ECONOMIC IMPACTS OF STATE PARKS ON STATE ECONOMIES IN THE SOUTH

John C. Bergstrom, H. Ken Cordell, Alan E. Watson, and Gregory A. Ashley

Abstract

The economic impacts of recreational visits to state parks on the economies of North Carolina, South Carolina, Georgia, and Tennessee were estimated using the U.S. Forest Service IMPLAN input-output modeling system. Recreational expenditure data associated with state parks were obtained from the Public Area Recreation Visitors Study (PARVS). Results suggest that recreational spending may stimulate a considerable amount of economic activity in the state economies studied. Hence, future research into the economic development potential of outdoor recreation seems warranted.

Key words: outdoor recreation, parks, trip expenditures, regional economic impacts

INTRODUCTION

In recent years, interest in the regional economic impacts of outdoor recreation has grown considerably. This increased interest is attributable to several factors. First, there is increased concern on the part of government agencies and officials over economic underdevelopment and poverty in rural areas. Second, in order to provide rural landowners with alternative income opportunities, there is increasing interest in exploring the economic feasibility and impacts of nonagricultural uses of rural land (Libby). One potential nonagricultural use of rural land is the provision of recreational opportunities to an expanding urban population whose demand for most forms of outdoor recreation is projected to increase in the future (Cordell *et al.* 1989).

Another reason why interest in the regional economic impacts of outdoor recreation has increased is that traditional rural economic development programs may not always meet expectations. Rural economic development in the South has been heavily associated with industrial recruitment. New industrial development does not always result in large increases in jobs and income for local workers. New industrial development may also create new problems such as increased competition for limited natural resources, environmental pollution, congestion, and conversion of prime farmland.

Industrial recruitment remains an important rural development strategy in the South. However, state and local governments are becoming more selective in their industrial recruitment efforts in an attempt to attract industries that do not bring with them the problems mentioned in the previous paragraph. Such industries include so-called "light industry" such as high-technology firms, as well as the recreation and tourism industry.

Interest in the regional economic impacts of outdoor recreation is also increasing because most federal, state, and local agencies are facing more austere management budgets. Quantitative information on the economic impacts of policies and projects helps government agencies to make more informed decisions on how to manage recreational resources efficiently (e.g., maximizing user benefits subject to a limited budget). Government agencies are also finding that information on the economic value of outdoor recreation is useful for gaining increased political support for their outdoor recreation management programs and alternatives.

The purpose of this paper is to present the results of a study which estimated the economic impacts of recreational visits to state parks on the economies of four southern states: North Carolina, South Carolina, Georgia, and Tennessee. The methodology for the economic impact analysis is discussed in the next section. Economic impact results are then

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presented. Implications and conclusions are discussed in the final section.

METHODOLOGY FOR ECONOMIC IMPACT ANALYSIS

Estimation of the regional economic impacts of outdoor recreation is based on standard export base theory. When non-resident recreationists travel to a region to participate in outdoor recreation, the region essentially "exports" recreational services. These "exports" bring in to the region outside dollars which stimulate economic activity. The direct, indirect, and induced effects associated with this economic activity represent the total economic impacts of outdoor recreation on the region (Miernyk; Richardson).

Expenditure Data Collection

Estimation of the direct, indirect, and induced effects of recreational visits requires data on expenditures made by visitors within the region of interest. Expenditure data for out-of-state visitors to state parks in North Carolina, South Carolina, Georgia, and Tennessee were collected as part of the nationwide Public Area Recreation Visitors Study (PARVS). Initiated in 1982 and coordinated by the U.S. Forest Service, the PARVS is a multi-agency cooperative effort to collect data on the use of public outdoor recreation areas. Over the past five years, PARVS interviewers have made more than 50,000 contacts with recreationists at more than 250 sites across the nation (Cordell *et al.* 1987).

In North Carolina, South Carolina, Georgia, and Tennessee, the PARVS data collection process was conducted in cooperation with state agencies responsible for outdoor recreation management. The first step of the data collection process was on-site interviews of recreationists at various state parks and recreational areas. Sites were selected to include a cross-section of the different types of state parks and recreational areas found in a state. On-site interviews were conducted as visitors exited a park. In the on-site interview, recreationists were asked questions about trip and group characteristics. At the end of the interview, the interviewee was asked if he or she would be willing to fill out a mail questionnaire on trip-related expenditures. About 95 percent of recreationists contacted across all sites agreed to do so and were mailed an expenditure questionnaire.

