
2002 State Economic Impacts of Missouri State Park Visitors

Project Completion Report

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**Missouri Department of Natural Resources
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SUMMARY OF RESULTS

- **Total Visitor Expenditures:** In 2002, visitors spent a total of \$410 million on trips to Missouri State Parks. Visitors to over-night parks spent \$280 million, visitors to day-use parks spent \$83 million, and visitors to historic sites spent \$47 million. Table 1 compares expenditures of overnight, day-use and historic site visitors.
- **Average Visitor Expenditures:** State park visitors in general spent an average of \$29.67 per person per day during their trips to Missouri State Parks. Although over-night park visitors stayed longer (4 nights per trip) than day-use park and historic site visitors (both stayed an average of 1 night in the area) during their trips to state parks, on average over-night park visitors spent considerably less (\$25.13 per person/day) than the latter two groups (Day-use = \$48.83, Historic Site = \$48.44). Overnight visitors are defined as those visitors who stayed overnight within the park or site.
- **Leakage:** Of the \$410 million total visitor spending, \$370 stayed within the state, and about \$40 million (\$410 minus \$370) immediately leaked out of the state's economy. Purchase of products by state park visitors that were originally manufactured outside the state account for this leakage.
- **Impacts on Sales:** The \$410 million spent by state park visitors included visitors' expenses within the parks and on route to the parks. Ninety percent of this amount (\$370 million) was the direct effect of sales – namely, sales generated in businesses and organizations that interacted directly with visitors (i.e. the tourism industry). Since the money spent by state park visitors was re-spent again and again in the state economy, Missouri state park visitors generated a total of \$538 million in sales when considering the multiplier effect: \$370 million in sales in the tourism industry and an additional \$168 million (\$538 minus \$370) in sales in related businesses and organizations.
- **Impacts on Income and Employment:** The \$370 million in sales of the tourism industry contributed \$99 million to employee income, and supported about 5,480 jobs in the tourism industry. Including the multiplier effects on income and employment, state park visitors' total expenditure had an overall impact on the state economy of \$538 million in sales, \$162 million in income and 7,660 jobs in employment.
- **Impacts on Taxes:** The total spending of Missouri state park visitors generated about \$71 million in taxes, including \$42 million in federal government (non-defense) taxes and \$29 million in state and local government taxes (non-education). See attachment for categories of tax generated by visitor spending.
- **Out-of-State Visitor Expenditures:** Of the \$410 million spent by Missouri state park visitors, \$100 million (24%) was spent by out-of-state visitors. These visitors spent an average of \$37.09 per person per day during their trips to Missouri State Parks. Ninety six percent of the \$100 million (\$96 million) was sales generated in the tourism industry. While the \$96 million stayed within the state of Missouri, \$4 million leaked out of the state economy. Including the sales multiplier, non-resident state park visitors generated \$140 million in total sales in Missouri's economy.

- Impacts of Out-of-State Visitor Expenditures:** The \$96 million in direct sales generated \$26 million in direct income and supported 1,440 jobs in the tourism industry. Adding the multiplier effects, their expenditures generated a total of \$43 million in income and supported a total of 2,013 jobs in the state economy. Out-of-state visitors contributed a total of \$19 million in taxes, with about \$11 million in federal taxes and \$8 million in state and local taxes. Table 2 compares statewide impacts of non-resident and all visitor expenditures.

Table 1. Missouri State Park Visitor Expenditure Patterns

Park Type	Visitor Numbers	Avg. Spending Person/Day (MO/out-of-state)	Number of Visitors from Other States	Spending of Visitors from Other States	Total Expenditure
Over-night	11,140,577	\$25.13/\$31.47	2,306,099	\$72,604,058	\$279,950,590
Day-use	1,689,122	\$48.83/\$50.71	349,648	\$17,724,102	\$82,511,500
Historic site	972,764	\$48.44/\$45.60	222,763	\$10,156,938	\$47,123,945
Total	13,802,463	\$29.67/\$37.09 (average)	2,878,510	\$100,485,098	\$409,586,035

Table 2. Statewide Economic Impacts of Missouri State Park Visitors

	All Visitors	Out-of-state Visitors
Total visitor expenditure (\$ millions)	\$410	\$100
Direct Effects		
Sales (\$ millions)	\$370	\$96
Income (\$millions)	\$99	\$26
Jobs	5,480	1,440
Total Effects		
Sales (\$ millions)	\$538	\$140
Income (\$ millions)	\$162	\$43
Jobs	7,660	2,013
Tax (Federal, State and Local \$ millions)	\$65	\$17

