



# Economic Impacts of Local Park Visitor Spending on Local Communities: A Case of Mississippi Parks

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**Abstract:** Local parks serve not only as recreational venues but are often an engine of communities' economic development. Economic impact analyses provide tangible estimates of economic interdependencies and a better understanding of who benefits from and pays for tourism. Accordingly, this study quantified the economic impacts of visitor expenditures at local parks in Mississippi operated by the Pat Harrison Waterway District (PHWD). Both intercept and online survey methods were employed to collect visitor data from eight parks, and the data were analyzed with the IMPLAN software package to determine economic impacts attributable to visitor spending. On average, per visitor spending at the PHWD parks was \$126.28. Visitors' total local purchasing in the PHWD areas was estimated to be approximately \$5.1 million annually. Visitor spending in the PHWD areas was expected to generate: \$4.4 million of output, representing revenue plus certain taxes; 68.48 jobs with \$1.4 million of labor income; \$2.9 million of value added to the gross regional product. The results indicated that visitor expenditures are a significant economic stimulus in a region. In particular, the dollars spent on recreational equipment and supplies, followed by campgrounds and groceries, provided a strong boost to the local economy. The implications of the study are also addressed on the basis of the results.

**Keywords:** Local Park, Visitor Expenditure, Economic Impact

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## 1. Introduction

More than 10,000 parks and recreation agencies in the United States help their communities in various ways. It is no secret that parks are important economic drivers as well as areas that serve the function of environmental protection [24]. These parks are managed at the national, state, or local level. Among these, local parks are maintained by local government entities below the state level. Local parks provide both residents and outside visitors with access to multiple recreational opportunities. Mowen et al. reported that seven in ten Americans visit local parks on a regular basis, and 92% stated that local parks help their communities [22]. More importantly, it is critical that the additional money, particularly from outside the community, provides income and jobs for the residents [6]. Determining local parks' positive impact on regions and communities attributable to visitor spending is critical to the success of park management and helps gain local and state stakeholder approval and

acceptance for continuous funding [24].

Despite the importance of visitor spending in local parks and the economic impact on nearby gateway communities, their economic impact has not been of comparable interest among researchers. At most, much of the research on parks has been devoted to investigating the economic advantages that national or state parks provide to neighboring towns. For example, economic impact assessments have been conducted for national parks (e.g., Great Smoky Mountains, Grand Canyon, Rocky Mountain, and Yellowstone), renowned as tourist meccas [28, 31]. In addition, annual visitors to state parks generate a significant number of economic activities every year [12, 19]. However, the number of studies that has reported local parks' economic impact remains limited.

Gauging economic impact is critical because the information can contribute to local development plans and

policies and promote towns' tourism attractions. Bailey and Hungenberg pointed out that the expenditures of out-of-town visitors to local communities generate income and employment for locals [1]. Therefore, the policies that are implemented can help attract outside visitors [7]. In addition, previous studies have focused on how the recreational activities parks offer raise community living standards and influence visitor behavior and attitudes [23, 26]. Thus, the purpose of this study was to estimate the economic impacts of visitors' spending at local parks on surrounding communities. Specifically, a survey and input-output model were used to assess the economic impacts of visitor spending at parks operated by PHWD in the state of Mississippi.

This study is believed to be the first attempt to assess the economic impact in a sample of local parks. In particular, visitor numbers, the amount of visitor spending, and the economic impact of expenditures were examined. The findings from this study will be applicable to park planning and management of natural resources and will serve as an important indicator in marketing and management decisions.

## 2. Literature Review

### 2.1. The Role of Local Parks

Local parks are critical, as they provide the local community with a variety of social, environmental, and economic advantages [4, 5, 10]. For example, spending time in nature has been associated with measurable health benefits, both physical and mental, including reduction in attentional fatigue, obesity, and increased happiness [2, 14, 27]. Roles of local parks include environmental benefits that extend beyond air and water quality, hazard mitigation, and aesthetics in the local areas [25]. For example, each park provides natural habitats for wildlife. Moreover, green spaces that parks provide foster a sense of community via place identity and attachment [18].

The impact of local park and recreation spending on the national economy is enormous. For example, United States local park agencies generated approximately \$166.4 billion in economic activity and supported nearly 1.1 million jobs from their operations as well as capital spending in 2017 alone [24]. Park visitors' spending provides added value to the general economy because it is related to many other industries in the region in which spending occurs. It is noteworthy that visitor expenditure figures represent only a portion of parks' actual value to relevant businesses and the regional economy.

