

Economic Impacts of National Parks on Gateway Communities; Summary of MGM2 Shortform Analyses

Daniel J. Stynes
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This report summarizes applications of the MGM2 model to some 50 National Park Units covering 34 local regions. In July of 2001 announcements were sent to all National Park Units offering to complete an economic impact analysis of visitor spending in 2000 using the new MGM2 models. To participate, parks had to complete a short questionnaire providing some basic information about their visitors¹. The form was made available on-line at the MGM2 website or could be returned by FAX, phone or e-mail.

There are two versions of the MGM2 model:

- a full version with detailed spending profiles for up to 12 visitor segments and sector-specific multipliers;
- and a “Shortform” version with four fixed segments and aggregate spending averages and multipliers.

The Shortform version is applied here to parks that had limited information about visitor spending and use patterns. The full MGM2 model has been applied to five parks that had recently completed visitor surveys. These will be reported at greater length in separate reports for each park.

Response

Cooperating parks were solicited via e-mail, distribution of MGM2 brochures, selected phone calls and word of mouth. Nancy Woods helped recruit a number of parks in the Northeast region in conjunction with our presentation of the MGM2 models at the NE/NCR Superintendent’s Conference in late November, 2001. Five parks submitted data using the on-line form, fifteen parks submitted information via FAX and the remainder were contacted by phone or personal contact at meetings.

A total of 34 distinct economic impact analyses are reported here. Boston NHP represents 7 distinct facilities along the Freedom Trail and the National Capital Parks combines data for 12 NPS units in Washington D.C. Some other parks also report visitation for two or more units. In these cases, the economic impact analysis should usually be carried out on the combined units, although care must be exercised to avoid multiple counting visitors who are counted at more than one NPS facility on the same trip. Eisenhower NHS is reported separately from Gettysburg NMP here to illustrate how MGM2 can be applied to particular sub-units or visitor segments. However, one should not add the results for Eisenhower NHS to Gettysburg NMP, as the former will be included in the Gettysburg totals.

¹ The questionnaire is included in Appendix A.

Input Data

The MGM2 shortform requires input data covering park visitors, spending patterns and local economic multipliers. Default values for spending and multipliers are provided on the MGM2 spreadsheet. The 2000 Public Use Data (recreation visits and overnight stay data) was the starting point for estimating the volume of visitor activity at each park.

The MGM2 model requires that recreation visits be broken down into four visitor segments (locals, day trips, overnight stays in motels, and overnight stays in campgrounds), and that visits be converted to a party-night basis. A ‘party night’ is one group of people (usually all people in the same vehicle or staying in the same room/campsite) in the area for one night. For day visitors to the area a party day is treated as equivalent to a ‘party night’, so party nights are set to one.

Park personnel were asked to estimate the percentage of recreation visits by each of the four segments. They also had to provide estimates of average party size, length of stay in the area, and park entries per trip for each segment in order to convert recreation visits to party nights.

The questionnaire used to gather the input data and guidelines provided to the parks for completing the form are included in Appendix A. The on-line version of the form is available at <http://www.prr.msu.edu/mgm2/>.

Some parks were able to estimate the requested information from recent visitor surveys. Some referred to regional tourism studies and many also used some professional judgment. Ranges of recommended values were provided for the visit conversion parameters and spending averages. Information submitted by each park was checked against the official Public Use Data and we followed up by phone to discuss any inputs that fell outside of recommended ranges. Party size figures were checked against those used in the public use protocols².

Multipliers were selected based on local population data and a brief description of the surrounding region. MGM2 generic multipliers³ were used unless we had the IMPLAN data files for the counties around the park, in which case IMPLAN multipliers for the local region were used.

Use of the MGM2 Shortform

After checking input data, it was entered on the MGM2 Shortform. The spreadsheet automatically converts the visit data to party nights and computes spending and associated economic impacts. Results are compiled on tables on the Output Summary Page. A custom Shortform was created for each park with data for the park entered on the spreadsheet. A summary of the results and selected notes were added to the Output page and the results were

² Protocols for each park are posted by Butch Street at <http://www2.nature.nps.gov/>. All recreation visit and overnight stay data is also posted here.

³ See MGM2 Shortform spreadsheet or MGM2 manual, Appendix E for details about multipliers.

returned to the park in spreadsheet form. Instructions were provided for printing the results. The spreadsheet also allowed parks to carry out sensitivity analyses or update any of the estimates.

The input and output tables and the custom spreadsheets for all parks are posted at the MGM2 website at <http://www.prr.msu.edu/mgm2/parks/parklist.htm>. Copies of outputs for each park are included in Appendix B.

Results

The applications reported here provide a good test of the flexibility of the MGM2 model. Applications include resource-based parks, historic sites in urban and rural areas, smaller units that are not always the primary reason for a trip to the area, and groups of parks in an area that are best treated as a collection rather than individually (e.g. Boston NHP and Washington D.C. parks). We intentionally solicited participation of some parks to cover the diversity of situations to be encountered.

For consistency, all analyses report the impacts of all visitor spending in 2000 within the local area around the park. In most cases the inclusion of local visitors does not significantly alter the results over what would be obtained excluding locals⁴. The spreadsheets include totals with and without local visitors.

While each park and region is somewhat unique, it is useful to examine the range of variation in both the inputs and outputs across the parks studied. Tables 1-7 summarize the range of input and output values across the 34 applications. It should be noted that input parameters are in most cases provided by individual parks and in some cases may not be completely accurate. Even when figures are based on local surveys, sampling errors and other biases may distort the averages. Where surveys exist, sampling locations and times do not always guarantee a sample that is representative of year-round use. Also for surveys with small samples, a few outliers can significantly distort the averages.

Table 1 – Segment distribution: An important feature of the MGM2 model is the segmented approach, which acknowledges that different parks attract different kinds of visitors who can have very different spending and use patterns. The Shortform recognizes four key segments: (1) local residents, which can also include seasonal residents, (2) day trips to the area including park visitors on extended trips that pass through the region but do not involve an overnight stay, (3) visitor staying in park lodges or motels, cabins and other commercial lodging in the area, and (4) visitors staying in campgrounds inside or outside the park. Each segment is associated with distinct spending patterns as well as their own party size, length of stay and re-entry factors.

⁴ Local spending was excluded for Cape Cod NS. In several instances where the park was not the primary reason for the trip to the area, length of stay and/or spending averages were reduced to reflect only the spending and time attributable to the park visit.

Segment distributions vary widely with a few parks serving many local visitors while destination parks in more remote locations often serve high percentages of overnight visitors staying inside or outside the park. Spending and economic impacts depend quite heavily on these segment distributions. As with tourism in general, spending and local economic impacts are increased by getting visitors to stay overnight in the area and providing appropriate spending opportunities in the area.

Across the 34 applications, the “average⁵” distribution is 20% locals, 40% day trips, and 40% overnight visitors split 31% to motels (including cabins, lodges, B&B’s, and rented condos) and 9% to campers⁶.

Table 2. Visit Conversion Parameters: The visit conversion factors are very important and can vary quite a bit across parks. Party sizes are perhaps the most stable, usually varying between 2 and 3, with camping parties above average and locals below average. Park managers may overestimate party sizes somewhat as party sizes have generally been declining over time. Also surveys are often done during the peak season or at locations where larger groups are more likely (e.g. visitor centers and campgrounds) so party size averages estimated in visitor surveys can be biased upward.

