

Impacts of Visitor Spending on Local Economy: Biscayne National Park, 2001

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Executive Summary

Biscayne National Park hosted 489,000 recreation visits in 2001. Park visitors spent \$21.9 million dollars in Florida City/Homestead area, generating \$6.8 million in direct personal income (wages and salaries) for local residents and supporting 290 jobs in the area.

Economic impacts were estimated with the updated National Park Service Money Generation Model (version 2). The MGM2 model uses park visitation data, spending averages from the 2001 Biscayne National Park Visitor Survey and MGM2 Miami-Dade County multipliers to estimate spending, income and jobs attributable to the park. In 2001, Biscayne National Park hosted 489,000 recreation visits which equated to 223,000 party nights to the area (Table E1). The three largest segments in terms of party nights in the region were boaters on a day trip to the park (27%), visitors who stayed at hotels outside the park (22%), and day visitors from outside the Florida city/Homestead area¹ (18%). Park visitors accounted for 49,000 room nights at area hotels and campers contributed 31,000 camping nights in the region.

Table E1. Biscayne NP visits and spending by segments, 2001

Lodging segments	Recreation visits (000's)	Party nights (000's)	Average spending (per party night)	Total spending (million's)	Pct of spending
Local day visitor	33	10	\$26	\$0.3	1%
Non-local day visitor	107	40	\$43	\$1.7	8%
Hotel-out visitor	39	49	\$181	\$8.9	40%
Camp-out visitor	18	31	\$88	\$2.7	12%
Day-boater	213	60	\$93	\$5.6	26%
<u>Overnight-boater</u>	<u>80</u>	<u>33</u>	<u>\$82</u>	<u>\$2.7</u>	<u>12%</u>
Total	489	223	\$98	\$21.9	100%

On average, park visitors spent \$98 per party per day in Florida city/Homestead area with spending varying considerably across six lodging segments — from \$181 per night for visitors staying at area hotels to \$26 dollar for local day visitors. Visitors staying at area hotels contributed 40% total park visitor spending, followed by day boaters, 26%. The majority of the visitor spending went to the gas and oil (\$4.5 million), accommodations (\$4.1 million), and the grocery and take out food (\$3.4 million).

The sales multiplier for the region was 1.56, meaning that an additional \$0.56 in sales is generated through secondary effects for every dollar of direct sales (Table E2). With multiplier effects, created by the re-circulation of money spent by tourists, visitor spending generated a

¹ Visitors staying with friends and relatives or an owned seasonal home in the area are treated as non-local day visitors

total of \$26.6 million in local sales, and an associated \$10.4 million in personal income, \$16.3 million in value added and 400 jobs.

Table E2. Economic impacts of Biscayne NP visitor spending, 2001

Sector/Spending category	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	4,148	62	1,584	2,407
Camping fees	922	14	352	535
Restaurants & bars	3,315	71	1,345	1,874
Admissions & fees	2,926	54	1,105	1,810
Gambling	0	0	0	0
Other vehicle expenses	0	0	0	0
Local transportation	1,008	20	607	715
Retail Trade	2,689	59	1,372	2,142
Wholesale Trade	697	6	282	481
<u>Local Production of goods</u>	<u>1,323</u>	<u>5</u>	<u>136</u>	<u>267</u>
Total Direct Effects	17,026	290	6,783	10,231
<u>Secondary Effects</u>	<u>9,544</u>	<u>109</u>	<u>3,601</u>	<u>6,043</u>
Total Effects	26,570	400	10,385	16,273
<u>Multiplier</u>	<u>1.56</u>	<u>1.38</u>	<u>1.53</u>	<u>1.59</u>

It is difficult to identify how much of this spending is due just to the park. In addition to Biscayne NP, many tourists come to the region to visit Everglades NP, the Keys or engage in water recreation activities in the Gulf Stream (Simmons and Littlejohn, 2002). Not all of the park visitors would be lost to the region if the park were unavailable. The economic impacts of the park are best seen within the broader regional tourism context. Cooperative research and marketing activity with tourism partners in the region are encouraged to promote the regional economic development.