Unlike national or state parks that are popular with the public despite the fact that their locations are relatively remote, residents are most likely to visit local parks because they are easy to access [11]. Most outsiders may not know of local parks in the areas they are visiting or may simply not find those types of parks appealing. However, local parks play a unique role in community growth and contribute to the lives of residents by offering recreational spaces and opportunities [27].

### 2.2. The Economic Impact of Park Services

Economic impacts can be considered according to: 1) business output (sales volume); 2) value-added (gross regional product); 3) wealth (including property sales); 4) personal income (including wages), or 5) jobs. Any of these measures can indicate improvement in area residents' economic wellbeing [35]. A primary objective of an economic impact study of park services is to quantify how much outside money comes in to local communities through park services. As a consequence, a municipality may use the findings of an economic impact study to calculate the anticipated return on investment from local citizens' taxes through a fiscal analysis [7].

The results of these impact studies have indicated clearly that park services can generate considerable benefits to local communities. For example, Job found that tourism in national parks had a significant positive impact on regional development in a structurally-depressed rural area [13]. The results of the economic influence of the Karoo National Park in South Africa showed that the park contributes to regional employment, output, and overall revenue [29]. Mayer et al.'s more recent study estimated that direct and indirect revenue account for between 49 and 51 percent of total tourist spending [20].

State parks also provide economic advantages to surrounding communities. For example, tourism businesses, such as restaurants and gas stations, profit from an influx of visitors to state parks in Virginia [19]. Jeong and Crompton reported that a state park provided over 50 employment opportunities and more than \$1.3 million in income to the local community [12]. In addition, the presence of state park facilities is likely to increase the value of neighboring residential properties [17]. To date, local parks have not been a major focus among researchers. Measuring the impact that parks in a region contribute to the regional economy would therefore help management agencies and stakeholders understand tourism's relative importance to their region, including its contribution to economic activity in the area.

It is important to note that the money park visitors spend on their trips generates income for local economies. More precisely, parks such as the PHWD parks contribute to the regional economy through direct, indirect, and induced effects. Direct effects occur when park visitors stay in a hotel or campsite, dine in restaurants, shop for groceries and souvenirs, and engage in various other activities, while indirect effects occur when businesses buy additional goods and services in response to rising visitor demand [9]. Some of the money businesses earn from visitors is used to pay employees, owners, and suppliers. In turn, visitors spend their earnings in the community, which promotes the local economy through an induced effect. Moreover, there is an opportunity to optimize such effects through additional indirect and induced effects that take place when, for example, suppliers of local hotels and restaurants purchase goods and services for their firms [8]. These purchases drive further activity, which creates ancillary economic effects.



obtained throughout the months of June and July 2018. The final sample count was 286 after filter checks that identified responses given by in-town visitors (n = 127).

**3.4. Data Analysis**

Economic impact analyses trace the flows of spending and associated economic activities. To estimate the economic impact of the PHWD parks attributable to visitor spending, the Impact Analysis for Planning (IMPLAN) input/output model was employed in data analysis. IMPLAN is a platform for quantifying economic impacts that is used frequently by businesses and industries, including the tourism industry [3]. Tourism’s economic impacts are typically estimated with some variation of the following formula: economic impact of tourism = number of visitors × average spending per visitor × multiplier. As baseline data, the number of visitors included survey participants and any of their immediate individuals (e.g., family or close friends) during the course of their visit to the park. Average spending per tourist was calculated based on the survey data. Visitor spending estimates were derived by multiplying the mean spending per person by the estimated number of visitors. Reasonably-accurate measures of economic impact depend upon reasonably-accurate counts of visitors because the impact estimates are derived by extrapolating from a sample to a total visitation count. Attendance counts were obtained from the PHWD office.

A multiplier was used in the model to quantify the total impact of tourism according to Wanhill, and the multiplier effect estimated the amount of direct, indirect, and induced effects [34]. Specifically, the direct economic effect was determined by the total number of visitors to the parks together with the number of days each visitor stayed in the community and the amount each visitor spent daily. The direct effect was later compared to a multiplier to determine the compound additional spending, referred to as the indirect economic effect [21]. The indirect economic effect was considered to be additional jobs and payroll created or supported in the surrounding economy as a result of the purchase of inputs from lodging, dining, shopping, etc. Further, an induced or inherent economic effect was comprised of changes in economic activity that result from

household spending of income earned directly or indirectly as a result of visitor spending.

