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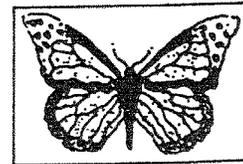
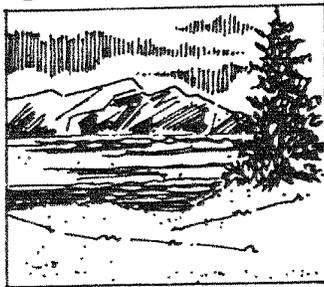
General Technical  
Report NE-185



# PROCEEDINGS of the 1993 NORTHEASTERN RECREATION RESEARCH SYMPOSIUM

April 18-20, 1993  
Saratoga Springs, New York

Environmental Awareness  
 HUNTING  
 CAMPING  
 fishing  
 sailing  
 HIKING  
 BOATING  
 Wildlife Management  
 Picnicking  
 Observing Nature  
 bicycling  
 FORESTS  
 Modeling  
 Historic Places  
 Lakes  
 swimming  
 Travel  
 Tourism  
 NATIONAL PARKS



## **NORTHEASTERN RECREATION RESEARCH MEETING POLICY STATEMENT**

The Northeastern Recreation Research meeting seeks to foster quality information exchange between recreation and travel resource managers and researchers throughout the Northeast. The forum provides opportunities for managers from different agencies and states, and from different governmental levels, to discuss current issues and problems in the field. Students and all those interested in continuing education in recreation and travel resource management are particularly welcome.

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*The Steering Committee wishes to thank John Nelson for his assistance in developing the conference data base.*

*NOTE: These proceedings have been prepared using electronic and hard copy supplied by the authors. Authors are responsible for the content and accuracy of their papers.*

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**April 18-20, 1993**

**State Parks Management and Research Institute  
Saratoga Spa State Park  
Saratoga Springs, New York**

## **Compiled and Edited by:**

Gail A. Vander Stoep  
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*NOTE: If you are interested in getting additional information about any of the papers that were presented but were not submitted for publication, please contact the authors directly. A list of those papers is included here to assist you in identifying authors.*

### MANAGEMENT ROUNDTABLE SESSION

The Role of Social Science Research: A) Should recreation researchers adopt a more explicit role of advocacy? B) Pandering to the public; do visitor surveys undermine recreation management? Tom More, USDA Forest Service.

### GREENWAYS

Scenic Roads: Access to an Educational Opportunity. Steven Brower, Burlington, IA.

Seaway Trail: A Scenic Byway Teresa Mitchell, Seaway Trail, Inc.

### LANDSCAPE / VISUAL PERCEPTIONS

Landscape Perceptions: Understanding Viewer Needs and Desires. Steven Brower, Burlington, IA.

### OUTDOOR RECREATION MANAGEMENT AND PLANNING

Testing an Evolutionary Model of Recreation Partnerships. Steve Selin, West Virginia University; Debbie Chavez, USDA Forest Service.

### SOCIAL PSYCHOLOGY

Boating Identity and Behavioral Change: Self-referent Behavior or Discursive Outcome? Walter Kuentzel, University of Vermont.

Recreational Fishermen and Their Preferred Fish Species: An Exploratory Analysis of Angler Characteristics. David Loomis and Robert Muth, University of Massachusetts.

The Conscious Experience of Recreation. Tom More, USDA Forest Service; James Averill, University of Massachusetts.

### ECONOMIC DEVELOPMENT ASPECTS OF TRAVEL AND TOURISM

Whitewater Rafting as a Tool for Economic Development. Sharon Hurt, West Virginia University.

*ECONOMIC DEVELOPMENT  
ASPECTS OF TRAVEL AND  
TOURISM*

**RURAL TOURIST AND NON-TOURIST  
COMMUNITIES IN MASSACHUSETTS:  
QUALITY OF LIFE PATTERNS 1980-1990**

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Over the past 30 years there has been considerable interest in evaluating various impacts of the tourism industry. Most research efforts have tended to examine relationships between the presence of tourist-related activities and traditional economic factors at the community level. Such studies have generally focused on relationships at a singular point in time. This study examined relationships between tourism in rural communities and selected variables which are related to the quality of community life spanning a ten-year period. In addition, rural tourist communities were compared to rural non-tourist communities in the Commonwealth of Massachusetts in terms of quality of life changes that took place from 1980 to 1990.