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Impacts of Visitor Spending on Local Economy: Biscayne National Park, 2001

Introduction

The purpose of this study is to document the local economic impacts of visitors to Biscayne National Park (BISC) in 2001. Economic impacts are measured as the direct and secondary sales, income and jobs in the local area resulting from spending by park visitors. The economic estimates are produced using the Money Generation Model 2 (MGM2) (Stynes and Propst, 2000). Three major inputs to the model are:

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

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

Biscayne National Park

Biscayne National Park was created in 1968 as National Monument and re-designated as National Park in 1980 to preserve the natural resources on Florida's southern Atlantic coast. Ninety-five percent of the park is under water. Most of park visitors enter the park by private boat to enjoy the water-activities in the park or camp on the islands. The rest of the park visitors arrive by car at Convoy Point, located at the park's headquarters and the Dante Fascell Visitor Center (Biscayne National Park, 2002).

The park is about 30 minutes drive from metro Miami and is close to Big Cypress National Preserve, Dry Tortugas National Park, the Keys and Everglades National Park. The nearest gateway community is Florida city/homestead, located on highway 1. The park hosts around 20% of out-of-state visitors in March and around 70% of the park users are repeating visitors (Simmons and Littlejohn, 2002).

Park entrance is free. Camping is permitted on Elliott Key or Boca Chita Key. Individual campsites are \$10 per night and group campsites are \$25 per night. Boaters who stay overnight on the island need to pay for the overnight docking fee (\$15.00 per night) which includes the use of one individual campsite. Biscayne National Underwater Park, Inc (concessionaire) offers following services inside the park: Glass Bottom Boat Tour (\$22.95), snorkel trip (\$32.95), scuba trip (\$47.95), island transportation (\$25.95), canoe rental (\$9/hour), and kayak rental (\$16/hour).

Total recreation visit to Biscayne NP in year 2001 was 489,343 (Table 1). Visitation was fairly distributed across all months, except the lighter volume during November and December.

Table 1. NPS Public Use Data for Biscayne NP, 2001

Month	Recreation visits	Pct of recreation visits
January	31,930	7%
February	38,786	8%
March	43,878	9%
April	47,563	10%
May	50,885	10%
June	52,035	11%
July	55,535	11%
August	52,212	11%
September	37,339	8%
October	33,867	7%
November	25,961	5%
<u>December</u>	<u>19,352</u>	<u>4%</u>
Totals	489,343	100%

Source: NPS Public Use Statistics (2002)

The Region

Biscayne National Park is located in Miami-Dade County, Florida (Figure 1). The population of Miami-Dade County was 2,29 million with an average income per capita of \$25,320 in 2000. Total personal income was \$57.4 billion, and total full-time and part-time employment was 1.27 million jobs (Bureau of Economic Analysis, 2002). Service is major sector in the economy, accounting for more than 33% of total earnings and 37% of jobs in this region (Table 2).

The restaurant sector supported 55,000 jobs in 2000, followed by the lodging sector (22,000 jobs) and amusement and recreation service (11,000 jobs).