**4. Results**

The results are divided into two sections: survey results and economic impact analysis. It is worth noting that the parks’ economic contribution was determined solely by visitor spending in the eight parks and the size of the visiting group.

**4.1. Survey Results**

The results showed that there were 286 visitor groups to all eight parks, comprising a total of 1,980 visitors and averaging 6.92 visitors per group. Over 60% of the respondent groups were female (n = 174), while 38% were male (n = 107). Married respondents made up 217 groups (77%) and 60 (21%) reported being single. Eighty-six respondent groups (30.6%) were 56 years old and over; 77 (27.4%) were 46 to 55, and 75 (26.7%) were 36 to 45. Comparatively fewer younger visitors visited the parks; 31 (11%) ranged from 26 to 35 years of age and 12 (4.3%) from 18 to 25 years old. Of the total respondent groups, 22.1% (n = 58) had an annual household income between \$30,000 and \$49,999, followed by 20.9% (n = 55) between \$50,000 and \$74,999 and 20.5% (n = 54) between \$100,000 and \$149,999. Approximately 13% (n = 36) had an income range between \$75,000 and \$99,999. There were 32 respondents (12.2%) who reported an income of less than \$30,000.

Overnight visitors are those who stayed at least one night in a campground using a recreational vehicle or other vehicles, or in a cabin, while day-trippers were visitors who came to the park and left the same day. Overnight stays (n = 225, 83%) appeared to be preferable to day trips (n = 47, 17%). Specifically, the results indicate how many nights the overnight respondents stayed in the parks. Most guests stayed two nights (n = 88, 39%), however, some guests stayed three nights (n = 56, 25%), and five nights (n = 25, 11.1%). 45% of respondents visited the park with their family only (n = 128), and 35% visited with family and friends (n = 99). The data showed that two and four companions were the most common group sizes (n = 47).

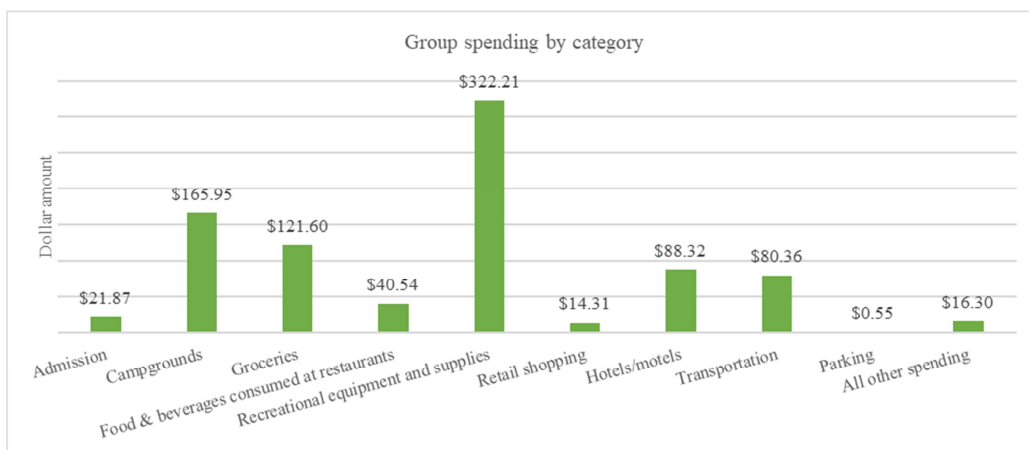


Figure 2. Group spending by category.

According to Stynes, major spending categories for travels are lodging, food and beverages, transportation, and other expenses (such as recreation and entertainment fees, sporting goods, clothing, etc.) [30]. With special attention given to the “park” circumstances in which onsite accommodations are available, expenditures on lodging were divided between campgrounds and hotels/motels. Figure 2 describes a group’s (not an individual visitor) average expenditures by category. On average, a group invested the greatest amount of money in recreational equipment and supplies (\$322.21). Campgrounds were the second largest spent category at \$165.95. Groceries also were an important item on which visitors spent their money (\$121.60). The lowest amount spent was for parking at \$0.55. This category refers to the amount spent during the course of a visit anywhere other than the PHWD parks, which was largely at other attractions.

As for the average spending by state of residence, in-state visitors spent more for recreational equipment (\$402.20) and food and beverages (\$44.87) than out-of-state visitors did at \$223.48 and \$35.20, respectively. However, out-of-state visitors spent more on campgrounds (\$200.63) and groceries (\$137.95) than did Mississippi visitors (\$137.86 and \$108.36, respectively). Overall, both types of visitors spent the greatest amounts of money on recreational equipment and supplies.