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### **Introduction**

In recent years, communities, states and even nations have been actively promoting tourism with the hope of energizing their economies and enhancing the quality of life. There is some risk in this since the effects of tourism may be quite varied and highly dependent upon the particular setting and the particular type of tourism activity that is involved. For example, in discussing the social impact of tourism on developing regions, Crandall (1987; p. 382) stated, "Most of the social impacts contain both negative and positive aspects, which might or might not balance the other." This is evident from the earlier research of Fritz and Konecny (1981) who found positive correlations between tourism and economic stimulation, and the work of Pizam (1977), Pizam and Pokela (1978) and Miller (1980) who identified negative associations between tourism and community quality of life factors. Furthermore, Perdue, et al., (1990) found that community support for tourism was mixed while Dogan (1989) and Ap (1990) cited studies which identified both positive and negative factors that seem to be associated with tourism.

As Massachusetts and many other states continue to promote tourism activities, it becomes increasingly important to attempt to identify what has been happening in tourism communities and what is likely to occur in the future. Thus, the purpose of this study was to compare selected quality of life factors in communities that were categorized as rural, tourist communities with non-tourist, rural communities in the Commonwealth of Massachusetts. Variables in tourist and non-tourist communities were examined in 1980 and 1990 and the results for both years were compared. The results of this

study were of particular interest since in the study conducted prior to this one, the authors found a number of negative relationships between the presence of tourism and selected quality of life factors at the local level (Klar, Keegan and Warnick, 1985).

### **Method**

In an effort to strengthen the validity of this study, the sample size was increased significantly over the number utilized in the previous study (Klar, Keegan and Warnick, 1985). In the first study, 17 rural, tourist communities were identified and only 17 communities were randomly selected from all non-tourist towns having 1980 populations of at least 2,500 residents, but less than 25,000 residents. In the present study, the sample of rural, tourist communities was increased to 21 and the rural, non-tourist sample was expanded to include all of the 48 towns that met the criteria. The increase in tourist communities occurred as a result of slight changes in the criteria defining tourist communities. Specifically, in the previous study, for communities to be classified as tourist communities, their populations had to be within the same range as non-tourist communities (less than 25,000 residents), and at least the following resources had to be available within their towns: (1) ten eating and drinking establishments, (2) four hotels, motels or inns and (3) three amusements (e.g., theme park, bowling alley, golf course). The criteria for this study were virtually the same with one exception: a community could be categorized as a tourist community with less than three amusements if, instead, there was a major amusement that clearly attracted tourists to that community. Examples of such communities include Rockport, which attracts visitors seeking a variety of ocean experiences, and Sturbridge, which attracts visitors to Old Sturbridge Village. The 21 rural, tourist communities and 48 rural, non-tourist communities making up the two study groups are listed in the Appendix.

Data were collected from a variety of secondary sources which included the data base of the Massachusetts Executive Office of Environmental Affairs (1990), the U.S. Census (1980, 1990), Massachusetts Municipal Profiles (1990), Massachusetts Department of Commerce (1984), Massachusetts Department of Research Monograph (Gibney, 1984) and Massachusetts Town Annual Reports (1980, 1981, 1982).

### **Results**

Despite similarities in populations and, to a large extent, rural character of the study communities, there were many differences between tourist and non-tourist communities in both 1980 and 1990. In addition, numerous differences were found in their rates of change from one decade to the next.

If one assumes that tourism activity should be of benefit to local economies, one would expect increases in populations within tourist communities. In fact, over the past 10 years in Massachusetts, this was the case. The growth rate for rural, non-tourist communities was approximately 10 percent while the rate in rural, tourist communities exceeded 13 percent (Table 1).

On the other hand, one might also expect greater increases in the median family income within tourist communities, however, this was not the case (Table 1). It should be emphasized, however, that the differences between tourist and non-tourist communities was relatively small (9%). By 1990 the actual mean incomes were less than \$2,600 apart (tourist, \$39,600; non-tourist, \$42,200). It should also be noted that other research found that the relative impact of tourism income on a community's gross income is relatively low in rural communities (Kottke, 1985).

Table 1. Percent change in population and median income, 1980-1990.