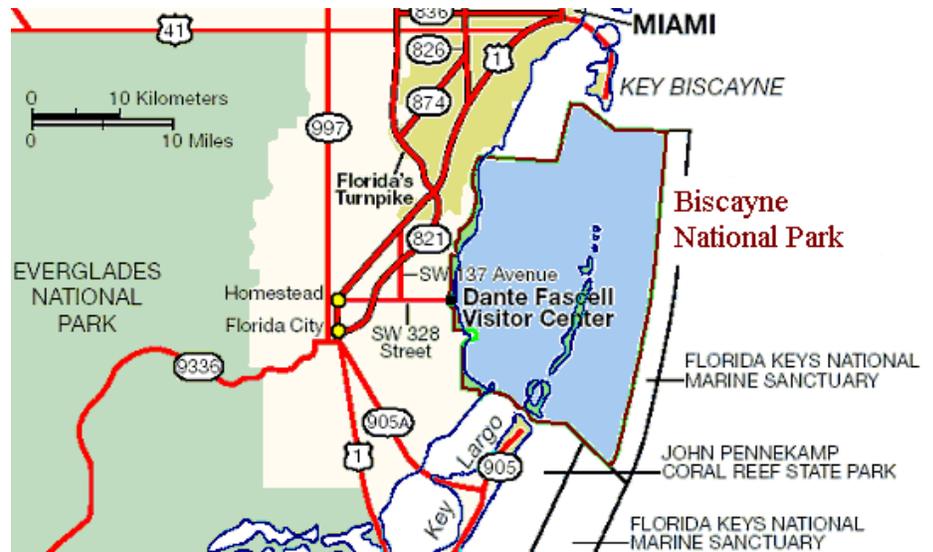


Figure 1. Biscayne National Park, FL

Table 2. Economic activity by sectors in Miami-Dade County, FL 2000

	Earnings by place of work (million's)	Pct of total earnings	Jobs (000's)
Farm	246	1%	7
Agriculture, fishing and forestry	193	0%	12
Mining	52	0%	1
Construction	1,665	4%	56
Manufacturing	2,502	6%	72
Transportation & Communication	4,526	10%	108
Wholesale Trade	4,196	9%	89
Retail Trade	4,202	9%	199
Eating & Drinking Establishment	1,071	2%	55
Finance	5,024	11%	109
Services	14,680	33%	468
Hotels	626	1%	22
Amusements	684	2%	11
<u>Govt. Education</u>	<u>7,071</u>	<u>16%</u>	<u>150</u>
Total	44,356	100%	1,271

a: Did not include proprietors.

Source: Bureau of Economic Analysis, 2002 and Bureau of Labor Statistics, 2002

Biscayne National Park Visitor Survey, 2001

A park visitor study was conducted at Biscayne National Park from March 3rd to 11th, 2001. The study measured visitor demographics, trip planning, travel expenditures, and facility importance and quality. Questionnaires were distributed to a sample of 630 visitors at eight locations inside the park². Visitors returned 380 questionnaires for a 62.8% response rate. For this report, we carried out custom analyses of visitor spending and trip characteristics measured by the survey. Some result here vary from the Visitor Study original report due to handling of outliers and missing values.

MGM2 Visitor Segments

MGM2 divides visitors into segments to help explain differences in spending across distinct user groups. Lodging segments were created based on four information from the Visitor

² Questionnaires were distributed proportionally at Dante Fascell Visitor Center (34%), Boca Chita Key (15%), Black Point Marina (11%), Elliot Key (11%), Crandon Park Marina (9%), Moored Boats (8%), Homestead Bayfront Marina (6%), and Matheson Hammock Marina (6%).

Survey. “Overnight stay and lodging type in the area” were used to establish day visitors, overnight visitors and their lodging types in the region. Day visitors were further divided into two groups based on the visitor’s ZIP code to separate local and non-locals, where local region is defined as Florida city/Homestead area. “Transportation types” were used to differentiate boaters and non-boaters. Last, information regarding whether visitors participate in the camping activities (on boat or on island) inside the park is used to differentiate day boaters and overnight boaters. Six lodging segments were established for Biscayne NP visitors:

Local day users: Day visitors who reside in Florida city/Homestead area.

Non-local day users: Visitors from outside the local region, not staying overnight in the area. This includes day trips and pass-through travelers. Visitors staying with friends/relatives or at an owned seasonal home in the area are also included in this category

Motel-out: Visitor staying in motels, cabins, B&B’s etc. outside the park

Camp-out: Visitors staying in campgrounds outside the park

Day boaters: Visitor who use private/rental motor/sail boats inside Biscayne NP for a one-day visit to the park. Visitors who use concession tour boat, fishing guide boat or canoe/kayak are not included in this category.

OVN boaters: Visitor who use private/rental motor/sail boats and stay overnight either on boat or on island inside Biscayne NP. Visitors who use concession tour boat, fishing guide boat or canoe/kayak are not included in this category.

A recreation visit is the count of one person entering the park. Spending depends on how long visitors stay in the area rather than how many times they enter the park or how much time they spend inside the park. Recreation visits are therefore converted to party days/nights in the region before applying spending averages. This avoids double counting spending of visitors who may enter the park multiple times on the same day and also takes into account additional days a visitor may spend in the area outside the park.