Parks do not routinely measure length of stay in the area, particularly for visitors staying overnight outside the park. As most spending opportunities lie outside the park, spending varies directly with time in the local area, not time in the park. On the other hand, park visitors may be staying in the area for reasons other than visiting the park, so in some cases not all of their nights in the area and associated spending is attributable to the park. In several cases, lengths of stay for overnight visitors was reduced to one night to count only one night’s spending, regardless of how long the visitor was in the area.

The number of entries a visitor makes to the park during their stay in the area is also critical to estimating spending and economic impacts. Visitors staying overnight inside the park may leave and re-enter the park several times during a stay. Visitors staying overnight outside the park may also re-enter one or more times each day they are in the area. These patterns pose potential problems with double (and multiple) counting the same visitors during a stay in the area.

For these reasons, the MGM2 model converts park visits (person entries) to party nights in the area. The equation is :

Party nights in the area = Park entries * length of stay / (party size * entries per trip)

Park entries (recreation visits) is divided by party size to put visits on a travel party rather than individual basis (vehicles). Dividing by park entries during the trip yields the number of

⁵ These averages are weighted by the volume of use at each park. The simple averages across the 34 parks are not that different (see bottom of Table 1).

⁶ The MGM2 Shortform version does not have a distinct category for backcountry visitors. These should usually be treated separately as their use and spending patterns will be different than the other segments. The full version of MGM2 should be used in cases where backcountry use is significant.

distinct party trips to the area involving a visit to the park. MGM2 then multiplies party trips by length of stay in the area to obtain party nights. Spending averages are estimated on a party night basis, which can therefore be multiplied by the volume of party nights to estimate total spending.

The original MGM model used recreation visits or in some cases recreation visitor days as the unit of recreation use. This ignores or avoids the double counting issue and will bias spending estimates upward unless spending averages are per park visit rather than per night. MGM2 makes the issue more transparent and forces the analyst to at least “guesstimate” the extent of the problem. We recommend that re-entry and length of stay information be more routinely gathered at all parks and that park use be reported both in terms of person entries as well as trips and days/nights in the area. The conversion factors in the MGM2 model permit one to readily convert among various measurement units of park use.

The MGM2 model also provides some information that can be used to validate park use figures. The model estimates party nights for visitors in motels and campgrounds. These estimates can be compared with local lodging use information to evaluate potential errors in the park use or length of stay data. Several cooperating parks made some of these checks using local lodging inventories or room sales figures from local tourism organizations. In some cases, we were able to compare MGM2 model hotel spending estimates with local motel room sales or taxes. Dividing the MGM2 estimates of room nights or hotel sales by totals for the region indicates the portion of local activity accounted for by park visitors. If this is greater than 100% or unreasonable, it suggests faulty estimates of overall park visits, motel segment shares, park re-entries, or lengths of stay.

Table 3: Spending averages. The MGM2 shortform uses an overall per party per night spending average for each segment. Most parks stayed within the suggested ranges on the MGM2 Shortform.

Spending by local residents ranged from \$12 to \$55 with an average of \$36 per party per day. High values were for Acadia, Cape Cod, and Washington DC with the lower figures at smaller historic sites, where at most a half day’s expenses were counted.

Visitors on day trips from outside the local area averaged \$55 per party per day with a low of \$35 and a high of \$100 at Delaware Water Gap NRA. The Delaware Water Gap figures could not be independently verified. They may be inflated, as they are the highest averages for three of the four segments. The figures may come from local tourism officials. Tourism industry estimates of spending are sometimes exaggerated and park visitor spending may be lower than that of tourists to the area who do not spend time in the park.

Visitors staying in motels include stays in park lodges as well as motels outside the park. Motel segment spending averaged \$178 per party per night, ranging from \$100 at Washita NB to \$250 at Delaware Water Gap. Motel spending was at or above \$200 per party-night for

most urban parks and parks in popular tourist destinations. This figure reflects a room rate of about \$80- \$100 and another \$100 or more spent on meals, souvenirs and other activity⁷.

Campers averaged \$79 in spending per party per night ranging from a low of \$40 at Mount Rainier NP to a high of \$125 at Delaware Water Gap NRA. Generally campers staying in commercial campgrounds outside the park spend more than campers staying in NPS campgrounds.

Figures in the “Totals” column in Table 3 reflect both the mix of visitors and the average spending of each segment. These figures capture what a randomly selected visitor party at each park would spend per night. The overall average is \$86 with a low of \$29 at Martin Van Buren NHS and a high of \$162 at Acadia. The former serves mostly locals and day visitors while Acadia hosts large number of overnight visitors with above average spending.

Table 4: Multipliers. Park managers are not sufficiently conversant with multipliers to choose suitable values for the regions around their park. In most cases we chose the appropriate set of MGM2 generic multipliers based on the population of the region around the park. Local county economic data and websites for regions around the park were also checked to assess the degree of economic and tourism development surrounding the park. In the cases where we had local IMPLAN data, the IMPLAN multipliers were not substantially different from the corresponding MGM2 generics. This suggests that the multiplier selection procedure in MGM2 is adequate for most applications.

The IMPLAN Type SAM sales multipliers ranged from 1.20 to 1.63 across the 34 regions. The applications included a good mix of levels of economic development from very rural areas to large metropolitan regions. On average a third of the direct sales to visitors goes to wages and salaries with about half of sales to visitors being local value added⁸. Visitor spending yields between 16 and 25 direct jobs per million in sales and between 26 and 34 jobs including secondary effects. Job to sales ratios are generally higher in rural areas.

Table 5. Visit Data. Recreation visit and overnight stay data are taken directly from the Public Use Reports for 2000. Some situations required ad hoc procedures to adjust for multiple counting of visitors, e.g. Washington D.C. parks and Boston NHP. In these cases we estimated the number of distinct facilities a typical visitor would visit during their stay in the area and used this as the MGM2 “re-entry” factor. Overnight visitors were assumed to visit more facilities than day visitors.

The estimates of party nights for each park depend on the official recreation visit counts, the segment shares in Table 1 and the conversion parameters in Table 2. On average it takes about 2.8 recreation visits to yield one party night. The ratio varies, however, from 1.4 at Yosemite NP to 8.5 at Boston NHP. Yosemite NP visitors have above average stays and lower re-entry rates while Boston NHP attracts more day visitors and has very high re-entry

⁷ See the MGM2 default spending profiles for typical breakdown of spending. The overall averages from park reports are generally consistent with the medium spending profiles in MGM2 model.

⁸ Value added includes wages and salaries, payroll benefits, income of sole proprietors, profits, rents and indirect business taxes.

rates, as it includes visitors being counted at multiple facilities during their stay. For most parks, between 2.5 and 3.0 recreation visits equate to one party night.

With a few exceptions, the visit to party night ratio falls in the same range as typical party sizes. This is because a central aspect of converting from recreation visits to party nights is simply dividing by the party size. The length of stay and re-entry factors will cancel each other out if park visitors make one entry for each day/night they stay in the area. If visitors stay for long periods inside or outside the park without making multiple park entries, then a visit will generate higher than average party nights. Conversely, if visitors make multiple entries each day, more visits will be needed to generate a party night.