The mail questionnaire asked recreationists to provide detailed information on recreational expenditures. Expenditure categories included: (1) trip-related expenditures made before or after a trip to a site, (2) en route expenditures made while traveling to and from a site, (3) expenditures made while at the site or in the immediate vicinity of a site, and (4) annual expenditures made for durable recreation equipment or services utilized on the trip of interest. Copies of both the PARVS on-site and follow-up mail survey questionnaires are available upon request from the U.S.D.A. Forest Service, Southeastern Forest Experiment Station. Details on the PARVS survey process is provided by Cordell *et al.* (1987).

In North Carolina, the sample size was 303. A total of 94 questionnaires were returned in North Carolina for a response rate of 31.0 percent. The sample size for South Carolina was 995. Of this 995, a total of 339 questionnaires were returned for a response rate of 34.1 percent. The sample size for Georgia was 898. A total of 200 questionnaires were returned in Georgia for a response rate of 22.3 percent. The highest response rate was in Tennessee, where 642 of 1,441 questionnaires were returned for a response rate of 44.6 percent.

IMPLAN Analysis

The PARVS follow-up mail questionnaire was designed to collect expenditure data compatible with the IMPLAN input-output modeling system developed by the U.S.D.A. Forest Service, Land Management Planning Staff. The IMPLAN system contains a national county-level data base that can be used to construct non-survey based input-output (I/O) models for user designated regions. Once an I/O model for a region is constructed, software modules in the IMPLAN system can be used to estimate the direct, indirect, and induced effects of changes in final demand. The application, advantages, and disadvantages of the IMPLAN modeling system are discussed in a number of references (Alward; Alward *et al.*; Alward and Palmer; Hotvedt *et al.*; Martin *et al.*; Palmer and Siverts; Radtke *et al.*; Siverts).

The IMPLAN modeling system is quite amenable to the task of estimating regional economic impacts of outdoor recreation. The primary difficulty is determining how recreational purchases translate into changes in final demand for outputs produced in a regional economy. The first step is to allocate a portion of total trip expenditures to the regional economy of interest. In this study, regional economies were defined as individual states.

The economic impacts of visits to state parks within a state were estimated for each state separately. Visitors to parks within a state included both in-state and out-of-state residents. The economic impact analysis conducted for this study was concerned with the impact of "outside" dollars brought into the state as a result of visits to state parks. Hence,

only expenditures made by out-of-state residents were relevant for the impact analysis. [1]

A portion of en route expenditures made by out-of-state residents was allocated to the state where a site was located according to the simple equation:

$$(1) \quad Y = E * \left(\frac{R}{D}\right)$$

where Y = en route expenditures per person per trip allocated to a state impact region, R = average radius of the state impact region, D = total one-way distance traveled, and E = total en route expenditures per person per trip. All of the expenditures which occurred at the site or in the immediate vicinity of the site were allocated to the state impact region on a per person per trip basis (Watson and Bratcher).

Annual expenditures associated with a recreational site will also impact a state economy if they occur within the state impact region. Annual expenditures on new equipment purchased at retail outlets were allocated to a state impact region using the following procedures. Only expenditures on recreation equipment that a person had with them when interviewed on-site were considered. Annual expenditures made at home were automatically excluded because these expenditures occurred outside of the state impact region.

Annual away-from-home expenditures on durable equipment may be associated with more than one site. Hence, annual expenditures associated with a single site were estimated by first multiplying annual expenditures by the ratio of the number of days the equipment was used at the interview site to the number of days the equipment was used at all other sites. The resulting expenditure estimate was then prorated on a per trip basis by dividing it by the total number of trips to the interview site. A portion of these per trip expenditures was then allocated to a state impact region according to the equation:

$$(2) \quad M = A * \left(\frac{R}{D}\right)$$

where M = annual expenditures allocated to a state impact region on a per person per trip basis, A = total annual expenditures associated with a given site on a per person per trip basis, and R and D are as defined for Equation 1. [2]

The second major expenditure allocation task was to allocate trip expenditures to IMPLAN economic sectors. This allocation was accomplished using procedures developed by cooperating PARVS researchers (Alward and Lofting; Probst; Propst *et al.*; Watson and Bratcher). Recreational spending on such items as transportation, lodging, and food and beverages impacts a number of IMPLAN economic sectors. The IMPLAN economic sectors impacted by a specific category of recreational spending were determined using Personal Consumption Expenditure (PCE) worksheets developed by the U.S. Department of Commerce Bureau of Economic Analysis (BEA).

