some spending on trips where the primary trip purpose was not to visit Everglades NP reduces the overall impacts by about 54% (Table 9; see spending inclusion assumptions in previous section). Including direct and secondary effects, the $55 million spent by park visitors and attributable to the park supports 810 jobs in the local region and generates $86 million in sales, $29 million in labor income and $50 million in value added.

Table 9. Economic impacts of visitor spending attributed to the park, 2008.

Sector/Spending category	Sales ($000's)	Jobs	Labor Income ($000's)	Value Added ($000's)
Direct Effects				
Motel, hotel, cabin or B&B	20,456	170	7,134	13,047
Camping fees	748	6	240	430
Restaurants & bars	9,621	142	3,679	5,393
Groceries & takeout food	729	11	307	472
Gas & oil	861	9	259	594
Local transportation	4,453	95	1,897	2,711
Admission & fees	8,515	58	2,180	3,833
Souvenirs & other expenses	2,327	37	1,038	1,544
Wholesale trade	1,166	12	351	805
Local production of goods	429	2	95	123
Total Direct Effects	**49,306**	**542**	**17,179**	**28,952**
Secondary Effects	36,256	268	12,243	21,168
Total Effects	**85,561**	**810**	**29,422**	**50,119**

Note: Impacts of $55 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 impact of the park's National Park Service (NPS) payroll by applying economic multipliers to wage and salary data to capture the induced effects of NPS employee spending the local economy. Everglades National Park itself employed 327 people in FY 2009 with a total payroll including benefits of $22.1 million. Including secondary effects, the local impact of the park payroll in FY 2009 was 431 jobs, $26.3 million in labor income and $34.0 million total value added (Stynes 2011).

Study Limitations and Errors

The accuracy of the MGM2 estimates rests on the accuracy of the three inputs: visits, spending averages, and multipliers. Visits are taken from NPS Public Use Statistics (2008). Recreation visit estimates rely on counting procedures at the park, which may miss some visitors and count others more than once during their visit. Re-entry rates 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 VSP survey question about the number of times they entered the park.

Spending averages are derived from the winter and spring 2008 Everglades NP VSP visitor surveys (Papadogiannaki et al. 2008). 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 11%.

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 (17 cases), visiting the local region for more than 7 nights (129 cases), spending greater than $5,000 (20 cases), or using more than 4 vehicles (3 cases) 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 one week in late February-early March (winter) and another week in late April-early May (spring). To extrapolate to annual totals, it was assumed that the winter sample represented visitors from December thru March and the spring sample represented visitors from April thru November.

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 2008 local IMPLAN datasets were used for this analysis.

Sorting out how much of the spending to attribute to the park when the park is not the primary motivation for the trip is somewhat subjective. However, since most visitors to Everglades NP did not make the trip primarily to visit the park and most spending occurs outside the park, adjustments for non-primary purpose trips may 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., Direct jobs = direct sales * jobs to sales ratio Direct personal income = direct sales * personal income to sales ratio Direct Value added = direct sales * 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.

Term	Definition
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. • 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.
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 survey.
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, Everglades NP region, 2008.

	Direct effects			Total effects multipliers				
Sector	**Jobs/$ MM sales**	**Income /sales**	**Value added/ sales**	**Sales I**	**Sales SAM**	**JobII/ MM sales**	**Income II/ sales**	**VA II/ sales**
Motel, hotel, cabin or B&B	8.29	0.35	0.64	1.36	1.73	13.73	0.60	1.06
Camping fees	8.54	0.32	0.57	1.40	1.75	14.51	0.58	1.02
Restaurants & bars	14.77	0.38	0.56	1.34	1.72	20.02	0.62	0.98
Groceries & takeout food	15.48	0.42	0.65	1.37	1.79	21.44	0.68	1.12
Gas & oil	10.30	0.30	0.69	1.32	1.64	15.09	0.51	1.07
Local transportation	21.35	0.43	0.61	1.21	1.61	26.17	0.63	0.97
Admission & fees	6.76	0.26	0.45	1.50	1.83	13.20	0.53	0.94
Souvenirs & other expenses	15.96	0.45	0.66	1.35	1.78	21.91	0.70	1.14
Local production of goods	5.56	0.30	0.39	1.30	1.61	9.83	0.50	0.74
Wholesale trade	5.40	0.38	0.65	1.34	1.73	11.03	0.63	1.09

Source: IMPLAN (MIG, Inc. 2008).