Recreation visits are converted to party nights³ as follows:

Person trips to the area = recreation visits / number of park entries per trip

Person nights in the area = person trips * length of stay in area

Party nights in the area = person nights / party size

Distinct re-entry rates, party sizes and length of stay factors were estimated for each segment using the 2001 Visitor Survey data (Table 4). Overnight visitors stayed between 1.7 and 3.5 nights in the Florida city/Homestead area⁴. The average party size was around 2.0 to 4.1 persons where boaters tend to have a larger party size.

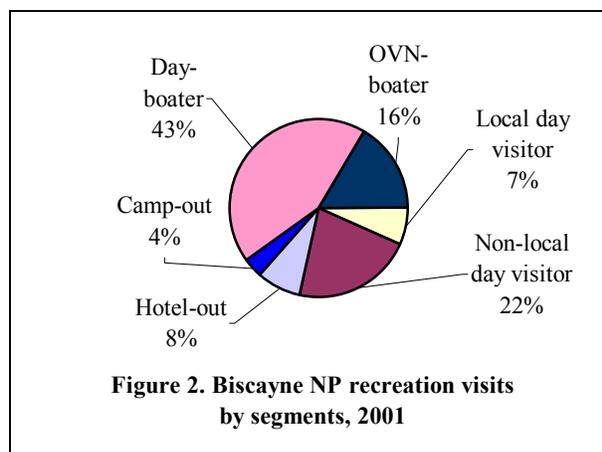
³ A party night is a travel group staying one night in the area. The travel group is usually all individuals in the same vehicle or staying in the same room or campsite. For day trips, estimates are in party days.

⁴ Stays of more than 7 days or groups of more than 8 people were omitted in computing these averages.

Table 3. Biscayne NP visit conversion parameters by lodging segments

	Local day visitor	Non-local day visitor	Hotel-out	Camp-out	Day-boater	OVN-boater
Length of stay in the region	1.00	1.00	2.93	3.48	1.03	1.71
Party size	3.12	2.69	2.32	2.00	3.65	4.14
Re-entries	1.00	1.00	1.00	1.00	1.00	1.00
Number of cases	17	47	30	9	109	54

Using these conversion parameters, 489,000 recreation visits were converted to 154,000 party-trips to the area in 2001 (Table 4). Local residents who use automotive transportations to the park accounted for 7% of the total recreation visits; day trips from outside the region accounted for 22% (Figure 2). Boaters, in total, contributed 60% of total recreation visits. Among all boaters, thirteen percent are local residents.



These recreation visits equated to 223,000 party nights in the region. Day boaters contributed 27% total party nights in the region, followed by visitors staying at hotels, 22%. We estimated that park visitors accounted for 49,000 hotel room nights in area motels while campers contributed 31,000 camping nights in 2001.

Table 4. Visit measures for Biscayne NP by segments, 2001

	Local day visitor	Non-local day visitor	Hotel-out	Camp-out	Day-boater	OVN-boater	Total
Recreation visits	32,637	106,674	38,627	17,770	213,230	80,404	489,343
Party trips	10,468	39,693	16,674	8,885	58,449	19,423	153,592
Party nights	10,468	39,693	48,909	30,921	60,057	33,244	223,293
Pct of recreation visits	7%	22%	8%	4%	44%	16%	100%
Pct of party trips	7%	26%	11%	6%	38%	13%	100%
Pct of party nights	5%	18%	22%	14%	27%	15%	100%

Visitor spending

Spending averages were estimated from the Biscayne National Park Visitor Study. Spending averages were computed on a party trip basis for each segment and then converted to a party night basis by dividing by the average length of stay. The survey covered expenditures that occurred within Florida city/Homestead area. Spending averages per party per night by segment are shown in Table 5.

