Economic Impacts of Recreational Spending on Rural Areas: A Case Study

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Researchers, planners, and policymakers are becoming increasingly interested in the rural economic development potentials of outdoor recreation. Empirical evidence evaluating this economic development potential, however, is almost nonexistent. In this article, results of a study that examined local economic effects of spending associated with outdoor recreation in selected rural areas are reported. Recreational expenditures were collected as part of the Public Area Recreation Visitors Study (PARVS). Economic impacts of these expenditures were estimated using regional input-output models developed from the USDA Forest Service input-output model and data base system (IMPLAN). Results indicated that recreational spending contributed substantially to gross output, income, employment, and value added in the studied rural areas. These results suggest that outdoor recreation may be a viable rural economic development strategy.

Severe poverty and unemployment persists in many rural areas, particularly in the South. Federal, state, and local governments are increasingly interested in economic improvement programs for these rural areas.[1] The purpose of this article is to present the results of a study that examined local economic development effects of recreational spending on selected rural areas. The economic development potential of outdoor recreation has been almost completely ignored in the literature. Results reported in this article suggest that recreational spending stimulates a considerable amount of economic activity in rural economies. Hence, outdoor recreation may provide a viable development strategy for some rural communities.

Methodology for measuring the economic impacts of recreational spending on rural areas is discussed in the following section. The study used data from the Public Area Recreation Visitors

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Study (PARVS) and an input-output modeling system developed by the U.S. Forest Service (IMPLAN). After the methodology discussion, empirical results are presented and discussed. A summary, policy implications, and conclusions are offered in the final section.

METHODOLOGY

Background Concepts

The economic effects of outdoor recreation spending on rural areas may be measured in terms of direct, indirect, and induced effects. Recreation is a basic exporting industry as defined in standard export base theory. The "exports" of a park, for instance, are recreational services provided to people who live outside of the local area near the park, usually viewed as the surrounding counties. Exports of recreational services bring outside dollars into an economy and stimulate economic activity. The process by which this economic activity leads to growth is perhaps best explained through a simplified, hypothetical example.

Assume a rural area has a number of petroleum-related firms (e.g., service stations, wholesale gasoline distributors), as well as a state park. Nonresident visitors to the park spend money on a variety of items. Major expenditure categories include transportation, lodging, food and beverages, fees, and miscellaneous supplies. While visiting the park, for example, visitors may purchase gasoline for automobiles, recreational vehicles, and boats at local service stations. In order to meet the increased demand for gasoline, local service stations must increase purchases of gasoline and other products from other industries. These first-round purchases are the inputs for the local service stations and represent the *direct effects* of recreational spending on the local rural economy.

In order to increase sales of inputs to service stations, input suppliers must in turn increase their purchases of inputs from other industries. For example, gasoline wholesalers must increase purchases of gasoline from oil refineries. These purchases would result in even more economic activity, because, in order to meet increased input demand from gasoline wholesalers, input suppliers (e.g., oil refineries) would also have to purchase more inputs. Thus the increase in input purchases made by service stations in order to meet increased demand for gasoline from park visitors initiates a "chain reaction" of additional purchases in the local rural economy. The economic activity stimulated by these multiple-round input purchases are the *indirect effects* of recreational spending on the rural area economy.

The direct and indirect effects of recreational spending result in an overall increase in the production and distribution of goods and services in a rural area. This increase in economic activity results in increased employment and household income. Increases in household income, in turn, increase consumer demand for goods and services. For example, as a result of increased demand for gasoline caused by park visitors, local service stations may hire additional employees and/or increase employee wages. Given additional income, the service station employees will increase purchases of consumer goods such as clothes, food, and gasoline for their automobiles. In order to meet this increased demand, even more multiple-round purchases of inputs will be stimulated. Economic activity stimulated by increased consumer purchases are the *induced effects* of recreational spending on the rural area economy.