Brief 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 8 jobs in hotels. Thirty-five percent of hotel sales goes to wages and salaries of hotel employees and 64% of hotel sales is value added. That means 36% of hotel sales goes to purchase inputs by hotels. The wage and salary income creates the induced effects and the 36% spent on purchases by the hotel starts the rounds of indirect effects.

Multiplier effects: There is an additional 36 cents of indirect sales in the region for every dollar of direct hotel sales (type I sales multiplier = 1.36). Total secondary sales are 73 cents per dollar of direct sales, which means 36 cents in indirect effects and 37 cents in induced effects. An additional 5.4 jobs are created from secondary effects of each million dollars in hotel sales (13.7

total jobs – 8.3 direct jobs per $million). These jobs are distributed across other sectors of the local economy. Similarly, the secondary effects on income for each dollar of hotel sales are 25% (60%-35%), and the secondary effects on value added for each dollar of hotel sales are 42% (106%-64%). Including secondary effects, every million dollar of hotel sales in the region yields $1.73 million in sales, $600,000 in income, and $1.06 million in value added.

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

	IMPLAN		
MGM sector	**No.**	**Name**	**2007 NAICS**
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: Comparison of Winter and Summer Visitors

Few significant differences in visitor trip characteristics or spending patterns between winter and summer visitors to Everglades National Park were identified based on the two samples in this study (Table C1, Table C2, and Table C3). This could be because of the timing of the two VSP surveys, which were conducted within two months of each other, late in the winter season and early in the summer season.

Based on NPS Public Use Statistics (2008) and the park VSP surveys (Papadogiannaki et al. 2008), the percentage of visitors camping in the park is lower in summer than winter, and summer campers spend less money. However, the spending results should be interpreted with caution because of the low number of visitors sampled that were camping in the park in the summer. On average over all visitor groups, summer visitor groups spent more than winter visitor groups, but this is due primarily to higher spending during the summer by visitor groups staying outside the park in hotels, motels, lodges, and B&Bs.

Table C1. Visitor segment mix and conversion factors, winter vs summer.

Characteristic	Local	Day trip	Camp-in*	Motel-out	Camp-out	Other OVN	All visitors
Winter							
Visitor segment share (park entries)	17.5%	25.0%	6.5%	34.0%	2.0%	15.0%	100.0%
Average visitor group size	2.9	3.0	2.5	2.4	2.3	2.8	2.7
Length of stay (days or nights)	1.0	1.0	2.7	3.1	4.1	4.2	3.4
Re-entry rate (park entries per trip)	1.1	1.1	1.5	1.5	1.7	1.2	1.3
Percent primary purpose trips	100%	20%	64%	24%	25%	20%	24%
Summer							
Visitor segment share (park entries)	16.0%	22.0%	2.0%	45.0%	2.0%	13.0%	100.0%
Average visitor group size	2.4	3.2	4.0	2.6	2.5	3.4	2.8
Length of stay (days or nights)	1.0	1.0	1.0	3.7	3.2	3.8	3.7
Re-entry rate (park entries per trip)	1.0	1.1	1.3	1.4	1.3	1.1	1.2
Percent primary purpose trips	100%	27%	0%	15%	43%	20%	20%

**Sample size for Camp-in Summer was small (N=2) so results should be interpreted with caution.

Table C2. Average visitor spending by segment, $ per visitor group per trip in 2008 dollars, winter.