Variable	Tourist	Non-Tourist	Difference
Percent increase in population growth 1980-1990	13 %	10 %	3 %
Percent Change in Median Family Income 1980-1989	102 %	111 %	-9 %

In 1980, the median value of houses in tourist communities was slightly more than one-third higher than in non-tourist communities (Table 2). At the end of the decade, that difference was reduced to 21 percent. Despite the fact that housing values did not grow at as a great a rate in tourist communities, overall property taxes in tourist communities grew at a substantially greater rate from 1980 to 1990 (Table 3). This finding would be expected if infrastructure needs were to become greater in tourist communities which would then necessitate higher taxes to support those services.

Table 2. Tourist and non-tourist 1980 - 1990 median house values.

Variable	Tourist	Non-Tourist	Difference
1980 Median House Value	\$59,000	\$44,000	\$15,000 (34%)
1990 Median House Value	\$170,000	\$140,000	\$30,000 (21%)
Percent Change Median House Value 1980-1990	188.1 %	218.2 %	30.1 %

As is evident in Table 4, this would seem to be the case. The combined expenditures for police, fire, human services and recreation in tourist communities exceeded those of non-tourist communities. Also apparent in Table 4 is the fact that in tourist communities more is spent to educate their pupils.

Table 3. Tourist and non-tourist 1980 - 1990 property tax evaluations.

Variable	Tourist	Non-Tourist	Difference
Total Property Tax Evaluation 1980 (in millions)	\$197	\$104	\$93
Total Property Tax Evaluation 1990 (in millions)	\$1,100	\$428	\$672
Percent Change Property Tax Evaluation 1980-1990	458.4 %	311.5 %	146.9 %

Table 4. Selected tax expenditures.

Variable	Tourist	Non-Tourist	Difference
Per Pupil Tax Expenditure 1980	\$1,900	\$1,500	\$400
Per Pupil Tax Expenditure 1990	\$3,900	\$3,400	\$500
Percent Change Per Pupil Tax Expenditure 1980-1990	105.2 %	126.7 %	- 21.5%
1989 Tax Expenditures for Police, Fire, Recreation, Human Services (in millions)	\$1.9	\$1.3	\$0.6

Finally, the acres of publicly owned recreation and conservation land in tourist and non-tourist communities were identified in the study communities. It was expected that tourist communities would have more of these resources, many of which might be directly connected to local tourism efforts. This did prove to be the case; more than 7,500 acres of municipally owned recreation and conservation areas were found in tourist communities compared to less than 4,800 acres in non-tourist communities.

### Summary and Conclusions

How, then, might rural, tourist communities in Massachusetts be characterized? Rural tourist communities seem to have experienced greater growth in population than rural, non-tourist communities over the past 10 years. Although the percent change in median family income in that period more than doubled in both study groups, rural, tourist communities lagged behind by almost 10 percent.

While differences in earning power were relatively small, considerable change took place in median housing values. Values in non-tourist communities increased at a substantially greater rate than in tourist communities, yet property taxes in tourist communities outpaced those in non-tourist communities by a considerable margin.

Among the variables examined in this study, perhaps those best quality of life indicators relate to the provision of education, recreation and community services. By 1990, tourist communities had acquired considerably more recreation and conservation land than non-tourist communities. In addition, in both 1980 and 1990 they spent more than their counterparts for public education and for the combination of police, fire, recreation and human services. It must be emphasized that it is not clear whether these expenditures stemmed from increased infrastructure needs, or out of a desire to enhance the quality of life through the provision of increased services to the community.

It is our opinion that the results of this study more accurately reflect the differences between rural tourist and rural non-tourist communities in Massachusetts than the differences that were found using 1980 data (Klar, Keegan and Warnick, 1985). This is probably due to differences in the samples; that is, in this study the number of tourist and non-tourist communities was increased. In retrospect, it is likely that the sample of 17 tourist and 17 non-tourist communities in the first study was too small, particularly for the non-tourist sample. Communities in the present sample should continue to be tracked on a regular basis.

These are but a few variables that seem to be connected to tourism and, even among these, the findings are not consistent. The question of whether tourism can, in fact, have a major impact on the economy and quality of life of local communities remains largely unanswered. Additional research is needed to compare these and other quality of life variables in tourist and non-tourist communities. Ideally, non-tourist communities that turn to tourism will be monitored very carefully and additional studies will be conducted which evaluate community life over the years in municipalities that continue to place a great deal of importance on the tourism industry.