The BEA worksheets were used to develop an allocation algorithm for linking total spending for a specific expenditure category (e.g., total gasoline expenditures) to IMPLAN economic sectors through standard industrial classification (SIC) codes. The BEA worksheets provided detailed item purchases by PCE categories and gross private fixed investment (GPFI) categories. The worksheets contained 1977 expenditures for commodities (products and services) valued at producer's and purchaser's prices. The worksheets also showed wholesale margins, retail margins (including sales and other taxes imposed on trade) and transportation costs (rail, trucking, water, air, and pipe). [3]

The allocation algorithm allocated recreational expenditures to relevant IMPLAN economic sectors using expenditure coefficients derived from the

[1] It is assumed that recreational expenditures by in-state residents represent reallocations of expenditures from one part of a state to another. Hence, in-state expenditures do no represent "outside" dollars which stimulate new economic growth and development in a state economy.

[2] On a particular trip, a recreationist may go to more than one site or destination. For all expenditure categories, a portion of expenditures associated with a multiple-destination trip were allocated to a single site i by multiplying total multiple-destination trip expenditures by the ratio of time spent at site i to time spent at all sites on the trip.

[3] The Personal Consumption Expenditure (PCE) worksheets developed by the BEA were for the year 1977. Hence, the worksheets reflect consumption preferences of consumers in 1977. The worksheets also reflect the 1977 structure of transportation, wholesale, and retail margins. The worksheets were used to allocate recreational expenditures made in 1986 (the year the expenditure data were collected). Hence, the IMPLAN analysis assumes that consumption preferences were relatively constant between 1977 and 1986. The IMPLAN analysis also assumes that the structure of transportation, wholesale, and retail margins was relatively constant in 1977 and 1986. These assumptions were necessary because at the time the study was conducted, the most recent PCE worksheets were for the year 1977. Changes in socioeconomic factors (e.g., income) may cause consumption preferences and expenditure patterns to shift over time. Additionally, as noted by one of the reviewers, changes in such factors as tax structures, transportation laws, and structural changes in wholesale and retail markets may cause changes in transportation, wholesale, and retail margins over time. Because of these considerations, the use of more recent PCE worksheets would have been preferable.

Table 1. National Personal Consumption Expenditures for IMPLAN Economic Sectors Associated with Annual ORV Repairs[a]

(1) IMPLAN Sector	(2) BEA Sector	(3) Description	(4) Producer Price	IMPLAN Sector (5) Rail [446]	(6) Truck [448]	(7) Water [449]	(8) Air [450]	(9) Pipe [451]	(10) Wholesale [460]	(11) Retail [462]	(12) Purchaser Price
			($)								
(1)[493]	75.0002	Repair Work	20,185	0	0	0	0	0	0	0	20,185
(2)[415]	61.0700	Parts for ATVs	5	0	1	0	0	0	0	3	9
(3[478])	73.0101	Motor cycle-Repair	1,504	0	0	0	0	0	0	0	1,504
(4)TOTAL			21,694	0	1	0	0	0	0	3	21,698

[a]Numbers in brackets throughout table are 3-digit IMPLAN economic sector numbers, e.g., rail transportation is IMPLAN sector number 446, water transportation is IMPLAN sector number 449, and motorcycle repair is IMPLAN sector number 478.

BEA data set. For each expenditure category collected in the PARVS expenditure survey, a worksheet such as shown in Table 1 was constructed. The second column shows BEA economic sectors impacted by annual outdoor recreational vehicle (ORV) repair expenditures. The corresponding IMPLAN sectors are shown in the first column. A short description of the economic sector is given in the third column.

National personal consumption expenditures for each economic sector are contained in columns 4-12. These expenditures are expressed in 1977 dollars (millions). Column 4 shows producer prices for each economic sector. Columns 5-11 show the transportation, wholesale, and retail margins. Purchaser prices (sum of columns 4-11) are given in column 12. The sums for each expenditure column are given in row 4, columns 4-12.