Table 5. Biscayne NP visitor spending by lodging segments in local area (\$ per party day)

Spending category	Local day visitor	Non-local day visitor	Hotel-out	Camp-out ^a	Day-boater	OVN-boater
Motel, hotel cabin or B&B	0.00	0.00	84.81	0.00	0.00	0.00
Camping fees	0.00	0.00	0.00	22.13	0.00	7.14
Restaurants & bars	5.88	6.04	44.03	12.35	5.27	4.86
Groceries, take-out food/drinks	7.65	11.88	8.91	9.28	19.38	29.91
Gas & oil	2.41	7.88	9.35	10.61	39.70	30.55
Local transportation	0.00	5.48	11.12	1.03	2.02	2.81
Admissions & fees	9.18	5.02	16.65	13.67	20.60	4.70
<u>Souvenirs and other expenses</u>	<u>0.71</u>	<u>7.17</u>	<u>6.10</u>	<u>19.23</u>	<u>6.04</u>	<u>2.31</u>
Total	25.82	43.46	180.97	88.30	92.99	82.27
Number of cases	17	47	30	9	109	54

a: It is replaced with the MGM2 generic medium default figure due to small number of cases sampled.

Local and non-local day visitors spent \$26 and \$43 per party per day. Campers spent \$88 dollars per day with \$22 on the camping service⁵. Visitors staying at hotels spent \$181 per day with a corresponding room rate of \$85. Boaters, in average, spent between \$93 and \$82 per party day and around 40% of the spending is on the gas & oil.

Total visitor spending is calculated by multiplying the number of party-nights in Table 4 by the spending averages in Table 5. The calculations are carried out segment by segment, summing across the six segments to obtain the total. Visitors to Biscayne NP spent \$21.9 million in Florida city/Homestead area in 2001 (Table 6). Visitors spent \$4.5 million on gas & oil, \$4.1 million on motel/hotel rooms, and \$3.4 million on groceries and take out food. Groups staying in area motels contributed about 40 percent (\$8.9 million) of the total spending to the region followed by day boaters (26%), overnight boaters (12%) and campers (12%).

Table 6. Total spending by Biscayne NP visitors in 2001 (\$000's)

Spending category	Local day visitor	Non-local day visitor	Hotel-out	Camp-out	Day-boater	OVN-boater	Total	Pct
Motel, hotel cabin or B&B	0	0	4,148	0	0	0	4,148	19%
Camping fees	0	0	0	684	0	237	922	4%
Restaurants & bars	62	240	2,154	382	316	162	3,315	15%
Groceries, take-out food/drinks	80	471	436	287	1,164	994	3,432	16%
Gas & oil	25	313	457	328	2,384	1,016	4,523	21%
Local transportation	0	217	544	32	121	93	1,008	5%
Admissions & fees	96	199	814	423	1,237	156	2,926	13%
<u>Souvenirs and other expenses</u>	<u>7</u>	<u>284</u>	<u>298</u>	<u>595</u>	<u>362</u>	<u>77</u>	<u>1,624</u>	<u>7%</u>
Total	270	1,725	8,851	2,730	5,585	2,735	21,896	100%
Percent	1%	8%	40%	12%	26%	12%	100%	

⁵ Due to a small number of campers sampled (n=9), the MGM2 generic medium spending profile is used here.

Economic Impacts of Visitor Spending

The \$21.9 million spent by Biscayne NP visitors had a direct economic impact on the region of \$17.0 million in direct sales, \$6.8 million in personal income (wages and salaries), \$10.2 million in value added, and supported 290 jobs in the region⁶ (Table 7). The lodging sector received the largest amount of direct sales (\$4.1 million), followed by the restaurants sector (\$3.3 million) and the admission fees (\$2.9 million).

Direct effects are less than total spending, as only the retail and wholesale margins on visitor purchases of goods accrue to the local economy. The local region surrounding Biscayne NP captures 78% of visitor spending. Twenty-two percent of visitor spending leaks out of the local economy to cover the costs of imported goods bought by visitors⁷, such as gas and oil.

The sales multiplier for the region was 1.56, meaning that an additional \$0.56 in sales is generated through secondary effects for every dollar of direct sales. Secondary effects generated an additional 109 jobs, about \$3.6 million in personal income and \$6.0 million in value added.