Table 6: Economic impacts of Visitor Spending. Economic impacts, of course, vary widely depending on the number and types of visitors, their spending patterns and the nature of the local economy. The MGM2 Shortform estimates direct and total impacts in terms of sales, jobs, personal income and value added.

With 15 million combined recreation visits⁹, the 12 National Capital Parks in Washington D.C. have the largest impact of the units studied. These visitors spend \$660 million in the local area generating \$202 million in direct income and \$316 million in total income including secondary effects. Visitor spending supports 10,500 direct jobs in tourism industries and another 5,700 through secondary effects. The Travel Industry Association (2000) estimates total tourism spending in Washington D.C. (excluding public transportation) to be \$4.6 billion in 1999. The \$660 million spent by park visitors accounts for about 14% of this total.

At the other extreme, many historical sites and monuments serve predominantly day visitors or are visited as part of multi-purpose trips. Five of the park units studied generated less than a million dollars in visitor spending and fewer than 20 jobs in the local area. These impacts can still be significant to the local area, particularly for parks in fairly undeveloped or economically depressed regions. The visitor spending impacts also do not take into account the impact of park employees and operations, which for parks with low visitation levels can exceed the impacts of the visitors themselves¹⁰.

Table 7: Selected impact ratios. There are many factors that determine the level and nature of the economic impacts of park visitors. An understanding of these factors is important to applying the MGM2 results and working with local communities, businesses and tourism organizations to enhance both the visitor's experience and the quality of life for residents of the region.

Selected ratios in Table 7 provide an indication of how much spending, direct sales and total sales are generated per park visit and per party night spent in the area. The averages here clearly depend on the mix of parks included, but should be reasonably representative of NPS units across the country. Each recreation visit generates \$34 in spending in the local area, \$28

⁹ To adjust for double counting, we assumed that overnight visitors would visit 3 of the 12 NPS attractions during a trip, day visitors would visit 2 and local residents 1.

¹⁰ See for example our analysis for Women's Rights NHP (Stynes, 1999).

in local sales and \$39 with secondary effects. These are per person figures and allow for multiple entries (i.e., if most visitors make 2 entries to a park during their trip, they spend \$68 in the local area).

Using the party night as the measure of use, each party night in the area generates, on average, \$86 in spending, \$70 in local sales, and about \$100 in sales including secondary effects. One can see that these overall averages cannot be directly applied to individual parks, as the ratios vary quite a bit. Total sales, for example, varies from \$31 per party night at Martin Van Buren NHS to almost \$200 per party per night at Boston NHP, Acadia, and Washington D.C. parks.

Discussion

The parks examined here provide a good representation of the kinds of situations to be encountered in estimating impacts of park visitors. The MGM2 Shortform worked well for making aggregate estimates of impacts of annual park visitors. The 34 applications illustrate that significant differences exist among National Park units. The MGM2 models are readily adapted to different situations, but some experience in using the models is essential to insure proper application and interpretation of the results.

The most important inputs are the park use figures, and more importantly the ability to identify distinct segments and convert recreation visit data to party nights in the area. While the park use measurement protocols do a good job of estimating park entries (recreation visits), improved methods are needed to sort out multiple counting of visitors who enter and leave a park multiple times during their stay in the area. Lengths of stay and re-entry parameters vary considerably across parks and visitor segments, so reliable local data are needed to accurately estimate the number of distinct visitors and how long they stay in the region. We cannot directly verify whether the re-entry figures provided by parks are correct. Even when based on visitor surveys, visitor reports of re-entries may not coincide with how often a visitor is counted by NPS use measurement protocols in a given park.

Parks also rarely have solid information to identify visitor segments. Both manager judgment and surveys may involve errors. Parks should devote more attention to understanding what park visitors do outside the park. In particular, the percentage of “park day visitors” staying overnight in the area is critical to estimating spending and economic impacts. Visitors staying in area campgrounds, motels, seasonal residences or with friends and relatives will have distinct spending and use patterns. Understanding these patterns can suggest ways to enhance visitor experiences, reduce negative impacts, and enhance local economic impacts. Cooperative survey efforts with local tourism organizations can provide a more complete picture of activity both inside and outside the park.

When multiple park units exist in an area, special efforts are required to avoid double counting visitors and spending. In these cases visitor surveys should identify the percentage of visitors frequenting each major attraction or park. Planning and marketing activity should take a regional approach to more fully consider the interrelationships among distinct park units in an area. This same idea may be extended to consideration of both NPS attractions as

well as other facilities outside the park. When estimating regional economic effects, visitors are best seen as tourists to an area rather than park visitors. When park units are part of a larger tourist destination, it is difficult to identify which specific attraction brought the visitor to the area or who should “get credit” for which spending.

Spending averages also vary somewhat from one park or region to another, but usually in fairly predictable ways. There is greater variation across visitor segments than parks, which reinforces the importance of measuring both the number and types (segments) of visitors. Spending averages reported by park managers generally fell within the recommended ranges (Appendix A) and are consistent with those estimated in visitor surveys. Local room and campground rates are one good source for adapting spending averages to a local area.

Care must be used when drawing from tourism sources for park visitor spending averages. Park visitors who spend considerable time in the park are likely to spend less than other tourists, particularly if engaged in hiking and related activities that do not entail special spending. Also, many tourism sources report somewhat inflated estimates, particularly when spending is given on a per person basis. This may explain the high figures for Delaware Water Gap NRA.

The Shortform uses the simple MGM2 lookup procedure to choose multipliers for a given region. In the handful of applications where we had local IMPLAN data files, the IMPLAN multipliers compared favorably with those selected by lookup procedures.

The input data poses some challenges for park personnel. Undoubtedly some parks did not submit information because they didn't feel they could provide the requested information. The requested information is likely the minimum for making reasonable impact estimates. While models might be developed to explain variations in spending averages across parks, parameters like park re-entry rates will be unique to each park. Segment shares will vary considerably based on distance to population centers, lodging capacity around the park, and unique park attributes and locational settings. These likely must be measured vs predicted.

We have not followed up to determine how parks are using the results. The intent in returning results directly on the MGM2 spreadsheet is to provide a tool that parks may continue to use. When 2001 use figures are available, parks may substitute the new figures on the spreadsheet and quickly obtain updated economic impact estimates. For parks that wish to carry out economic analysis on a more regular basis, we recommend migrating up to the full MGM2 model. This version has built-in price adjustments and many features that let one fine tune the model to particular applications. Parks that have recently conducted visitor surveys have the more detailed information that the full MGM2 model can take full advantage of. The full MGM2 model has been applied to five parks this year using Visitor Survey data. These applications are discussed in separate reports for each park.