The total economic effects of outdoor recreation on a rural area are measured by the sum of direct, indirect, and induced effects of recreational spending. The direct and indirect effects account for the first and subsequent rounds of input purchases made in order to support firms that directly provide recreational visitors with goods and services. The induced effects account for increased input purchases made in order to meet increased demand for goods and services caused by increased household income in the local rural economy. The direct, indirect, and induced effects of recreational spending are referred to as secondary economic benefits.[2]

Secondary economic benefits do not necessarily increase economic efficiency or contribute to national economic development. Gains caused by increased recreational spending in one region may be offset by losses in another region. This assumption however, is usually valid only if the economy is at full employment, and it usually is not. Also, people within a region who never used state parks may be enticed to do so by their proximity to a park or improvement of recreational services offered. Secondary economic benefits, however, do contribute to regional economic

TABLE 1
Representative Georgia State Parks and Adjacent Counties Forming the Local Impact Regions

State Park	*Adjacent Local Counties*
Unicoi	White
	Lumpkin
	Hall
	Banks
	Habersham
	Towns
	Union
Red Top	Bartow
	Gordon
	Pickens
	Cherokee
	Paulding
	Polk
	Floyd
F. D. Roosevelt	Harris
	Troup
	Meriwether
	Talbot
	Chattahoochee
Little Ocmulgee	Tel Fair
	Wheller
	Jeff Davis
	Coffee
	Ben Hill
	Wilcox
	Dodge
Dahlonega Gold Museum	Lumpkin
	White
	Hall
	Dawson
	Fannin
	Union

development and may meet welfare distributional objectives related to redistribution of income and employment to economically depressed rural areas.[3]

Data Collection

The secondary benefits of outdoor recreation were empirically estimated for five representative state parks in Georgia. These parks, selected with the assistance of the Georgia Department of Natural Resources, were Unicoi State Park, Red Top State Park, Dahlonega Gold Museum State Park, F. D. Roosevelt State Park, and Little Ocmulgee State Park. Unicoi, Red Top, and Dahlonega Gold Museum State Parks are located in the north Georgia mountain region. F. D. Roosevelt State Park is located in the central Georgia Piedmont region, and Little Ocmulgee State Park is located in the south Georgia coastal plain region. All parks are located in predominantly rural areas. For each park, a local impact region was defined as the county where the park is located, plus all counties contiguous to that county. Counties included in these local regions are listed in Table 1.

Estimation of the economic effects of state parks requires data on park visitors' spending in the local region. Visitor expenditure data were collected as part of the Public Area Recreation Visitor Study (PARVS). PARVS is a nationwide cooperative effort to collect data on the economic benefits of outdoor recreation and tourism. Six federal agencies, 16 states, four national associations, and six universities have cooperated to implement PARVS. Since 1985, continuing data collection efforts have resulted in about 52,000 interviews at about 320 sites across the country.[4]

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Survey Procedures

At the five study parks in Georgia, PARVS enumerators conducted on-site interviews of visitors as they exited the park. Interviews were coordinated by the Georgia Department of Natural Resources. Data were collected on travel patterns, on-site activity, participation and participant characteristics, and recreation patterns throughout the year. Interviewed visitors were also asked to provide their names, addresses, and phone numbers for a follow-up mail survey. From this list of names and addresses, the sample of visitors was sent a survey questionnaire through the mail.

The mail survey questionnaire asked respondents detailed questions on equipment usage, year-long recreation-related spending, and expenditures related to their trip to the Georgia state parks. Respondents were asked first to report trip-related expenditures made at their residence, either before the trip (e.g., purchase of film) and after the trip (e.g., payment for developing exposed film). Respondents were then asked to report expenditures made while en route from their residence to the park (e.g., gasoline and food purchases). Next, respondents were asked to report expenditures made while at the park before leaving to return home or to travel on to other sites (e.g., food and lodging, souvenirs, fees, ice). Finally, respondents were asked to report annual expenditures made on outdoor recreation in general (e.g., purchase or repairs of recreational equipment).

Pilot testing of sampling procedures for on-site interviews and for the mail survey follow-ups, within the constraints of a limited budget, led to adoption of selective sampling of exiting park visitors at intervals dictated by the time required to complete the rather lengthy PARVS survey form. Because of this length, interview numbers were maximized using a strategy of intercepting the next available exiting park user after an interview had been completed. This strategy was used throughout the daily interview period. The number of exiting vehicles was recorded while each interview was in progress, and the ratio of recreational and nonrecreational vehicles encountered through interview contacts were maintained. These data, plus existing visitor count records from the state parks, were used to postsample weight interview records to account for disproportionate sampling among park user strata, especially day versus overnight visitors.