	Local	Day trip	Camp-in	Motel-out	Camp-out	Other OVN	All visitors*
Inside Park							
Camping fees	.00	.00	32.02	.45	5.32	.00	2.15
Groceries & takeout food	1.45	1.51	19.94	1.90	2.04	1.01	2.66
Gas & oil	1.68	1.81	16.35	.47	.00	.73	2.02
Local Transportation	.96	1.60	11.19	2.00	3.68	2.67	2.37
Admission & fees	22.09	25.04	14.94	21.41	13.37	11.99	20.56
Souvenirs & other expenses	8.42	5.26	6.64	6.00	10.38	2.90	5.94
Total Inside Park	**34.61**	**35.22**	**101.08**	**32.24**	**34.79**	**19.29**	**35.70**
Outside Park							
Motel, hotel, cabin or B&B	.00	.00	.00	527.49	5.53	.00	172.52
Camping fees	.00	.00	1.68	.31	224.80	.00	4.05
Restaurants & bars	19.91	22.93	15.91	214.10	91.79	30.06	86.64
Groceries & takeout food	17.67	10.58	21.61	36.02	121.90	13.23	23.22
Gas & oil	20.90	16.00	44.32	52.49	124.51	16.54	32.50
Local Transportation	2.96	9.35	.00	89.41	18.89	10.65	34.08
Admission & fees	7.18	9.00	3.14	63.12	120.61	9.64	27.99
Souvenirs & other expenses	5.08	8.23	3.46	53.66	30.12	8.34	22.58
Total Outside Park	**73.69**	**76.09**	**90.11**	**1036.59**	**738.14**	**88.46**	**403.58**
Total Inside & Outside Park	**108.30**	**111.31**	**191.20**	**1068.83**	**772.92**	**107.76**	**439.28**

*Weighted by percent visitor group trips.

Table C3. Average visitor spending by segment, $ per visitor group per trip in 2008 dollars, summer.

	Local	Day trip	Camp-in**	Motel-out	Camp-out	Other OVN	All visitors*
Inside Park							
Camping fees	.00	.00	17.33	.28	4.36	.00	0.43
Groceries & takeout food	2.14	.85	16.67	2.83	.00	2.81	2.37
Gas & oil	.35	1.05	.00	2.00	.00	2.04	1.37
Local Transportation	2.56	7.17	.00	1.35	.00	1.89	2.85
Admission & fees	14.55	22.41	20.00	28.04	18.91	9.11	21.34
Souvenirs & other expenses	5.49	7.34	11.33	8.65	20.00	2.24	7.19
Total Inside Park	**25.08**	**38.81**	**65.33**	**43.13**	**43.27**	**18.08**	**35.55**
Outside Park							
Motel, hotel, cabin or B&B	.00	.00	.00	532.91	27.27	.00	222.65
Camping fees	.00	.00	.00	.00	186.36	.00	3.94
Restaurants & bars	6.21	20.02	.00	210.05	53.64	51.61	100.27
Groceries & takeout food	3.77	10.12	.00	38.79	63.64	22.58	23.11
Gas & oil	16.74	12.67	.00	74.61	63.09	20.73	41.24
Local Transportation	5.12	8.58	.00	80.60	50.91	21.24	40.08
Admission & fees	1.88	4.79	.00	86.62	33.64	14.55	39.93
Souvenirs & other expenses	1.05	8.41	.00	79.15	10.91	14.75	36.93
Total Outside Park	**34.77**	**64.59**	**.00**	**1102.74**	**489.45**	**145.45**	**508.16**
Total Inside & Outside Park	**59.85**	**103.41**	**65.33**	**1145.87**	**532.73**	**163.54**	**543.70**

*Weighted by percent visitor group trips.
**Sample size was small (N=2) so results should be interpreted with caution.

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NPS [# to be assigned], February 2011

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