The expenditure coefficients for the transportation, wholesale, and retail sectors were derived by dividing the sum of national expenditures for each sector (row 4, columns 5-11) by the sum of national purchaser prices (row 4, column 12). For example, the expenditure coefficient for the retail sector (462) is equal to .00014 or 3/21,698. The expenditure coefficients for IMPLAN sectors listed in column 1 were calculated by dividing the national producer price for that sector (column 4, rows 1-3) by the sum of national purchaser prices (row 4, column 12). For example, the expenditure coefficient for IMPLAN sector 493 is equal to .93027, or 20,185/21,698.

Annual ORV repair expenditures reported in the PARVS survey (expressed on a per person per trip basis) were allocated to relevant IMPLAN sectors by multiplying total per person per trip expenditures by the expenditure coefficients estimated for each of the ten IMPLAN sectors shown in Table 1 (sectors number 493, 415, 478, 446, 448, 449, 450, 451, 460, and 462). The allocation algorithm repeated the process described above for each expenditure category reported in the PARVS survey. Development and application of the allocation algorithm based on the BEA data is discussed in more detail by Watson and Bratcher.

Aggregate recreational expenditures were estimated by multiplying mean expenditures per trip calculated from the PARVS expenditure data by estimates of total annual visits to a state park provided by the cooperating state agencies (Table 2). Aggregate recreational expenditures were allocated to the relevant IMPLAN sectors in the state impact regions using the procedures discussed previously. Allocated expenditures represented changes in final demand for the outputs of economic sectors in the state impact regions. The direct, indirect, and induced effects of these final demand changes on the state economies were estimated using the appropriate IMPLAN software modules (Palmer and Siverts). For the economic impact analysis, all expenditures were deflated to 1982 dollars, the year of the IMPLAN county level data base which was derived from the 1982 Census of Business.

Table 2. Estimates of Annual Visitation to Selected State Parks in the South, 1986.

Selected or Representative Site	Annual Visits	Percent out-of-state
North Carolina		(%)
Hanging Rock State Park	191,600	16
South Carolina		
Myrtle Beach State Park	2,582,700	71
Table Rock State Park	522,900	29
Georgia		
Unicoi State Park	1,117,500	38
Tennessee		
Fall Creek Falls State Park	886,700	37
Fort Pillow State Park	72,600	28
Hiwassee State Park	234,900	38

Table 3. Mean Expenditures Per Person Per Trip to Selected State Parks in the South, 1986.

Selected or Representative Site	Mean Expenditures Per Person Per Trip	N[a]
North Carolina	($)	
Hanging Rock State Park	26.65	21
South Carolina		
Myrtle Beach State Park	40.08	45
Table Rock State Park	38.61	62
Georgia		
Unicoi State Park	20.92	18
Tennessee		
Fall Creek Falls State Park	26.25	112
Fort Pillow State Park	9.35	23
Hiwassee State Park	10.70	36

[a]The total sample size for each state park represents pooled observations from similar state parks within a state. The complete listing of state parks included in the PARVS sample for a state is available from the authors.

RESULTS

Expenditure Profiles

Mean expenditures per person per trip calculated from the survey data are shown in Table 3. In order to increase sample sizes, expenditure data for other parks in a state where PARVS was implemented were pooled with the expenditure data for the parks listed in Table 3. Pooling occurred only across parks of similar purposes, facilities, and attractions—for example, historic parks. Major categories of trip expenditures included transportation, lodging, food and beverages, annual equipment, and miscellaneous. In some cases, sample sizes are relatively low which represents a limitation of this study.[4] The expenditure profiles of state park visitors observed this study, however, appear to be reasonably consistent with previous recreation expenditure studies. Thus, although in future studies it would be desirable to increase sample sizes, the relatively low sample sizes observed in this study were not expected to cause overriding problems.

Total Economic Impacts

The direct, indirect, induced, and total effects of total recreational spending (mean expenditures per trip x total trips) by state are shown in Table 4. The impacts of recreational spending on six economic indicators are also shown in Table 4. These indicators are total gross output, employee compensation, property income,[5] total income (sum of employee compensation and property income), value added (sum of employee compensation, property income, and indirect business taxes), and employment.