BACKGROUND OF THE STUDY

- The main usage of economic impact analysis is to estimate the change on the economy of a defined region as a result of the introduction of an establishment or activity. In parks and recreation, tax dollars paid by residents of the region are often allocated to park and recreation agencies to provide recreation opportunities for both residents of and visitors to the region. The opportunities provided to visitors need to be quantified as benefits in income and employment to taxpayers in the region. Thus, an economic impact study of Missouri state park visitors demonstrates the significance of visitor expenditures and the economic activities stimulated by these expenditures.
- While the total visitor spending showed the statewide significance of visitors to Missouri state parks, expenditures of out-of-state visitors were considered as “new money” brought in by Missouri state parks. In this study, expenditures of all Missouri state park visitors and those of out-of-state visitors were reported. The impacts of both of these groups’ expenditures on sales, income, employment, and taxes were also reported.
- Although economic impacts reported in this study clearly demonstrate the significance of Missouri state park visitors to the state economy, there are limitations to survey-based studies. While sound scientific methods of sample size and sample periods were followed, the accuracy of actual expenditures is subject to the respondents’ recollection and projection of actual amounts spent.
- Realizing the dynamics in the data collection and analysis processes, the researchers were conservative in making assumptions during the study. For example, only one fourth of out-of-state visitors’ reported transportation expenses were included in the analysis since it was assumed that the majority of their transportation costs occurred in their home states.
- Importantly, the state park visitor expenditure patterns found in this study were compatible with those identified by other state park visitor economic impact studies. A summary of four economic impact studies on state park visitors is listed in Table 3.

Table 3. Summary of Other Economic Impact Studies of State Park Visitors

State	Avg. Spending (per person/day)	Number of Visitors	Total State Park Visitor Spending
<u>West Virginia</u> (49 state parks)			
Residents	\$11.57	5.29 million	\$60 million
Non-Residents	\$14.48	2.52 million	\$36 million
<i>Total</i>		<i>7.81 million</i>	<i>\$96 million</i>
<u>Arizona</u> (26 state parks)			
	\$50.28	2.51 million	\$126.4 million
<u>Michigan</u>			
Campers	\$76.27	1.05 million	\$80.1 million
Day users on day trips	\$37.77	4.30 million	\$162.4 million
Day users on over-night trips	\$110.27	1.94 million	\$213.9 million
<i>Total</i>		<i>7.29 million</i>	<i>\$456.4 million</i>
<u>Montana</u> (20 state parks & 31 fishing access sites)			
	\$32.29 (per group/day)	4.8 million	\$212.4 million

METHODS

Categorization of Missouri State Parks

- Since state parks have different usages, visitor expenditures were assumed to be different at different types of state parks. Researchers of the study categorized the 83 state parks into three types based on usage: over-night parks (with over-night facilities), day-use parks (without over-night facilities), and historic sites. As a result, 36 state parks were categorized as over-night parks, 13 as day-use parks, and 34 as historic sites.

Missouri State Park Visitor Attendance

- Accurate public attendance estimates to multiple public parks with open and multiple points of entrance are inherently difficult. The 2001 attendance numbers to 70 Missouri State Parks were provided by Division of State Parks. The reported number of visitors to these state parks was 18,403,284 in 2001. However, based on the 2000 Missouri State Park Visitor Attendance Count study conducted by the Department of Parks, Recreation and Tourism (PRT) of the University of Missouri-Columbia, differences were noted between the average number of persons per vehicle used by each park to count attendance and the average number of persons per vehicle observed by PRT researchers. For example, some parks used the number of 3.5 persons per vehicle while PRT researchers found this average number to be a more conservative 2.1. Because the average numbers of persons per vehicle found in the 2000 Attendance Count study were generally lower, a conservative approach was adopted. Therefore, a 75% rate of reported visitor number (13,802,463 visitors = $0.75 \times 18,403,284$) was used in this study to estimate the economic impacts of state park visitors.