Follow-up mail questionnaires were sent to each on-site interviewee. The equipment usage and year-long and trip expenditure data gained from the mail survey was central to this economic study. For this reason, special care was taken in postsample weighting of each mail follow-up respondent's record because the on-site selective samples were further diluted by mail survey response rates of less than 100%. This weighting emphasized four strata; day versus overnight developed-site users and day versus overnight dispersed-area users. Such weighting, of course, only partially corrected for possible sample bias, that is, that potentially caused by disproportionate representation among strata. Possible representation of a population's expenditures within a strata could not be corrected by post sample weighting given the limited preexisting data describing user's characteristics.

Relatively low response rates to the mail follow-up survey further contributed to the resulting low numbers of cases. Given the relatively small number of cases per study park (Table 2), sample numbers were increased by pooling interview records obtained at the other Georgia state parks on which PARVS was implemented. Pooling occurred only across parks of similar purposes facilities and attractions, for example, historic parks. These pooled data increased sample sizes sufficiently to engender statistical stability in the expenditure data. The authors acknowledge, however, that larger sample sizes, which included only cases explicit to the studied representative parks, would likely have provided a superior data set. Within these data constraints, however, the objective of this study is still well served for several reasons. The expenditure data used reflect actual recreational spending; mean expenditures were weighted to reproportion samples among represented strata; and comparisons with expenditure means from similar state and federal areas showed highly comparable results.

IMPLAN Analysis

The expenditure items included in the PARVS mail survey questionnaire were developed specifically to provide visitor expenditure profiles compatible with IMPLAN, a computer-based input-output data base and model developed by the Land Management Planning Division of the USDA Forest Service. The IMPLAN software system consists of (1) an input-output data base,

TABLE 2
Recreation Trip Expenditure Profiles for Samples of Visitors to Representative Georgia State Parks

	Mean Expenditures Per Person Per Trip (1986 dollars)				
Category	*Unicoi*	*Red Top*	*F.D. Roosevelt*	*Dahlonega Gold Museum*	*Little Ocmulgee*
Transportation	$ 6.18	$0.49	$ 1.91	$ 1.01	$13.26
Food and Beverages	16.38	6.07	11.82	9.96	25.69
Lodging	6.81	0.73	4.20	0.00	4.07
Activities	0.59	0.09	0.56	0.07	1.05
Miscellaneous	2.46	0.04	0.28	1.29	1.49
Total	32.42	7.42	18.77	12.33	45.58
Number of Observations	52	34	23	29	20

(2) several program modules for constructing interindustry models for the user designated impact region, and (3) a model that calculates the direct, indirect, and induced effects of changes in final demand.[5] The IMPLAN input-output data is composed of a national-level technology matrix and county-level estimates of final demand, final payments, gross output, and employment for economic sectors. The national technology matrix denotes fixed coefficient production functions for economic sectors. The matrix was derived from the 1972 national input-output model updated to 1982.

The county-level estimates of final demand, final payments, gross output, and employment were derived from a number of secondary sources. These sources included the U.S. Department of Commerce, County Business Patterns, Dunn and Bradstreet Corporation employment data, and various censuses conducted by the U.S. Department of Commerce (e.g., Agriculture, Manufacturing, and Population and Housing). All data were adjusted to the IMPLAN base year of 1982.[6]

Input-output accounts for a region are developed within the IMPLAN system using nonsurvey techniques. In particular, regional accounts are derived by a "downward movement" approach by which national input-output data are disaggregated to state and county levels. The county-level estimates of final demand, final payments, gross output, and employment serve as "control totals" at the state and local levels. The national technology matrix is then applied to derive interindustry purchases (inputs) and sales (outputs) for a region. The end result of this process is a complete, nonsurvey based input-output account for a region.[7]

IMPLAN is subject to commonly recognized limitations of national, nonsurvey-based input-output models. The general concern is whether such highly aggregated nonsurvey techniques generate accurate "pictures" of a local economy. First, secondary data sources used to derive county-level estimates of final demand, final payments, gross output, and employment may be incomplete, inconsistent, and inaccurate.[8] It is therefore advisable, when feasible, to compare county-level estimates of final demand, final payments, gross output, and employment provided in IMPLAN with other local data bases such as state government labor statistics.[9] In addition, all data in IMPLAN are adjusted to 1982. Economic activity in a region may change considerably over time, especially in rural areas experiencing rapid expansion or contraction. Thus there is a need periodically to evaluate and update county-level estimates of final demand, gross output, and employment provided in IMPLAN.