#### 4.2. Economic Impact Analysis

Study results indicate that a total of 61,978 people annually visit the eight parks that PHWD operates. The total spending for each category was determined by multiplying the mean spending per person by the total number of annual

visitors. As shown in Table 1, the admission price sector experienced \$195,231 in economic activity generated directly by tourists. Tourists generated additional economic activity through accommodations, such as campgrounds (\$1,488,712) and hotels and motels (\$760,839). The grocery shopping and leisure shopping sectors earned \$1,095,771 and \$2,888,175 in revenues, respectively. The food and beverage sector generated \$367,530 in revenue. This included money spent at restaurants that generally offer limited service, such as fast food or fast casual restaurants and eateries with take out or delivery. Further, the retail shopping sector experienced \$128,294 in sales generated by tourists’ souvenir purchases. The sectors of transportation and parking earned \$720,804 and \$4,958 in revenues, respectively. Transportation represents the expenses for gas or public transportation, while parking fees are generated when tourists use their own cars or rental vehicles to park at other tourist attractions. Lastly, \$146,268 was spent on other categories that were not associated with the major categories measured.

In tourism, tourist spending on products and services leaks out of the travel destination’s economy. This implies that some proportion of visitor expenditures does not contribute to the local economy [16]. As a result of such leakage, only 65% of the total estimated tourist spending remains as the final earnings in a local region. This number is used to measure the true economic impact of visitor spending, according to Stynes’ guidelines [31]. Visitors’ total local expenditures in the PHWD areas were estimated to be approximately \$5.1 million per year. Table 1 summarizes per-person spending and total spending per category.

Table 1. Per visitor spending by category.

| NAICS Code | Description                              | Per Visitor | Total       | Local            |
|------------|--|-------------|-------------|------------------|
|            |  | Spending    | Spending    | Purchasing (65%) |
| 713110     | Admission                                | \$3.15      | \$195,231   | \$126,900        |
| 721211     | Campgrounds                              | \$24.02     | \$1,488,712 | \$967,663        |
| 445110     | Groceries                                | \$17.68     | \$1,095,771 | \$712,251        |
| 722513     | Food & Beverages Consumed at Restaurants | \$5.93      | \$367,530   | \$238,894        |
| 451110     | Recreational Equipment & Supplies        | \$46.60     | \$2,888,175 | \$1,877,314      |
| 453220     | Retail Shopping                          | \$2.07      | \$128,294   | \$83,391         |
| 721110     | Hotels/Motels                            | \$12.76     | \$790,839   | \$514,046        |
| 447190     | Transportation                           | \$11.63     | \$720,804   | \$486,523        |
| 812930     | Parking                                  | \$0.08      | \$4,958     | \$3,223          |
| 812990     | All Other Spending                       | \$2.36      | \$146,268   | \$95,074         |
| Total      |  | \$126.28    | \$7,826,582 | \$5,087,278      |

Table 2. Overall economic impact of visitor spending on PHWD parks.

| Impact Type     | Employment | Labor Income   | Value Added    | Output         |
|-----------------|------------|----------------|----------------|----------------|
| Direct Effect   | 56.23      | \$1,096,412.80 | \$1,598,056.25 | \$2,971,433.76 |
| Indirect Effect | 6.20       | \$205,523.20   | \$378,433.17   | \$764,379.51   |
| Induced Effect  | 6.04       | \$196,911.06   | \$399,146.01   | \$733,898.97   |
| Total Effect    | 68.48      | \$1,498,847.06 | \$2,375,635.43 | \$4,469,709.24 |

Table 2 summarizes the overall economic effect attributable to PHWD’s visitor spending. Each direct, indirect, and induced effect impacts the local regions in various ways: 1) employment measured as the number of full-year, full-time jobs that visitors support; 2) labor income, which

represents added income for current employees; 3) value-added, which is the true profit after accounting for employment, taxes, and other everyday business expenses; and 4) output, indicating total sales and revenue overall acquired from visitors. Overall, the total employment impact,

including direct, indirect, and induced job growth, was estimated to be 68.48 jobs. With respect to the direct effect, PHWD was expected to generate approximately \$2.9 million in output (representing revenue plus taxes), which will support 56.23 jobs.