Table 7. Economic impacts of Biscayne NP visitor spending, 2001

Sector/Spending category	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	4,148	62	1,584	2,407
Camping fees	922	14	352	535
Restaurants & bars	3,315	71	1,345	1,874
Admissions & fees	2,926	54	1,105	1,810
Gambling	0	0	0	0
Other vehicle expenses	0	0	0	0
Local transportation	1,008	20	607	715
Retail Trade	2,689	59	1,372	2,142
Wholesale Trade	697	6	282	481
<u>Local Production of goods</u>	<u>1,323</u>	<u>5</u>	<u>136</u>	<u>267</u>
Total Direct Effects	17,026	290	6,783	10,231
<u>Secondary Effects</u>	<u>9,544</u>	<u>109</u>	<u>3,601</u>	<u>6,043</u>
Total Effects	26,570	400	10,385	16,273
Multiplier	1.56	1.38	1.53	1.59

⁶ Miami-Dade County multipliers (1996) are applied in calculating these values.

⁷ For example, if a visitor buys \$50 dollars worth of clothing at a local store, the store receives the retail margin (assume \$20 dollars), the wholesaler or shipper (if local) may receive \$5 dollars, and the remaining producer price of the clothing (\$25 dollars) leaks immediately outside the local economy, unless the clothing is manufactured in the local region.

Study Limitations and Error

The accuracy of the MGM2 estimates rests on the three inputs: visits, spending averages, and multipliers. Multipliers are provided from IMPLAN system and are tailored to Miami-Dade County. Although the values are from 1996 data, we assume these ratios present a reliable portrait of local economics if no significant economic structural changes within the past five years. Visitor segment shares and spending averages are derived from the 2001 Biscayne National Park Visitor Survey. They may be subject to sampling errors, measurement errors and seasonal biases as we have to project to annual totals from a one-point data collection.

Biscayne Visitor Survey was conducted during a 9-day period at selected locations in March, 2001. Although expanding one-point data to the year-round population may involve unknown biases, we apply no adjustments to the survey data here. We believe sampling visitors in March providing better information of year-round use patterns without biasing toward the peak- or off-season usage. Only with additional information on peak- and off-season visitor use will the appropriate level of adjustment to the survey results be provided.

The sampling errors on the average spending per party night were 8% overall and ranged from 13- 71% for individual segments. The volatile variation of spending within individual segments could be partially resulted by the small cases sampled at each segment. Our analysis omitted cases with spending more than \$1000 per party per day and cases with missing values on all spending categories.

Depending on the direction and magnitude of errors in visits, spending, and multipliers, the errors may compound or cancel each other. The most important potential errors are in the estimates of visits by lodging segments. As the model is linear, doubling visitors will double spending and impacts. Errors in other parameters, such as re-entry rate, length of stay and party size, would also directly translate into errors in party nights, which is multiplied by the spending averages. Using 95% average spending confidence interval and total recreation visits in 2001, the park visitor spending is estimated to range between \$18.5 million and \$25.3 million in 2001.

In addition to these statistical issues, there are also conceptual issues regarding how much and which spending the park may claim. Around 82% of park visitors indicated that Biscayne NP was their primary destination or one of many destinations (Simmons and Littlejohn, 2002). Cases where Biscayne NP is not their primary destination, such as visiting friends and relatives or seasonal homes, should be excluded as their spending will not be lost to the region if Biscayne NP does not exist. In our report, a conservative approach is taken by retaining certain portion of their spending, instead of the whole trip spending, as the credits of visiting Biscayne National Park. For cases of visiting friends/relatives or staying at seasonal homes, we have accounted only one-day worth spending.

Local visitors are usually excluded in estimating economic impacts, but have been included here. Since they are a distinct segment, their contribution to the totals is readily estimated and subtracted from totals, as desired. Locals accounted for about \$0.3 million or 1% of overall visitor spending.

Summary and Discussion

Visitors to Biscayne NP spent \$21.9 million within Florida City/Homestead area in 2001. The total economic impact of visitor spending was \$17.0 million in direct sales, \$6.8 million in personal income, \$10.2 million in direct value added and 290 jobs. With multiplier effects, created by the re-circulation of money spent by tourists, visitor spending generated a total of \$26.6 million in local sales, and an associated \$10.4 million in personal income, \$16.3 million in value added and 400 jobs. Sectors receiving the greatest direct benefit from the park visitors were accommodations (\$4.1 million in direct sales) and restaurants (\$3.3 million).