Economic impacts (expressed in 1982 dollars) are quite variable across sites within a state. In South Carolina, for example, total gross output associated with Myrtle Beach State Park is about $259 million while total gross output associated with Table Rock State Park is only about $10 million. Similarly, in Tennessee, total income associated with Fall Creek Falls State Park is about $15 million while total income associated with Fort Pillow State Park is only about $.26 million. These differences are ex-

[4] The difference in sample sizes across states is attributable, in part, to different response rates across states to the expenditure survey. The park management agency in each state was responsible for collecting the PARVS data used in this study. Survey procedures therefore probably were not completely uniform across states which could account for part of the difference in response rates. In all states, the relatively low response rates suggest that non-response bias may be a concern. The agencies responsible for collecting data did not test for potential non-response bias.

[5] Property income is defined as profits, rents, royalties, interests, etc. resulting from the production and sales of outputs which accrue to owners of property and firms in an economy (Palmer and Siverts).

Table 4. Economic Impacts of Selected State Parks on State Economies in the South,1986

Representative Site	Economic Impacts					
	Total Gross Output	Employee Compensation	Property Income	Total Income	Value Added	Employment (Jobs)
	(million $)					
North Carolina						
Hanging Rock State Park						
Direct Effects	1.1579	.2952	.1337	.4288	.4814	52
Indirect Effects	.3295	.0757	.0542	.1299	.1408	5
Induced Effects	.7374	.2020	.1597	.3617	.4114	16
TOTAL Effects	2.2248	.5729	.3476	.9204	1.0336	73
South Carolina						
Myrtle Beach State Park						
Direct Effects	143.7695	40.4214	11.8672	52.2886	59.9375	6195
Indirect Effects	40.7287	9.8885	6.6081	16.4966	17.6294	634
Induced Effects	74.7246	20.9916	15.5626	36.5542	41.3672	1633
TOTAL Effects	259.2228	71.3015	34.0379	105.3394	118.9341	8462
Table Rock State Park						
Direct Effects	5.3894	1.4540	.5351	1.9891	2.2839	252
Indirect Effects	1.5760	.3747	.2600	.6343	.6789	24
Induced Effects	3.0150	.8470	.6279	1.4749	1.6691	66
TOTAL Effects	9.9804	2.6757	1.4230	4.0983	4.6319	342
Georgia						
Unicoi State Park						
Direct Effects	19.5715	5.3218	1.7275	7.0492	8.0255	542
Indirect Effects	5.7347	1.5224	.9549	2.4773	2.6576	81
Induced Effects	10.9006	3.0442	2.2569	5.3011	5.9830	199
TOTAL Effects	36.2068	9.8884	4.9393	14.8276	16.6661	822
Tennessee						
Fall Creek Falls State Park						
Direct Effects	15.8454	4.2291	1.3696	5.5988	6.4148	537
Indirect Effects	5.9338	1.4812	.9660	2.4472	2.6305	88
Induced Effects	15.0619	4.3239	3.1199	7.4438	8.3688	305
TOTAL Effects	36.8411	10.0342	5.4555	15.4898	17.4141	930
Fort Pillow State Park						
Direct Effects	.2440	.0638	.0292	.0931	.1049	10
Indirect Effects	.1032	.0245	.0179	.0425	.0459	2
Induced Effects	.2521	.0724	.0522	.1246	.1401	5
TOTAL Effects	.5993	.1607	.0993	.2602	.2909	17
Hiwasee State Park						
Direct Effects	1.9155	.4707	.1761	.6468	.7461	66
Indirect Effects	.7234	.1716	.1152	.2868	.3084	10
Induced Effects	1.8179	.5219	.3765	.8984	1.01	37
TOTAL Effects	4.4568	1.1642	.6678	1.8320	2.0645	113

Table 5. Regional Economic Multipliers for Recreational Spending at SelectedState Parks in the South State Impact Regions, 1986.

Selected or Representative Site	Regional Economic Multiplier		
	Total Gross Output	Total Income	Employ-ment
North Carolina			
Hanging Rock State Park	1.92	2.15	1.40
South Carolina			
Myrtle Beach State Park	1.80	2.01	1.37
Table Rock State Park	1.85	2.06	1.36
Georgia			
Unicoi State Park	1.85	2.10	1.81
Tennessee			
Fall Creek Falls State Park	2.33	2.77	1.73
Fort Pillow State Park	2.46	2.79	1.65
Hiwasee State Park	2.33	2.83	1.71

plained primarily by differences in total annual visits and the percentage of visitors from out-of-state residents (e.g., see Table 2).