Recommendations

1. Visitor use measurement protocols should be evaluated for better ways to handle park re-entries and to accumulate visitor counts for several units in the same region without multiple counting visitors.
2. A database of park spending profiles should be assembled from the parks that have conducted spending studies. Some research should address differences between peak and off-season visitors so that estimates of party size, length of stay, segment shares, and spending averages gathered in peak-season studies can be adjusted for off-peak use. Many of the parameters used in the economic analysis vary by season.
3. The NPS should continue to spread information about the MGM2 models and encourage parks to make use of these tools. The greatest participation this year has been for the Northeast region. Nancy Woods of the Boston Support Office helped to encouraging park participation. Several applications were stimulated by the presentation of the MGM2 model at the NE/NCR meeting. A similar approach might be used in other regions.
4. A special effort might apply the MGM2 models to NPS Heritage areas. These provide unique opportunities to extend the models to NPS partners and to broadly address the role of heritage areas in a regional tourism picture. Several heritage areas in the Northeast expressed interest in the models.
5. The 34 areas covered by the applications reported here, along with the five more complete applications using the full MGM2 model provide enough experience to make initial impact estimates for all NPS units. Completing the remaining parks using the same approach would yield systemwide and regional totals, as well as impacts for different categories of parks. Parks could then work from these baseline estimates to refine the estimates in the future. The NPS Strategic Planning Office has expressed interest in system-wide estimates.
6. Park units should expand communication and partnerships with local tourism, economic development, and other organizations to provide a more comprehensive understanding of visitors and the interrelationships between activity inside and outside the park. Local economic and tourism data can be used to enhance and partially validate the economic impact figures produced by MGM2 models. Local partners will likely find these same models useful for regional tourism planning and marketing.

Table 1. Segment Distribution by Park (Percentage of Recreation Visits) ^a

Park unit	Local	Day	Motel	Camp
Acadia NP	5%	25%	60%	10%
Antietam NB	25%	25%	40%	10%
BadlandsNP	0%	74%	13%	13%
Big Bend NP	15%	15%	35%	35%
Boston NHP	12%	40%	45%	3%
Cape Cod NS	25%	25%	40%	10%
Delaware Water Gap NRA	10%	75%	10%	5%
Eisenhower NHS	5%	38%	46%	11%
Fire Island NS	30%	40%	25%	5%
Fort Necessity NB	20%	60%	10%	10%
Gettysburg NMP	5%	38%	46%	11%
Grand Portage NM	5%	10%	70%	15%
Hagerman Fossil Beds NM	49%	24%	11%	16%
Jefferson Nat'l Expansion Mem.	25%	63%	10%	2%
Maggie L. Walker NHS	80%	10%	9%	1%
Mammoth Cave NP	20%	20%	40%	20%
Manassas NBP	5%	85%	5%	5%
Mount Ranier NP	12%	62%	13%	13%
Martin van Buren NHS	16%	84%	0%	0%
National Capital Parks, Wash. D.C.	20%	40%	40%	0%
Olympic NP	26%	36%	24%	14%
Pinnacles NM	25%	35%	5%	35%
Pipestone NM	10%	30%	25%	35%
Point Reyes NS	19%	42%	23%	16%
Prince William Forest Park	67%	10%	5%	18%
Richmond NBP	50%	20%	25%	5%
Roosevelt-Vanderbilt NHS	21%	69%	9%	1%
Scotts Bluff NM	40%	15%	25%	20%
Shenandoah NP	25%	40%	25%	10%
Valley Forge NHP	70%	15%	15%	0%
Washita NB	30%	50%	15%	5%
White Sands NM	40%	30%	15%	15%
Women's Rights NHP	7%	81%	10%	2%
<u>Yosemite NP</u>	<u>10%</u>	<u>30%</u>	<u>30%</u>	<u>20%</u>
Average	24%	40%	24%	12%
Minimum	0%	10%	0%	0%
Maximum	80%	85%	70%	35%
Wt Average	20%	40%	31%	9%

a. Locals live within roughly a 30-60 mile radius of the park. The day trip segment includes visitors from outside the local area who do not stay overnight in the local region. The motel and camp segments are based on lodging type and cover lodging either inside or outside the park.

Table 2. Visit Conversion Factors by Segment and Park ^a

Park unit	Party Size				Length of Stay in Area				Park Entries per Trip			
	Local	Day	Motel	Camp	Local	Day	Motel	Camp	Local	Day	Motel	Camp
Acadia NP	2.5	3.0	3.0	3.0	1.0	1.0	3.0	3.0	1.0	1.5	3.0	2.0
Antietam NB	2.3	2.3	2.5	3.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0
BadlandsNP	3.0	3.0	2.7	2.6	1.0	1.0	1.2	1.2	1.0	1.0	1.5	1.7
Big Bend NP	2.5	2.8	2.8	2.8	1.0	1.0	2.5	2.5	1.0	1.0	2.0	2.0
Boston NHP	3.0	3.0	3.0	3.0	1.0	1.0	2.0	2.0	2.0	4.0	5.0	5.0
Cape Cod NS	2.3	2.3	2.5	3.0	1.0	1.0	3.0	3.0	1.0	1.0	2.0	2.0
Delaware Water Gap NRA	2.0	4.0	4.0	6.0	1.0	1.0	1.0	2.0	1.0	2.0	1.0	1.0
Eisenhower NHS	2.7	3.0	3.0	3.0	1.0	1.0	2.0	3.0	1.0	1.0	1.0	1.0
Fire Island NS	2.3	2.3	2.5	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Fort Necessity NB	2.3	2.3	2.5	2.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Gettysburg NMP	2.7	3.0	3.0	3.0	1.0	1.0	2.0	3.0	1.0	1.0	2.0	2.0
Grand Portage NM	2.0	3.0	3.0	4.0	1.0	1.0	2.0	4.0	2.0	1.0	1.0	2.0
Hagerman Fossil Beds NM	4.0	4.0	2.0	5.0	1.0	1.0	2.0	3.0	1.0	1.0	1.0	1.0
Jefferson Nat'l Expansion Mem.	3.0	3.0	3.0	3.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0
Maggie L. Walker NHS	2.7	2.5	3.0	3.0	1.0	1.0	3.0	3.0	1.2	1.0	2.0	2.0
Mammoth Cave NP	2.5	3.0	3.2	3.5	1.0	1.0	2.5	3.0	1.0	1.0	1.5	2.5
Manassas NBP	2.7	3.0	3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2
Mount Ranier NP	3.3	2.8	3.0	3.0	1.0	1.0	1.8	1.8	1.2	1.2	1.7	1.6
Martin van Buren NHS	2.0	2.0	2.5	3.0	1.0	1.0	2.7	3.5	1.0	1.0	2.0	2.0
National Capital Parks, Wash. D.C.	2.5	2.5	2.5	2.5	1.0	1.0	3.0	2.0	1.0	2.0	3.0	3.0
Olympic NP	2.8	2.8	3.0	2.8	1.0	1.0	2.3	2.6	1.3	1.5	2.4	2.3
Pinnacles NM	4.0	4.0	2.0	4.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	3.0
Pipestone NM	2.5	2.5	2.5	2.5	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0
Point Reyes NS	2.3	2.3	3.0	3.0	1.0	1.0	3.0	3.0	1.0	1.0	3.0	3.0
Prince William Forest Park	3.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0
Richmond NBP	2.7	2.5	3.0	3.0	1.0	1.0	3.0	3.0	1.2	1.0	1.0	1.0
Roosevelt-Vanderbilt NHS	2.8	2.8	2.8	2.8	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0
Scotts Bluff NM	3.0	3.0	3.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Shenandoah NP	2.3	2.3	2.5	3.0	1.0	1.0	2.5	2.5	1.0	1.2	2.0	2.0
Valley Forge NHP	2.8	2.8	2.8	2.8	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
Washita NB	4.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0
White Sands NM	3.5	3.5	3.0	3.0	1.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0
Women's Rights NHP	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
<u>Yosemite NP</u>	2.3	2.3	2.5	3.0	1.0	1.0	2.7	3.5	1.0	1.0	1.0	1.0
Average	2.7	2.7	2.7	3.1	1.0	1.0	2.0	2.2	1.1	1.2	1.7	1.8
Minimum	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	4.0	4.0	4.0	6.0	1.0	1.0	3.0	4.0	2.0	4.0	5.0	5.0

Party size = people per vehicle, length of stay = nights spent in the area (1 for day trips).