## Appendix

### Non-Tourist Communities

Abington	Nahant
Acushnet	Northbridge
Amesbury	Northfield
Athol	Orange
Barre	Oxford
Blackstone	Palmer
Bookfield	Rockland
Cheshire	Sheffield
Dalton	Shirley
Dighton	Spencer
Dudley	Templeton
Easthampton	Tisbury
Essex	Upton
Hadley	Uxbridge
Hatfield	Ware
Hopedale	Warren
Hull	Wellfleet
Ipswich	West Bridgewater
Leicester	West Brookfield
Merrimac	Whitman
Middleborough	Williamsburg
Millbury	Winchendon
Monson	Winthrop
Montague	Wrentham

### Tourist Communities

Adams	Nantucket
Bourne	Newburyport
Brewster	Oak Bluffs
Chatham	Orleans
Deerfield	Provincetown
Dennis	Rockport
Eastham	Stockbridge
Edgartown	Sturbridge
Great Barrington	Williamstown
Lee	Yarmouth
Lenox	

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## ECONOMIC IMPACTS FROM SELECTED AIHP VISITOR CENTERS

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The expenditures of non-resident visitors to six historic sites in a nine-county region of southwestern Pennsylvania were analyzed with an input-output model of the local economy. These sites and their visitors contributed \$18.8 million of value added to the regional economy. This activity provided support for 844 jobs in the region.

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### Introduction

In 1991, the Southwestern Pennsylvania Heritage Preservation Commission, through its Economic Development Advisory Group, contracted with The Pennsylvania State University to develop a five year series of economic impact analyses of individual America's Industrial Heritage Project (AIHP) visitor centers. Each year, individual AIHP visitor centers are evaluated in terms of their regional economic impact and the behavioral and demographic profiles of their visitor audiences. This year-by-year build of information will eventually provide an overview of the entire AIHP system and an ability to project the future economic and marketing features of the system.

### Objectives

During 1992, the study focused on the economic impact of six individual AIHP visitor centers within a planning region consisting of Bedford, Blair, Cambria, Fayette, Fulton, Huntingdon, Indiana, Somerset and Westmoreland counties. Expenditures associated with these visitor centers were identified in terms of (1) regional purchases made by the non-resident visitors to AIHP centers, (2) public funds originating from outside the region and used for the operation of AIHP centers, and (3) public funds originating from outside the region and used for the capital development of AIHP centers.

The total economic impact of these expenditures was determined by the Impact Analysis for Planning (IMPLAN) model of the region. This model established the direct and secondary impacts resulting from the initial expenditures. Included in the secondary impacts are the indirect effects of inter-industry trade within the region and the induced effects of household consumption originating from employment in direct and indirect activities. Economic impact is measured in terms of value of shipments, value added to the total economy, and employment attributed to direct and secondary activities.

This report identifies the economic impact of five visitor centers surveyed in 1992 and one visitor center surveyed in 1991. During 1992, the following centers were surveyed:

- Allegheny Portage Railroad National Historic Site (AIPO)
- Horseshoe Curve National Historic Landmark (HC)
- Johnstown Flood National Memorial (JFMem)
- Johnstown Flood Museum (JFMus)
- Johnstown Inclined Plane (IP)

An estimate of the 1992 economic impact for the Altoona Railroaders Memorial Museum (RRM) was made using an update of the center's 1991 visitor expenditure patterns and its 1992 attendance records.

## Procedures

### Survey Methods

A random survey of visitors was completed in 1992 at selected AIHP sites during the peak tourism season, from June to mid-October. User information was collected through interviews at the visitor centers and a follow-up survey questionnaire. Candidates for the interviews were selected on a random sample basis. The interview solicited information on the respondent's socio-demographics and related trip information. The respondent was then given a follow-up questionnaire, to be mailed back after the completion of the trip. This latter instrument secured information on total trip expenditures and further details on the respondent's socio-demographics, behavior patterns, and perceptions of the AIHP sites.

The sample of visitors gathered during each week at a particular visitor center was classified as a survey group. Thank you/reminder postcards were sent to each survey group on the Monday following each week of interviews. If no response was received, a follow-up survey was mailed to each visitor on the second Friday following the completion of a survey week. A final reminder postcard was sent one week from the second Friday. All follow-up surveys were coded to designate whether the return survey was from the questionnaire initially handed out at the site or the one sent in the second mailing.