Another major limitation of IMPLAN resulting from its nonsurvey-based framework is the application of national technical coefficients (or production functions) to every disaggregated region. This procedure ignores geographical differences in production processes, and production variations between firms in an industry.[10] If the user has more and/or better information on production processes for industries in a region (e.g., farming practices in a rural area), IMPLAN provides the capability for the user to adjust regional technical coefficients.[11] Even assuming that the national technical coefficients are appropriate for a region, production technology may change over time. Hence, it would be desirable periodically to evaluate and adjust the national technical coefficients, which are already over 10 years old.[12]

Another potential problem in the application of IMPLAN are changes in the structure of the regional economy. IMPLAN assumes that the industries within a regional economy remain stable over time. However, especially in certain, unstable rural areas, industries may both enter and leave the region over time. In a rural economy, the addition or subtraction of only one industry (e.g., manufacturer) may cause a major "shock" to the economy. Thus it may also be important periodically to evaluate and update the structure of county-level industries contained in IMPLAN.[13]

Despite its limitations, IMPLAN is widely applied and professionally accepted both within and outside the U.S. Forest Service. A recent cross-check of IMPLAN using more recent and detailed county-level control data indicated that impact results generated by IMPLAN appear reasonably accurate.[14] Thus, although caution should be exercised in applying IMPLAN, it appears to be a useful, valid, and powerful tool for economic impact analysis. IMPLAN is especially amenable to assessing the economic impacts of outdoor recreation.[15]

In this study, the IMPLAN modules were employed to construct regional input-output models for each of the local impact regions listed in Table 1. The models then were used to calculate the direct, indirect, and induced effects of recreational spending. Recreational expenditures and the input-output data describing the local impact regions (e.g., sales, population) were for the year 1986.

The first step in the economic impact estimation process was to determine the allocation of recreational expenditures among IMPLAN sectors. This allocation was made using an algorithm (or "bridge" table) developed by a number of cooperating PARVS researchers.[16] This allocation algorithm was based upon producer price and marketing margin data provided by the Bureau of Economic Analysis (BEA). For example, on visits to Georgia state parks, visitors may spend money on gasoline for automobiles, recreational vehicles, and boats. Using the BEA data, recreational spending on gasoline was allocated to the following IMPLAN sectors through increased input purchases: petroleum refining; lubricating oils and greases; petroleum and coal production; rail, motor freight, water, air, and pipe transportation; other wholesale trade; and other retail trade.

Once it was determined how recreational expenditures should be allocated across IMPLAN sectors, it was necessary to estimate the appropriate portion of total trip expenditures to allocate for economic impact analysis. This allocation was also based on procedures developed by cooperating PARVS researchers.[17] First, only expenditures made by visitors living outside of the local impact region were considered. The following assumptions were then made for allocating a portion of trip-related expenditures for each specific IMPLAN sector to a local impact region. Allocation procedures were performed for each local impact region separately.

As discussed previously, four basic categories of trip-related expenditures were collected. The first category was expenditures made at home, before or after the trip. Because these expenditures all occur outside the local impact region, they were not included in the economic impact analysis. The second category of expenditures was money spent on the trip to and from the park. Some of these expenditures (e.g., gasoline purchases) likely occurred within the local impact region. The probability that en route expenditures occurred within the local impact region was estimated by dividing the average radius of the local impact region by the total one-way miles traveled. For example, if a visitor traveled 100 one-way miles to a park and the local impact region had a radius of 25 miles, this probability would be equal to 0.25 = 25/100. The estimated probability weight was then multiplied by total en route expenditures to give the portion of en route expenditures which occurred in the local impact region. In the forgoing example, if the visitor spent a total of \$40 en route to and from the park, \$10 = 0.25 × \$40 was allocated to the local impact region.

The third, and most important, expenditure category was spending at the park or in the immediate vicinity of the park. It is assumed that all of these expenditures were made within the local impact region. Hence, all expenditures reported in this category were allocated across the IMPLAN sectors.

The fourth expenditure category was annual purchases of recreational supplies, gear, and equipment (e.g., fishing gear). Purchases of these items for use at a Georgia state park made within the local impact region will also stimulate economic activity in the region. Only expenditures on equipment or other goods that the respondents had with them on the trip during which they were interviewed were considered. Annual expenditures were first multiplied by the ratio of days of use at the interview site to total days of use elsewhere. The resulting number was then divided by annual trips to the interview site. The result was an estimate of annual expenditures per trip. This portion was further reduced by multiplying it by the probability of the annual expenditures

occurring within the local impact region. This probability was estimated and applied following similar procedures used for allocating a portion of en route expenditures to the local impact region.