Table 3. Average Spending by Segment (\$ per party-night) ^a

Park unit	Local	Day	Motel	Camp	Total
Acadia NP	\$55	\$75	\$210	\$110	\$162
Antietam NB	\$36	\$52	\$170	\$80	\$96
BadlandsNP	\$25	\$35	\$195	\$75	\$59
Big Bend NP	\$26	\$35	\$135	\$60	\$80
Boston NHP	\$50	\$75	\$210	\$60	\$139
Cape Cod NS	\$55	\$75	\$210	\$110	\$126
Delaware Water Gap NRA	\$50	\$100	\$250	\$125	\$109
Eisenhower NHS	\$36	\$63	\$214	\$70	\$146
Fire Island NS	\$55	\$75	\$210	\$110	\$102
Fort Necessity NB	\$42	\$50	\$180	\$75	\$63
Gettysburg NMP	\$36	\$63	\$214	\$70	\$128
Grand Portage NM	\$30	\$52	\$180	\$80	\$36
Hagerman Fossil Beds NM	\$20	\$35	\$130	\$45	\$60
Jefferson Nat'l Expansion Mem.	\$40	\$75	\$180	\$100	\$87
Maggie L. Walker NHS	\$32	\$40	\$160	\$75	\$51
Mammoth Cave NP	\$42	\$50	\$180	\$75	\$116
Manassas NBP	\$26	\$43	\$165	\$75	\$49
Mount Ranier NP	\$33	\$43	\$200	\$40	\$64
Martin van Buren NHS	\$12	\$35	\$125	\$56	\$29
National Capital Parks, Wash. D.C.	\$55	\$75	\$210	\$110	\$138
Olympic NP	\$33	\$54	\$180	\$60	\$83
Pinnacles NM	\$36	\$52	\$170	\$110	\$75
Pipestone NM	\$26	\$40	\$155	\$102	\$92
Point Reyes NS	\$35	\$75	\$210	\$80	\$94
Prince William Forest Park	\$26	\$50	\$175	\$56	\$54
Richmond NBP	\$32	\$40	\$160	\$75	\$97
Roosevelt-Vanderbilt NHS	\$49	\$55	\$180	\$80	\$65
Scotts Bluff NM	\$26	\$50	\$140	\$70	\$67
Shenandoah NP	\$42	\$75	\$190	\$90	\$102
Valley Forge NHP	\$36	\$52	\$200	\$80	\$52
Washita NB	\$25	\$35	\$100	\$65	\$55
White Sands NM	\$26	\$35	\$135	\$65	\$65
Women's Rights NHP	\$30	\$50	\$140	\$65	\$53
<u>Yosemite NP</u>	<u>\$42</u>	<u>\$50</u>	<u>\$180</u>	<u>\$75</u>	<u>\$115</u>
Average	\$36	\$55	\$178	\$79	\$86
Minimum	\$12	\$35	\$100	\$40	\$29
Maximum	\$55	\$100	\$250	\$125	\$162

a. Visitor spending covers all spending by the travel party in the local area on a per night basis, including spending inside and outside the park.

Table 4. Multipliers by Park^a

Park unit	Direct effects				Total effects			
	Capture Rate	Personal Income	Jobs	Value Added	Sales	Personal Income	Jobs	Value Added
Acadia NP	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Antietam NB	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
BadlandsNP	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Big Bend NP	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Boston NHP	0.87	0.37	15.95	0.56	1.63	0.61	26.07	0.96
Cape Cod NS	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Delaware Water Gap NRA	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Eisenhower NHS	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Fire Island NS	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Fort Necessity NB	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Gettysburg NMP	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Grand Portage NM	0.80	0.33	25.52	0.50	1.20	0.44	33.91	0.71
Hagerman Fossil Beds NM	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Jefferson Nat'l Expansion Mem.	0.87	0.35	18.32	0.54	1.55	0.55	28.42	0.88
Maggie L. Walker NHS	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Mammoth Cave NP	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Manassas NBP	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Mount Ranier NP	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Martin van Buren NHS	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
National Capital Parks, Wash. D.C.	0.87	0.35	18.32	0.54	1.55	0.55	28.42	0.88
Olympic NP	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Pinnacles NM	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Pipestone NM	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Point Reyes NS	0.87	0.37	15.95	0.56	1.63	0.61	26.07	0.96
Prince William Forest Park	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Richmond NBP	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Roosevelt-Vanderbilt NHS	0.87	0.37	15.95	0.56	1.63	0.61	26.07	0.96
Scotts Bluff NM	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
Shenandoah NP	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Valley Forge NHP	0.87	0.37	15.95	0.56	1.63	0.61	26.07	0.96
Washita NB	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
White Sands NM	0.82	0.35	21.46	0.53	1.45	0.51	31.19	0.81
Women's Rights NHP	0.80	0.33	25.52	0.50	1.33	0.44	33.91	0.71
<u>Yosemite NP</u>	<u>0.80</u>	<u>0.33</u>	<u>25.52</u>	<u>0.50</u>	<u>1.33</u>	<u>0.44</u>	<u>33.91</u>	<u>0.71</u>
Average	0.82	0.34	22.54	0.52	1.42	0.49	31.70	0.78
Minimum	0.80	0.33	15.95	0.50	1.20	0.44	26.07	0.71
Maximum	0.87	0.37	25.52	0.56	1.63	0.61	33.91	0.96

a. Capture Rate is the portion of spending captured by the local economy = direct sales/visitor spending. Direct and total effect multipliers are relative to direct sales, job multipliers are per million dollars in direct sales; i.e. at Acadia NP there were 21.46 direct jobs and 31.19 total jobs per million dollars in direct sales. Total effect multipliers include direct, indirect and induced effects. For most parks, the multipliers are MGM2 “generic multipliers” for the region. In some cases, multipliers are derived from IMPLAN models for the specific area.