PHWD was estimated to create 6.20 indirect jobs as well as 6.04 induced jobs. As for labor income, the local labor force may generate \$1,096,412.80 in direct effects, \$205,523.20 in indirect effects, and \$196,911.06 in induced effects. Overall, the total effect of labor income was estimated to be \$1,498,847.06. With respect to the value-added breakdown that the PHWD parks provide the local economy, the amounts were estimated as \$1,598,056.25 in direct effects, \$378,433.17 in indirect effects, and \$399,146.01 in induced effects. The total value-added effect was estimated as \$2,375,635.43. The output was driven by factors that include state government spending, consumption in the local economy, and exports of the industries in the region. As illustrated in Table 2, the PHWD parks were estimated to generate \$2,971,433.76 in direct effects, \$764,379.51 in indirect effects, and \$733,898.97 in induced effects. Overall, the total economic effect was estimated to be \$4,469,709.24.

## 5. Conclusion

Compared to large-scale tourist attractions, there is a paucity of studies on small-scale sites, such as regional and local parks or events [15]. Because of the scarcity of such research, the results from this analysis will help regional and local parks such as PHWD understand their importance to local economies and communities and their role as a cornerstone of future economic growth and business success.

Overall, the greatest economic benefit found in the study derived from the monies spent on recreational equipment and supplies, followed by campgrounds and groceries. This is because the PHWD parks often accommodate recreational vehicles and trailers, as well as tents for overnight visitors. Further, the parks offer visitors a wide range of activities to enjoy during their stay, particularly watersports, such as swimming, fishing, jet skiing, and canoeing.

It is important to note that while local restaurants and lodging businesses appear to benefit significantly from substantial visitor expenditures, the multipliers are relatively small, and hence the parks' total economic impact represents a relatively small percentage of economic activities in their corresponding regions. The magnitude of the economic impact depends upon characteristics of both the parks (number of days) and the local economy (other attractions and linkages).

Visitors often shop at local grocers for picnic and barbecue supplies. These categories of activities in which visitors participate partially explain the expenditures. The study found that the PHWD parks accounted for \$7,795,750 in total expenditures from out-of-town visitors and \$4,469,709.24 in local earnings. The amount that visitors spent within the parks created direct, indirect, and induced effects within the

local economy. Specifically, the total sales and revenue from visitors' overall spending was estimated by the model to be \$2,971,433.76, \$764,379.51, and \$733,898.97 in direct, indirect and induced effects, respectively.

These findings offer additional insight and information for the tourism industry, government officials, and local communities. When PHWD parks or other tourism businesses or communities are exploring ways to promote their tourism, these figures can help decision makers address a given challenge, respond to a development proposal, or formulate policy for the years ahead [7]. The results of this study may serve as indicators of regional and local parks' economic impact on regions and communities of comparable size. Policymakers and elected officials at all levels of government should take note of the economic impacts of parks on their jurisdictions.

Investments made in regional and local parks not only raise the standard of living in nearby neighborhoods, towns and cities, but also elicit activities that can ripple throughout the economy [24, 33]. Therefore, the potential benefits of future investments can be discussed among stakeholders during park planning and management. For example, they might consider building or maintaining facilities within the parks or offering more convenience by adding stores, accommodations, restaurants, and other services that visitors would appreciate.

This study has limitations that need to be highlighted. First, the accuracy of spending data rests on a common understanding between the subject and the researcher with respect to what spending should be reported and the subject's ability to recall the amounts spent accurately. Thus, their inaccurate memory may potentially bias spending estimates and result in measurement error. Future research that includes surveys of local businesses may address the issues raised in this study and allow for more accurate estimates of the actual value of visitor spending.

IMPLAN multipliers reflect industry linkages in a local economy at a given time. The program does not account for price elasticities, changes in consumer or industry behavior based on a direct effect, and so on. Thus, future researchers may utilize an economic simulation model to more accurately predict economic effects of local parks based on future business changes and population variations, since such models can track the overall impact of changing economic circumstances in a study region over time [35].

According to the survey results, several visitors actually stayed at the local park for an extended period, up to one year. Their spending behavior may be more akin to that of local residents than that of typical tourists, even if they are tourists (out-of-town visitors) based on their residency status. For example, visitors are likely to visit other attractions in the park area or do something else during their stay in the park [7]. Thus, their overall spending may not reflect true economic impacts. Future studies determining how much of visitors' expenditures are located outside of the local community will be important for gauging the actual economic impacts of parks.



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