After determining the portion of total trip expenditures to assign to the local impact region, mean expenditures per person per trip were calculated. Mean expenditures per person per trip were then multiplied by annual visitation estimates provided by the Georgia Department of Natural Resources to calculate annual recreational expenditures attributable to a particular park. These total expenditures were then allocated across the appropriately affected IMPLAN sectors. The economic impact module in IMPLAN was then run to estimate total gross output, personal and property income, total income, employment, and value added which result from recreational spending in the local impact region.

RESULTS

The overall response rate for the PARVS mail questionnaire designed to collect recreational trip-related expenditures was 22%. In all, 200 usable questionnaires were returned. The basic profiles of expenditures made within each local impact region are shown in Table 2. As indicated in the table, most expenditures are for transportation, lodging, and food.

The direct, indirect, and induced effects of recreational spending on local impact regions are summarized in Table 3. Total gross output measures the value of all outputs produced in a local impact region; thus, it is an overall indicator of economic activity analogous to the gross national product (GNP) for the United States. Employee compensation is wages and salaries paid to employees of firms and businesses located in the local region. Property income is profits, rents, royalties, interest, and related payments that accrue to owners of property, firms, and businesses located in the local region. Total income is the sum of the employee compensation and property income. Value added is the sum of employee compensation, indirect business taxes, and property income. Basically, value added accounts for the income accruing to a local impact region when an output is produced and sold. Employee compensation and property income are paid directly to region residents, and indirect business taxes indirectly benefit residents through their local government. Employment refers to numbers of people employed by firms and businesses located in the local impact region.[18]

The numbers in Table 3 indicate that recreational expenditures at state parks stimulate a proportionately large amount of economic activity in surrounding rural areas of Georgia. Annual visits to Unicoi State Park, for example, supported over 1,400 jobs and over $14 million of total income in the local region in 1986. For each economic indicator reported in Table 3, about 50% of the total effects of recreational spending, in general, is accounted for by direct effects. Induced effects generally account for the next largest portion of the total effects of recreational spending, followed by indirect effects. The fact that induced effects are proportionately important signifies that local workers benefit as do the local businesses with which they trade.

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The economic effects of spending stimulated by state parks varies considerably across the five parks analyzed in this study. The greatest effects are associated with Unicoi State Park, the most heavily visited. Unicoi State Park is the largest of the five parks with numerous hiking trails, camping facilities, a recreational lake, tennis courts, and a state operated convention center. The park attracts a large number of both day and overnight visitors. The smallest economic effects are associated with F. D. Roosevelt, Little Ocmulgee, and Dahlonega Gold Museum state parks. These state parks are rather modest, attracting relatively small numbers of primarily day use visitors. Red Top State Park generates moderate economic effects. Attractions at Red Top State Park, which are perhaps more typical of state parks, include camping, hiking, swimming, and picnicking. Red Top State Park attracts a greater number of day and overnight users, as compared to F. D. Roosevelt, Little Ocmulgee, and Dahlonega Gold Museum state parks.

The rural economic development potential of outdoor recreation is summarized by the regional economic multipliers shown in Table 4. Regional multipliers show the total effects of recreational spending (direct, indirect, and induced effects) per unit of direct effect.[19] The employment multiplier for Red Top State Park, for example, is 1.5. This means that 1.5 jobs will be created in the local economy per each job created by the direct effects of recreation spending. Thus if 10 new jobs resulted from the direct effects of recreational spending, 15 total jobs would eventually be

TABLE 3
Economic Effects of Recreational Spending at Representative Georgia State Parks