Table 5. Visit data by park ^a

Park Unit	Recreation visits	Overnight Stays in Park	Total Party nights	Rec visit/ party night
Acadia NP	2,469,238	146,472	803,874	3.07
Antietam NB	286,000	664	117,467	2.43
BadlandsNP	1,105,824	54,296	346,449	3.19
Big Bend NP	264,484	185,760	114,449	2.31
Boston NHP	3,392,074	-	398,003	8.52
Cape Cod NS	4,581,169	24,971	2,324,445	1.97
Delaware Water Gap NRA	4,900,745	87,841	908,680	5.39
Eisenhower NHS	76,921	-	43,218	1.78
Fire Island NS	600,333	48,809	252,749	2.38
Fort Necessity NB	93,860	-	39,878	2.35
Gettysburg NMP	1,542,184	28,578	545,191	2.83
Grand Portage NM	94,600	83	36,342	2.60
Hagerman Fossil Beds NM	13,600	-	5,284	2.57
Jefferson Nat'l Expansion Mem.	3,458,956	-	1,268,284	2.73
Maggie L. Walker NHS	9,514	-	3,205	2.97
Mammoth Cave NP	1,841,521	88,950	780,016	2.36
Manassas NBP	692,006	-	195,428	3.54
Mount Ranier NP	1,344,833	195,777	412,003	3.26
Martin van Buren NHS	18,000	-	9,000	2.00
National Capital Parks, Wash. D.C.	15,000,000	-	4,800,000	3.13
Olympic NP	3,327,722	405,686	966,142	3.44
Pinnacles NM	162,110	-	37,826	4.29
Pipestone NM	92,391	-	49,891	1.85
Point Reyes NS	2,351,124	34,361	929,205	2.53
Prince William Forest Park	176,061	63,717	88,617	1.99
Richmond NBP	239,273	-	127,849	1.87
Roosevelt-Vanderbilt NHS	620,000	-	221,429	2.80
Scotts Bluff NM	119,404	-	37,811	3.16
Shenandoah NP	1,419,579	284,167	596,635	2.38
Valley Forge NHP	1,354,434	3,500	447,447	3.03
Washita NB	11,000	-	5,775	1.90
White Sands NM	515,000	1,795	206,000	2.50
Women's Rights NHP	26,501	-	12,455	2.13
<u>Yosemite NP</u>	<u>3,400,903</u>	<u>1,632,743</u>	<u>2,486,898</u>	<u>1.37</u>
Average	1,635,334	96,711	576,998	2.84
Minimum	9,514	-	3,205	1.37
Maximum	15,000,000	1,632,743	4,800,000	8.52

a. Visit and overnight stay data from official NPS Public use data for 2000. Party nights estimated using conversion factors in Table 2.

Table 6. Economic Impacts by Park (\$000's)

Park Unit	Direct Effects ^a					Total Effects ^b			
	Total Spending	Sales ^c	Income ^d	Value Added ^e	Jobs ^f	Sales ^c	Income ^d	Value Added ^e	Jobs ^f
Acadia NP	\$130,293	\$106,877	\$37,257	\$56,542	2,293	\$155,324	\$54,797	\$86,859	3,333
Antietam NB	\$11,278	\$9,251	\$3,225	\$4,894	199	\$13,444	\$4,743	\$7,518	288
BadlandsNP	\$20,502	\$16,334	\$5,426	\$8,225	417	\$21,705	\$7,216	\$11,543	554
Big Bend NP	\$9,123	\$7,268	\$2,414	\$3,660	185	\$9,658	\$3,211	\$5,136	246
Boston NHP	\$55,426	\$47,970	\$17,699	\$27,006	765	\$78,413	\$29,036	\$45,940	1,250
Cape Cod NS	\$293,434	\$233,781	\$77,662	\$117,716	5,966	\$310,647	\$103,273	\$165,211	7,928
Delaware Water Gap NRA	\$99,036	\$78,903	\$26,211	\$39,730	2,014	\$104,845	\$34,855	\$55,760	2,676
Eisenhower NHS	\$6,305	\$5,172	\$1,803	\$2,736	111	\$7,517	\$2,652	\$4,203	161
Fire Island NS	\$25,845	\$21,200	\$7,390	\$11,215	455	\$30,810	\$10,869	\$17,229	661
Fort Necessity NB	\$2,504	\$1,995	\$663	\$1,004	51	\$2,650	\$881	\$1,410	68
Gettysburg NMP	\$69,876	\$57,318	\$19,981	\$30,323	1,230	\$83,300	\$29,388	\$46,582	1,788
Grand Portage NM	\$1,321	\$1,052	\$350	\$530	27	\$1,263	\$465	\$744	36
Hagerman Fossil Beds NM	\$315	\$251	\$83	\$126	6	\$334	\$111	\$177	9
Jefferson Nat'l Expansion Mem.	\$109,822	\$95,047	\$33,592	\$51,300	1,741	\$147,432	\$52,652	\$83,786	2,701
Maggie L. Walker NHS	\$162	\$133	\$46	\$71	3	\$194	\$68	\$108	4
Mammoth Cave NP	\$90,854	\$72,384	\$24,046	\$36,448	1,847	\$96,183	\$31,976	\$51,153	2,455
Manassas NBP	\$9,666	\$7,701	\$2,558	\$3,878	197	\$10,233	\$3,402	\$5,442	261
Mount Ranier NP	\$26,513	\$21,123	\$7,017	\$10,636	539	\$28,068	\$9,331	\$14,927	716
Martin van Buren NHS	\$265	\$211	\$70	\$106	5	\$280	\$93	\$149	7
National Capital Parks, Wash. D.C.	\$660,000	\$571,209	\$201,879	\$308,301	10,464	\$886,028	\$316,422	\$503,530	16,231
Olympic NP	\$80,454	\$65,995	\$23,006	\$34,914	1,416	\$95,911	\$33,836	\$53,634	2,058
Pinnacles NM	\$2,832	\$2,256	\$749	\$1,136	58	\$2,998	\$997	\$1,594	76
Pipestone NM	\$4,610	\$3,782	\$1,318	\$2,001	81	\$5,496	\$1,939	\$3,073	118
Point Reyes NS	\$86,883	\$75,194	\$27,743	\$42,333	1,199	\$122,914	\$45,515	\$72,012	1,960
Prince William Forest Park	\$4,778	\$3,919	\$1,366	\$2,073	84	\$5,696	\$2,009	\$3,185	122
Richmond NBP	\$12,415	\$10,184	\$3,550	\$5,388	219	\$14,801	\$5,222	\$8,277	318
Roosevelt-Vanderbilt NHS	\$14,446	\$12,503	\$4,613	\$7,039	199	\$20,437	\$7,568	\$11,973	326
Scotts Bluff NM	\$2,523	\$2,010	\$668	\$1,012	51	\$2,671	\$888	\$1,421	68
Shenandoah NP	\$60,949	\$49,995	\$17,428	\$26,449	1,073	\$72,658	\$25,633	\$40,631	1,559
Valley Forge NHP	\$23,219	\$20,095	\$7,414	\$11,313	320	\$32,848	\$12,164	\$19,245	524
Washita NB	\$318	\$253	\$84	\$127	6	\$336	\$112	\$179	9
White Sands NM	\$13,375	\$10,971	\$3,825	\$5,804	235	\$15,945	\$5,625	\$8,916	342
Women's Rights NHP	\$666	\$530	\$176	\$267	14	\$705	\$234	\$375	18
<u>Yosemite NP</u>	<u>\$286,247</u>	<u>\$228,055</u>	<u>\$75,760</u>	<u>\$114,833</u>	<u>5,820</u>	<u>\$303,038</u>	<u>\$100,744</u>	<u>\$161,164</u>	<u>7,734</u>
Average	\$65,184	\$54,145	\$18,737	\$28,504	1,156	\$78,964	\$27,586	\$43,914	1,665

a. Direct effects are sales, income, and jobs in businesses selling directly to park visitors.

b. Total effects include direct, indirect and induced effects within the local region.

c. Direct sales are less than visitor spending as only the retail margins on most goods purchased by visitors accrue to the local economy.

d. Income reported is personal income, which includes wages and salaries and payroll benefits.

e. Value added includes personal income, profits and rents and indirect business taxes.

f. Jobs are not full time equivalents, but include both full and part time jobs.