Data Collection

- Data were collected at 12 state parks in Missouri from May to August, 2002. These parks were selected to represent a variety of park types, geographical regions, and attendance rates. Of the parks surveyed, six were over-night parks, four were historic sites and two were day-use parks. A summary of the data collection procedure is listed in Table 4.
- In order to estimate the statewide economic impacts of Missouri state park visitors, information on visitation and expenditure patterns was solicited. A questionnaire was developed to facilitate data collection. Specifically, the questionnaire asked the respondents to provide their home zip codes, group size, length of stay during this trip, and their expenses on lodging, restaurant dining, transportation, recreation, admission fees, groceries, shopping and souvenirs.

Table 4. Summary of Data Collection at 12 Missouri State Parks

Park	District	Number of Questionnaires Collected
<u>Over-night parks</u>		
Finger Lakes	Missouri River	44
Roaring River	Ozark	49
Meramec	Eastern Parks	34
Montauk	Ozark	115
Thousand Hills	Northern Hills	29
Watkins Mill	Northern MO Historic	79
<u>Day-use parks</u>		
Elephant Rock	Southern MO Historic	338
Ha Ha Tonka	Ozark	62
<u>Historic Sites</u>		
Battle of Lexington	Northern MO Historic	81
Jefferson Landing	Southern MO Historic	41
Mark Twin Birth Place	Northern MO Historic	83
Mastodon	Southern MO Historic	43
Total		998

Data Analysis

- The economic impact of Missouri state park visitors was estimated using the IMPLAN software and databases. IMPLAN (Impact analysis of PLANing) was first developed by USDA Forest Service in the 1970's. The IMPLAN software and databases are now owned and maintained by Minnesota IMPLAN Group (MIG, Inc.). IMPLAN uses the input-output (I-O) model to estimate the economic impacts. The I-O model is well-respected and widely-used by government agencies and other organizations when conducting economic impact analysis at the local, regional, state and national levels.
- The IMPLAN database of 1998 was used in this study, which was the most recent available when the study was conducted. This database contains statewide, regional, county and zip-code level economic data, and the program is versatile in terms of generating different types of impact reports, such as income, sales, employment and taxes. The IMPLAN database contains economic data on 528 industries nationally, and the 1998 Missouri database contains 462 of the 528 sectors.

TAX IMPACT

		Employee Compensation	Proprietary Income	Household Expenditures	Enterprises (Corporations)	Indirect Business Taxes	Total
Enterprises (Corporations)	Transfers	60,020					60,020
	Total	60,020	0	0	0	0	60,020
Federal Government NonDefense	Corporate Profits Tax				5,260,309		5,260,309
	Indirect Bus Tax: Custom Duty					922,090	922,090
	Indirect Bus Tax: Excise Taxes					2,893,293	2,893,293
	Indirect Bus Tax: Fed NonTaxes					724,499	724,499
	Personal Tax: Estate and Gift Tax						0
	Personal Tax: Income Tax			14,478,479			14,478,479
	Personal Tax: NonTaxes (fines-Fees)			179,515			179,515
	Social Ins Tax – Employee Contribution	8,122,406	879,570				9,001,976
	Social Ins Tax – Employer Contribution	8,520,227					8,520,227
Total	16,642,633	879,570	14,657,993	5,260,309	4,539,882	41,980,387	
State/Local Government NonEducation	Corporate Profits Tax				637,816		637,816
	Dividends				12,270		12,270
	Indirect Bus Tax: Motor Vehicle License					223,228	223,228
	Indirect Bus Tax: Other Taxes					1,245,762	1,245,762
	Indirect Bus Tax: Property Tax					7,144,623	7,144,623
	Indirect Bus Tax: S/L NonTaxes					645,818	645,818
	Indirect Bus Tax: Sales Tax					14,634,528	14,634,528
	Indirect Bus Tax: Severance Tax					26	26
	Personal Tax: Estate and Gift Tax						0
	Personal Tax: Income Tax			3,859,765			3,859,765
	Personal Tax: Motor Vehicle License			209,028			209,028
	Personal Tax: NonTaxes (Fines-Fees)			40,334			40,334
	Personal Tax: Other Tax (Fish/Hunt)			66,324			66,324
	Personal Tax: Property Taxes			55,277			55,277
	Social Ins Tax – Employee Contribution	43,323					43,323
Social Ins Tax – Employer Contribution	197,361					197,361	
Total	240,684	0	4,230,727	650,086	23,893,985	29,015,482	
Total	16,943,337	879,570	18,888,721	5,910,395	28,433,868	71,055,890	