Total economic impacts are useful for garnering park support and explaining the role of the park in the region's economy. The MGM2 model results can also be used to evaluate alternative management, development and marketing decisions. The marginal economic impacts of particular visitor segments are useful for evaluating particular actions. Table 8 shows the changes in sales, jobs, income and valued added associated with an increase or decrease of one thousand additional party-nights by each segment. Marginal impact analysis provides answers to the question: "what if?"

To evaluate the regional economic impacts of adding an additional 10 rooms, for example, to an area hotel, first compute the change in party nights – 10 rooms occupied 100 nights yearly yields 1,000 extra party nights. Applying the marginal impacts for the "Motel-out" segment in Table 8, the expansion generates an additional \$169,000 dollars in direct sales in the region, \$68,000 in personal income, \$100,000 in value added and 3 jobs in direct effects. The impact of this alternative could be compared to others such as expanding campsites, a marketing campaign to increase day trips, etc.

Table 8. Direct impacts of an additional 1,000 party nights by lodging segments, Biscayne NP, 2001

Segments	Direct Sales (\$000's)	Jobs	Personal Income (\$000's)	Value Added (\$000's)
(Marginal Impacts per 1,000 party-nights)				
Local day visitor	\$20.7	0.5	\$7.1	\$11.1
Non-local day visitor	\$30.0	0.7	\$12.1	\$17.8
Hotel-out	\$169.1	2.9	\$68.1	\$100.1
Camp-out	\$70.0	1.2	\$28.1	\$43.2
Day-boater	\$55.3	1.3	\$20.6	\$32.4
OVN-boater	\$48.0	1.0	\$17.4	\$26.9

The economic impacts presented in this report document the economic significance of 489,000 recreation visits to Biscayne NP in 2001. The impacts will vary from year to year with changes in prices, visitor volumes, the mix of visitors attracted, and other changes in the park and surrounding communities. The MGM2 model has built-in procedures to price adjust spending averages over time, so updated figures may be obtained fairly easily, if there are not significant changes in visitor use and spending patterns. In the absence of significant structural

changes in the local economy, multipliers will be quite stable. So the primary input for updating the estimates are visit estimates, which must take into account any changes in the mix of visitors or their length of stay in the area.

Suggested research to further refine the spending and impact estimates would include (1) a continuous effect in understanding visitor use patterns, the segment shares, party sizes, length of stay and spending profile, by different seasons; (2) general surveys of visitors to the region in cooperation with local tourism organizations to understand the share of visitors staying overnight outside the park.

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Appendices

Appendix A: Definition of Terms in the MGM2 Model

Terms	Definition
Sales	Sales of firms within the region to park visitors.
Jobs	The number of jobs in their region supported by the visitor spending. Job estimates are not full time equivalents, but include part time and seasonal positions.
Personal income	Wage and salary income, proprietor's income and employee benefits.
Value added	Personal income plus rents and profits and direct business taxes. As the name implies, it is the value added by the region to the final good or service being produced. It can also be defined as the final price of the good or service minus the costs of all of the non-labor inputs to production.
Direct effects	Direct effects are the changes in sales, income and jobs in those business or agencies that directly receive the visitor spending.
Secondary effects	These are the changes in the economic activity in the region that result from the re-circulation of the money spent by visitors. Secondary effects capture the sum of indirect and induced effects.
Indirect effects	Changes in sales, income and jobs from industries that supply goods and services to the business that sell directly to the visitors. For example, linen suppliers benefit from visitor spending at lodging establishments.
Induced effects	Changes in economic activity in the region resulting from household spending of income earned through a direct or indirect effect of the visitor spending. For example, motel and linen supply employees live in the region and spend the income earned on housing, groceries, education, clothing and other goods and services.
Total effects	Sum of direct, indirect and induced effects. <ul style="list-style-type: none"> ▪ Direct effects accrue largely to tourism-related business in the area ▪ Indirect effects accrue to a broader set of economic sectors that serve these tourism firms. ▪ Induced effects are distributed widely across a variety of economic sectors.
Marginal impacts	Economic impacts created by per additional visitors or dollars spent.