Table 7. Selected impact ratios

Park	Spending		Direct sales		Total sales	
	per recreation visit	per party night	per recreation visit	per party night	per recreation visit	per party night
Acadia NP	53	162	43	133	63	193
Antietam NB	39	96	32	79	47	114
BadlandsNP	19	59	15	47	20	63
Big Bend NP	34	80	27	64	37	84
Boston NHP	16	139	14	121	23	197
Cape Cod NS	64	126	51	101	68	134
Delaware Water Gap NRA	20	109	16	87	21	115
Eisenhower NHS	82	146	67	120	98	174
Fire Island NS	43	102	35	84	51	122
Fort Necessity NB	27	63	21	50	28	66
Gettysburg NMP	45	128	37	105	54	153
Grand Portage NM	14	36	11	29	13	35
Hagerman Fossil Beds NM	23	60	18	48	25	63
Jefferson Nat'l Expansion Mem.	32	87	27	75	43	116
Maggie L. Walker NHS	17	51	14	42	20	60
Mammoth Cave NP	49	116	39	93	52	123
Manassas NBP	14	49	11	39	15	52
Mount Ranier NP	20	64	16	51	21	68
Martin van Buren NHS	15	29	12	23	16	31
National Capital Parks, Wash. D.C.	44	138	38	119	59	185
Olympic NP	24	83	20	68	29	99
Pinnacles NM	17	75	14	60	18	79
Pipestone NM	50	92	41	76	59	110
Point Reyes NS	37	94	32	81	52	132
Prince William Forest Park	27	54	22	44	32	64
Richmond NBP	52	97	43	80	62	116
Roosevelt-Vanderbilt NHS	23	65	20	56	33	92
Scotts Bluff NM	21	67	17	53	22	71
Shenandoah NP	43	102	35	84	51	122
Valley Forge NHP	17	52	15	45	24	73
Washita NB	29	55	23	44	31	58
White Sands NM	26	65	21	53	31	77
Women's Rights NHP	25	53	20	43	27	57
<u>Yosemite NP</u>	<u>84</u>	<u>115</u>	<u>67</u>	<u>92</u>	<u>89</u>	<u>122</u>
Average	34	86	28	70	39	101

References

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- Stynes, D.J., Propst, D.B., Chang, W.H., and Sun, Y. 2000. Estimating regional economic impacts of park visitor spending: Money Generation Model Version 2 (MGM2). East Lansing, MI: Department of Park, Recreation and Tourism Resources, Michigan State University. Available on WWW at <http://www.prr.msu.edu/mgm2/>.
- Travel Industry Assoc. of America. 2001. Impact of Travel on State Economies. TIA: Washington D.C.

Appendix A

Information Sent to NPS Units to Gather Input Data for MGM2 Shortform Model

ANNOUNCING THE NEW MONEY GENERATION MODEL (MGM2) AND OPPORTUNITY TO OBTAIN AN ECONOMIC IMPACT ANALYSIS FOR YOUR PARK.

New Model

Michigan State University has developed an updated version of the Money Generation Model for estimating the local economic impacts of park visitor spending. Information about the MGM2 model and economic impact analysis more generally, are available at our website : <http://www.prr.msu.edu/mgm2/>. A brochure at the site explains the features of MGM2.

Parks can run the MGM2 model in-house by downloading manuals and software from this site. MGM2 is available in a paper and pencil version, an Excel Short-form version and a full featured Excel spreadsheet (MGM2). The full featured version can be customized to a particular park by importing detailed visitor spending data and economic multipliers for a local area. This version can be used to evaluate specific management alternatives as well as providing more detailed estimates of the economic impacts of all park visitors in a given year. There is also a companion spreadsheet to estimate impacts of park operations and construction (MGM2operate) .

How Can I Get Help in Running the Model?

This year we are helping parks to apply the MGM2 model. Parks that complete a short questionnaire with the input data that we need to run the model will receive a report with the results for your park, usually within a month of receiving the data.

To participate in this program, please complete the attached form and send or FAX it to us by October 1, 2001 at the latest. We will process these forms as they are received. If you have any questions, please don't hesitate to contact us (e-mail preferred). Contact information is included at the end of this e-mail, in the attachments and at the MGM2 website.

Steps to Obtain an MGM2 report for you park:

1. Open the attached WORD document and print the short questionnaire and instructions.
2. Complete the questionnaire using local data you may have about your park visitors and/or your best judgment where necessary.
- 3 FAX (or mail) the completed two page form to us.

We will estimate the local economic impacts of your park visitors and send back a short report. Unless you prefer us to mail a hard copy, we will return the report via e-mail as an attachment (Word document or Acrobat PDF file). Please provide a contact person at the park in case we have questions about any of the information that you provide. Results will be sent to this person.

4. ON-LINE OPTION - If you prefer to submit the information on-line, we have a fill-in form at the MGM2 website.

Contact Information:

Daniel Stynes
Dept. of Park, Recreation & Tourism Resources
Michigan State University
East Lansing, MI 48824-1222

E-mail : Stynes@msu.edu
FAX: 517-432-3597
Phone: 517-353-5190, ext 109
MGM2 website: <http://www.prr.msu.edu/mgm2/>

DATA FOR MGM2 ANALYSIS OF ECONOMIC IMPACTS

1. Park Name: _____

2. Contact Person

Name _____ Phone _____

e-mail _____ FAX _____

3. Park Visit data for 2000

3a. Total Recreation Visits _____

3b. Total Overnight Stays _____

Lodges _____

Dev. Campground _____

Backcountry _____

4. Estimate the percentage of recreation visits by each of the following subgroups:

_____ a. Local residents - residents of the local region around the park

_____ b. Day trips - visitors from outside the local region who do not stay overnight the area

_____ c. Motel - visitors staying in motels, lodges, cabins, B&B's in the area, either inside or outside the park

_____ d. Camp - visitors staying overnight in campgrounds in the area, inside or outside the park

5. Visit Conversion Factors by Segment - used to convert visits to party nights in the area

*Enter length of stay in days for visitors on day trips, in nights for visitors staying overnight in the area.
Party size = people per vehicle entering the park. Park entries is the number of times a vehicle will enter the park during their stay in the area on this trip.*

	Local Residents	Visitors from outside the local area		
		Day Trips	Motel	Camp
Length of stay in area	1.0	1.0		
Average party size				
Park entries per trip				

6. Spending averages for these segments : *(\$ per party per day/night - include all spending except the admission fee to the park. See attached tables for "typical values")*

Local Residents	_____	(\$ per day - Range \$26-\$55)
Day Trips	_____	(\$ per day - Range \$35-\$75)
Motel	_____	(\$ per night - Range \$125-\$210)
Camp	_____	(\$ per night - Range \$56-\$110)

7. Area Motel and Camping rates (\$ per night)

	In Park (if applicable)	Outside Park
Average Motel room rate:	_____	_____
Average Campsite rate	_____	_____

8. Local Region Around the Park

Radius for the local region	_____	(Range: 30- 100 miles)
Population of the local region	_____	

9. Comments: add any comments you wish to explain any of your responses or clarify any special conditions at the park that we should be aware of.