	Economic Effects (millions of dollars)					
Source of Effect by Park	*Total Gross Output*	*Employee Compensation*	*Property Income*	*Total Income*	*Value Added*	*Employment (actual number)*
Unicoi State Park						
Direct Effects	$21.1937	$6.1129	$2.4287	$8.5416	$9.7100	$1185.19
Indirect Effects	4.3877	1.3261	0.5975	1.9236	2.0331	76.83
Induced Effects	7.5634	2.3087	1.5926	3.9013	4.4320	173.25
Total Effects	33.1448	9.7478	4.6187	14.3665	16.1752	1435.26
Red Top State Park						
Direct Effects	13.3089	4.1409	0.6600	4.8008	5.4711	414.75
Indirect Effects	2.7197	0.7536	0.4816	1.2352	1.3288	47.90
Induced Effects	7.7550	2.2108	1.7286	3.9395	4.4750	166.91
Total Effects	23.7835	7.1054	2.8702	9.9755	11.2749	629.56
F. D. Roosevelt State Park						
Direct Effects	1.4924	0.4414	0.1381	0.5795	0.6603	74.99
Indirect Effects	0.2381	0.0762	0.0341	0.1103	0.1170	4.70
Induced Effects	0.5278	0.1665	0.1163	0.2829	0.3221	12.68
Total Effects	2.2583	0.6841	2.2886	0.9727	1.0993	92.37
Dahlonega Gold Museum State Park						
Direct Effects	0.4881	0.1515	0.0507	0.2022	0.2268	23.18
Indirect Effects	0.0905	0.0257	0.0133	0.0390	0.0416	1.63
Induced Effects	0.1420	0.0431	0.0298	0.0729	0.0828	3.28
Total Effects	0.7206	0.2202	0.0939	0.3141	0.3512	28.09
Little Ocmulgee State Park						
Direct Effects	2.8517	0.8985	0.2781	1.1766	1.3415	199.00
Indirect Effects	0.5900	0.1518	0.0813	0.2331	0.2470	9.93
Induced Effects	2.1648	0.6486	0.4564	1.1049	1.2583	54.30
Total Effects	5.6065	1.6989	0.8158	2.5146	2.8468	263.23

added to the local region — 10 resulting from the direct effects of recreational spending and five more from the indirect and induced effects.

The larger the regional economic multiplier, the greater is the potential for recreational spending to stimulate increased economic activity in a rural area. As indicated in Table 4, recreational spending appears to be associated with relatively large multipliers. Hence, new or expanded outdoor recreational facilities and attractions may bring new dollars into a rural area, which, through multiplier effects, stimulate considerable economic growth. The magnitude of the multipliers estimated for Georgia is consistent with previous studies. A review of previous studies, for example, showed total gross output multipliers ranging from 1.46 to 2.60.[20]

LOCAL DEVELOPMENT POLICY IMPLICATIONS

Poverty and joblessness exist in many rural areas. Local governments in such rural areas are becoming increasingly interested in implementing economic development programs. In the past, local economic development efforts have focused on attempting to attract new manufacturing plants, factories, and related industrial development. New industrial development, however, may fail to meet local economic development expectations. A new industry, for instance, may import specialized employees and not employ large numbers of local workers, and multiplier effects may turn out to be smaller than anticipated. New industrial development may also create new problems for rural areas such as environmental pollution, strains on natural resources (e.g., water supplies), conflicts with established rural enterprises (e.g., farmers), and strains on local utilities.

The results of this study suggest that outdoor recreation may provide a viable economic development alternative for rural areas.

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TABLE 4
Local Economic Multipliers for Recreational Spending at Representative Georgia State Parks

Economic Indicator	Local Multipliers				
	Unicoi	*Red Top*	*F. D. Roosevelt*	*Dahlonega Gold Museum*	*Little Ocmulgee*
Total Gross Output	1.56	1.79	1.51	1.48	1.97
Employee Compensation	1.59	1.72	1.55	1.45	1.89
Property Income	1.90	4.35	1.66	1.85	2.93
Total Income	1.68	2.08	1.68	1.55	2.14
Value Added	1.67	2.06	1.66	1.55	2.12
Employment	1.21	1.52	1.23	1.21	1.32

employment, and income are relatively large, which suggests that the direct, indirect, and induced effects of recreational expenditures stimulate a considerable amount of economic activity in rural economies. In addition, outdoor recreation development, for example, park development, can be undertaken in such a way that natural resources are conserved and environmental quality improved. Outdoor recreation development may also be complementary with established rural enterprises such as agriculture.

Local leaders in rural areas can facilitate outdoor recreation development in several ways. First, suppose a rural area is already endowed with land or water resources open to the public for outdoor recreational use (e.g., national or state park, national or state forest, large private tracts, reservoirs, or rivers). Economic growth in a rural area results from local expenditures by visitors who live outside of the rural area where these resource opportunities exist. Thus local economic development can be facilitated by encouraging increased out-of-region visitation through promotion of local recreational opportunities, improving access to local recreational attractions, and by raising the level and quality of services and attractions. Advertising, for example, may consist of travel brochures, maps, and newspaper and magazine advertisements. Improved access, for example, may involve the construction of new roads and airport facilities. Local leaders may need actively to solicit funding for such projects from federal, state, and local sources. But more important, by doing the kind of analysis demonstrated in this study, the benefiting businesses and industries can be identified, contacted, and asked to contribute.