There is also considerable variation in the economic impacts of recreational spending across sites located in different states. Some of this variation is caused by differences in the structures of state economies. Most of the variation, however, is likely attributable to differences in total annual visits and out-of-state visitor percentages. These differences can also be observed in Table 2.

Regional Economic Multipliers

Regional economic multipliers for recreational spending are shown in Table 5. The multipliers in Table 5 are defined as the ratio of total effects (sum of direct, indirect, and induced effects) to direct effects. For example, the employment multiplier for Myrtle Beach State Park in South Carolina is equal to 1.37. This number means that for every one job created in South Carolina as a result of the direct effects of recreational spending by out-of-state visitors to Myrtle Beach State Park, an additional .37 jobs will be created by the indirect and induced effects. Thus, if 100 new jobs are created in South Carolina as a result of the direct effects of increased recreational spending by out-of-state visitors to Myrtle Beach State Park, a total of 137 new jobs will eventually be added to the state's economy (100 x 1.37).

The regional economic multipliers in Table 5 provide a means, which is independent of total annual visits, for comparing the economic impacts of recreational spending across sites and states. Thus, the multipliers provide a convenient means for assessing the *potential* economic impacts of recreational spending. The magnitude of the multipliers reported in Table 5 suggests that the potential economic impacts of recreational spending are relatively consistent across sites and states. Multipliers are more consistent across sites within the same state reflecting the homogeneity of the impact region for which the multipliers were measured.

In general, Tennessee has the greatest multipliers while South Carolina has the smallest. Georgia and North Carolina generally had the second and third largest multipliers, respectively. The differences in multipliers across states may reflect differences in state economy structures. The economy of Tennessee, for example, may be more developed and self-sufficient than South Carolina's economy. [6] The more developed and self-sufficient an economy is, the greater will be the multiplier effects of recreational spending (and other spending) on the economy.

The employment multipliers for all sites across all states are between 1.36 and 1.81 with a mean of 1.58. The implication is that recreational spending may have a considerable impact on state employment. Total income multipliers range from 2.01 to 2.83 with a mean of 2.39. Thus, recreational spending may have a relatively larger impact on total income than on employment. Total gross output multipliers range from 1.80 to 2.46 with a mean of 2.08. The potential impacts of recreational spending on total gross output are therefore roughly in between the employment and total income impacts. The multipliers reported in Table 5 are generally consistent with recreational spending multipliers estimated in a number of previous studies reviewed by Walsh.

The regional economic multipliers for outdoor recreation are not as large as the multipliers for a number of other industries (Walsh). For example, the recreation output multiplier for Georgia was estimated at 1.85. In Georgia, the agriculture output multiplier has been estimated at 2.66. The lumber and wood products output multiplier has been estimated at 2.42. Estimated output multipliers for various other manufacturing industries in Georgia range from 1.92 to 2.70 (Schaffer).

[6] More in-depth analysis of available data on state economy structures and "leakages" is needed to confirm this conjecture.

CONCLUSIONS

The results of the economic impact analysis conducted for this study suggest that expenditures by out-of-state visitors to selected state parks currently have considerable positive economic impacts on the economies of North Carolina, South Carolina, Georgia, and Tennessee. The relative magnitude of current economic impacts across sites and states appears to be largely determined by total annual visits and the percentage of out-of-state park visitors. Thus, states may be able to increase positive economic impacts of outdoor recreation by taking steps to increase state park total visitation and the percentage of out-of-state visitors (for example, through a state tourism promotion campaign). Outdoor recreation may be an especially attractive economic development strategy for certain rural areas that have a relative abundance of under-utilized environmental amenities such as scenic rivers, lakes, mountains, and beaches.

The study reported in this paper has a number of limitations. First, the expenditure data for some state parks suffers from relatively small sample sizes. Second, the procedures for allocating recreational expenditures to economic sectors within a specific impact region depend on a number of simplifying assumptions. There is a need to examine these assumptions critically and determine whether more conceptually desireable expenditure allocation procedures can be developed. Finally, the results only reflect the economic impacts of visits to state parks. A considerable amount of outdoor recreation occurs at federal government, local government, and private recreational sites. Further research is needed to estimate the economic impacts on state and local economies of visits to these sites.

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