Return this form to Daniel Stynes by FAX, mail or e-mail attachment.

MAIL: 131 Natural Resources Bldg, East Lansing Michigan 48824-1222;

FAX: 517-432-3597,

E-mail : Stynes@msu.edu

Also available as an on-line fill-in form at : <http://www.prr.msu.edu/mgm2/>

INSTRUCTIONS FOR MGM2 INPUT FORM

Please complete all sections. In some cases you may need to use some judgment, but make your best guess, if necessary. You may provide comments at the end or write them next to a given entry.

1. Park name

2. Contact Person - This is the person with whom we will communicate if we have questions about the data. Results will be sent to this person. Unless requested otherwise, we will send results via e-mail as attachments. The report will be a Word document and spreadsheet in Excel format.

3. Park Visit Data - Visit data should come directly from the Public Use Report annual totals for 2000. You may include group camps with Developed camping.

4. Visitor Segments : Enter the percentages of recreation visits from each of the 4 segments:

Local residents are people who live in the local region (30-100 mile radius of the park). Treat visitors who have seasonal homes in the area as local residents.

Day trips are visitors from outside the local area who do not stay overnight in the region. These may be people on extended trips who stop at the park en route to other destinations. For the purposes of estimating spending and impacts, you may also want to treat overnight visitors whose primary reason for visiting the area is not to visit the park, as if they are day visitors. For example, visitors who come to the area for reasons other than visiting the park. By classifying them as day visitors, the park would only claim credit for the spending equivalent of a day trip rather than all expenses on possibly an extended stay in the area for business, visiting friends and relatives, etc.

Motel : visitors staying overnight in the area in lodges, motels, cabins, B&B's either inside or outside the park. These should be visitors whose primary reason for traveling to the area was to visit the park. If not, treat them as if a day trip.

Camp : visitors staying in campgrounds inside or outside the park

Percentages should sum to 100%. Note that motel and camp segments include visitors staying in NPS facilities and concessions as well as outside the park in the local area. You may ignore backcountry visitors in estimating these percentages. Percentages are of recreation visits, which are entries to the park.

5. Visit Conversion Factors. For each segment with some visitors reported, estimate:

- a) the average party size (persons per vehicle, ignore buses and group tours)
- b) length of stay in the local area - in days for day trips, nights for motel and camp segments. Note that this is time spent in the area, not just time inside the park.

- c) number of park entries during their stay in the area. How many times does a typical vehicle enter the park during their stay in the area? Campers inside the park may go in and out several times during their stay and groups staying outside the park in motels or campgrounds may also enter the park several times. The figures here should reflect how many times the group will be counted as a park visitor during their stay.

Some guesstimating may be needed here, but give us your best estimates. If you have conducted a recent park visitor survey, you may be able to estimate some of these parameters from the survey. Local tourism organizations may also have estimates of length of stay and party size for visitor to the area. See Table 1 for defaults that are based on general travel surveys and studies at several parks, but be aware these parameters can vary quite a bit from park to park and by segment.

6. Spending averages

Estimate average spending in the area on a per party per day basis for day trips and a per party per night basis for overnight visitors. Exclude the park admission/entrance fee, but do include camping fees and other purchases inside the park as well as all purchases outside the park within the local area. If you wish you may inspect the MGM2 default spending figures for 2000 in the attached tables.

Average room and campsite rate should reflect peak and off-season rates, and various discounts that may be available. We want what a typical party actually pays for a room or campsite. This should include any room taxes that apply, e.g. if the posted room rate is \$60 and local room tax is 10% enter \$66 as the room rate.

7. Local economy

We want a general idea of the size of the local population as an indicator of the local economy.

First identify the size of the region for which impacts are desired. This will normally be roughly a 30-100 mile radius of the park that includes major gateway communities and routes where visitors might stay overnight when visiting the park. Parks in more developed regions should choose a radius of 30-60 miles, while parks in more remote settings may require a radius of up to 100 miles to include principal gateway communities.

Population estimates may be taken from 2000 Census data or local regional plans. Very rough estimates are adequate for us to estimate local multipliers.

Suggested Default Values for Conversion and Spending Figures

Tables below report some suggested default values of spending, and visit conversion parameters for National Parks. Every park is somewhat unique, so the figures for your park may deviate from these averages. A few parks may experience spending above our "high" figures or below our "low" figures, but the indicated ranges should encompass most parks. Consult any local visitor surveys or judgment of park staff to come up with figures that will best represent your visitors. If you do not provide any local information we will use these defaults.

Table 1. Suggested Default Values

	Local Day Trip	Non-Local Day Trip	Motel	Camp
Default Conversion Factors				
Party size	2.5	2.5	3.0	3.0
Length of stay	1.0	1.0	3.0	3.0
Entries per trip	1.0	1.0	2.0	2.0
Default Spending Averages (\$ per party per day/night)				
Low	\$26	\$35	\$125	\$56
Medium	\$36	\$52	170	\$80
High	\$55	\$75	\$210	\$110

Table 2 gives more complete spending profiles for the "medium" level of spending above. Spending is on a party night basis (party day for the day user segments), covering all spending by the group in the local area. If you wish you may adjust individual items in Table 2 to come up with a total for your park. For example, the motel segment below averages \$80 a night for their room, spends \$38 per night on restaurant meals (that's about \$12 per person per day for a party of 3), and \$8 per night on gas and oil (that's \$24 for a three night stay in the area).

Table 2. Detailed Spending Patterns for Medium Level of Spending

CATEGORY	Local Day Trips	Non-Local Day Trips	Motel	Camp
Motel, hotel cabin or B&B	0.00	0.00	80.00	0.00
Camping fees	0.00	0.00	0.00	18.00
Restaurants & bars	12.00	16.00	38.00	12.00
Groceries, take-out food/drinks	6.00	6.00	10.00	13.00
Gas & oil	5.00	12.00	9.00	9.00
Local Transp & other vehicle expenses	0.50	1.00	2.00	2.00
Admissions & fees	4.00	7.00	12.00	7.00
Clothing	1.00	2.00	6.00	5.00
Sporting goods	1.00	1.00	1.00	2.00
<u>Souvenirs and other expenses</u>	<u>6.50</u>	<u>7.00</u>	<u>12.00</u>	<u>12.00</u>
Total	36.00	52.00	170.00	80.00

Further guidance on estimating spending patterns is available in Appendix D of MGM2 Manual (see download section of MGM2 website).

Appendix B

Results for 34 MGM2 Applications

The complete MGM2 Shortform spreadsheets as well as both input data and results for each park are also available at the MGM2 Website -- <http://www.prr.msu.edu/mgm2/>