Local leaders may also be able to encourage and facilitate the development of new or additional outdoor recreational facilities in rural areas. There may be opportunities, for example, for local agencies to cost-share or enter into partnership arrangements with federal or state agencies on outdoor recreational facility development. It is also feasible for local agencies to develop and operate outdoor recreational facilities on their own. Developing facilities for people to visit unique local attractions (e.g., historical structure, natural scenic attractions) is a distinct opportunity for local agencies.

The results of this study suggest that some of the largest economic impacts are associated with highly developed outdoor recreational facilities (e.g., resort facilities). Such facilities are often developed and operated by private firms. Thus, using the same techniques for attracting industrial development, local agencies can attempt to attract private development of outdoor recreational and tourism facilities. Major resorts, however, are expensive and bring negative externalities to a rural area, including pollution, congestion, and increased strains on local public services and facilities.

Local agencies should carefully evaluate all proposals for outdoor recreational development, whether publicly or privately supported. The potential economic benefits of outdoor recreation development can be assessed using economic impact analysis techniques, such as described in this article. These benefits must be compared to the potential costs of outdoor recreational development. Out-of-pocket development and operation costs may be relatively straightforward to measure. Environmental and other costs caused by intensively developed outdoor recreational

facilities (e.g., major resorts) are important to consider, but difficult to quantify. The opportunity costs of devoting local resources to outdoor recreational development, instead of some other form of economic development, are also important to consider, but difficult to quantify.

Local leaders should also carefully assess the local business infrastructure to determine whether the types and diversity of extant businesses and services can effectively support growth. Programs to attract and stimulate recreation-related or support industries can further increase multipliers and economic growth effects. Attracting more and higher quality recreation and tourism attractions along with stimulating business growth in the economic sectors affected by recreation are highly important tandem strategies for local economic growth.

SUMMARY AND CONCLUSIONS

Economic impact analysis measures economic growth stimulated by increases in final demand for products produced in a regional economy. In the case of outdoor recreation, recreational services are produced and "exported" from a region. An increase in demand for these recreational services, measured by an increase in visits or trips to the local area, results in increased recreational spending and increased economic growth.

In this article, the economic effects of recreational spending on selected rural areas in Georgia were estimated. Recreational expenditures associated with visits to state parks were estimated from data provided by the Public Area Recreation Visitor Study (PARVS). The direct, indirect, and induced effects of these expenditures on the local region surrounding a particular state park were estimated using IMPLAN. IMPLAN is an input-output modeling system developed by the USDA Forest Service. IMPLAN results indicated that recreational spending can stimulate a considerable amount of economic activity in rural areas.

The magnitude of economic activity stimulated depends on the attractiveness of parks to out-of-region visitors and on the structure and diversity of the local economy. Currently, many state parks in rural areas of Georgia and other states have not yet achieved major destination status for out-of-region visitors. Improved management, however, may be able to change this status.

The results suggest that for some rural areas, outdoor recreation will likely provide a viable economic development alternative. This potential viability is supported by the relatively large multipliers estimated for employment, income, and other economic indicators. In addition to creating new jobs and economic activity, outdoor recreation is generally compatible with existing rural enterprises such as tourism and agriculture, and helps to enhance the overall quality of life by providing recreational opportunities to local residents. Of course, new recreational development should not proceed if the total costs (e.g., tax expenditures, negative externalities) exceed the total benefits of development.

More focused research is needed on the economic impact of outdoor recreation on regional economies. Input-output analysis, although widely used and accepted, is limited by strict analytical assumptions and the structure of existing computer routines. It would be useful to compare the results reported in this article to those obtained using alternative economic impact analysis techniques, such as econometric models. Also, the sensitivity of results reported in this article to assumptions regarding the allocation of recreational expenditures to local impact regions and specific IMPLAN sectors is unknown.

Future research efforts should examine these assumptions, modifying them as needed to generate alternative economic impact results. Additional research is also needed to improve procedures for collecting expenditure data. Although limited, the combination of the PARVS data base and the IMPLAN model represents a credible system for estimating the economic impacts of outdoor recreational spending on regional economies. Thus the results reported in this article may provide useful inputs into resource management and rural development policy decisions.

NOTES

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