### Organization of User Expenditures

The expenditure profile for the visitor was established from their survey questionnaire. This included an itemized listing of all expenditures made within the nine-county region during their AIHP site visit.

For the purposes of identifying economic impact, the visitors were classified into four categories. The first category included residents of the study region. Since their expenditures did not represent an influx of new money to the region, these amounts were excluded from impact analysis. In the case of non-residents, if the AIHP site visit was the primary purpose of their trip, then all of their regional expenditures were attributed to the site. If the AIHP site visit was one of several mutually important purposes for the non-resident's trip, then their regional trip expenditures were divided equally among the several purposes. Finally, if the AIHP site visit was of minor importance to the non-resident's trip, then only their daily expenditures were considered, with this cost divided among the number of activities pursued on the day of the AIHP visit.

Average expenditures per visitor day were calculated for each site. Visitor expenditures were further classified by type of major purchase (e.g., food, transportation, and lodging). Site-related expenditures, even if they pertained to food, transportation or lodging, were classified separately. Miscellaneous purchases not tied to the site were organized as a fifth class. Within each of these classes, a more detailed stratification was made relevant to the actual industrial sector producing the good or service. Averages were calculated for the amounts directed to each industrial sector, and entered into the IMPLAN model as absolute expenditure levels for further analysis.

### Economic Modeling System

The economic contributions of the America's Industrial Heritage Project (AIHP) were modeled with the Impact Analysis for Planning (IMPLAN) System, developed by the USDA Forest Service in cooperation with the Federal Emergency Management Agency and the University of Minnesota. The IMPLAN model was designed by the Forest Service to estimate the regional economic impacts of management plans for National Forests (Alward et al. 1985). IMPLAN is a computerized data base and modeling system for constructing regional economic accounts and regional input-output tables.

Regional expenditures were organized into final demands on regional industries. In the case of retail goods, these direct sales were less than the regional expenditure. This resulted from the model treating retail sales outlets as margined sectors. In this situation, only the value added for the retail outlet was identified with the sector, with the actual cost of the commodity directed back to the producing industry.

Final demands, or direct sales, were analyzed by IMPLAN in terms of their indirect effect on other supporting industrial activity and their induced effect from the income spent by households employed in direct and indirect activities. The combination of direct, indirect, and induced effects (total impact) was measured in terms of the total sales of goods and services, the value added to the region's economy, and annual employment.

## Results

### Survey Responses

A total of 2114 surveys were taken at the five visitor centers during the 1992 season. The survey period ran from June 1 to October 10, 1992. From these initial surveys, 1766 responses were secured by way of completed mail-back questionnaires, representing an overall response rate of 83%. This compared well to the previous 1991 survey season, which netted 1718 completed questionnaires from five sites for an 83% response rate.

### Annual Attendance

Attendance at the visitor centers was gathered by site managers. The origin of these users, as residents or non-residents of the nine-county AIHP region, was based on the visitor surveys (Table 1). The Flood Memorial and Flood Museum displayed a greater percentage of non-residents (65% and 73%, respectively) than did the Inclined Plane or Allegheny Portage (53% and 56%, respectively). Somewhat in contrast, the Railroaders Museum and Horseshoe Curve showed the highest percentage of non-residents (77% and 80%, respectively).

Table 1. Annual attendance at AIHP visitor centers and distribution of attendance among residents and non-residents of the nine-county AIHP region, 1992.

Visitor Center	Attendance	Resident	Non-Resident
ALPO	37,528	44.5%	55.5%
RRM	28,054	23.0%	77.0%
HC	172,424	21.1%	79.9%
JFMem	60,468	34.9%	65.1%
JFMus	36,342	26.8%	73.2%
IP	170,737	47.1%	52.9%
<b>Total</b>	<b>505,553</b>		

The non-resident visitors to AIHP centers identified the relative importance of their site visit in the context of their regional trip (Table 2). At the Horseshoe Curve, 62% of the non-residents placed their site visit as the primary purpose of their regional trip. This ranking was also found among 37% of the non-residents at the Flood Museum and 32% at the Flood Memorial. A fairly narrow range of non-residents ranked their AIHP site visit as one of several mutually important purposes to their regional trip (shared), ranging from 14% of the non-residents at Horseshoe Curve to 22% at Allegheny Portage. The third classification ranked the AIHP visit as a minor component of the non-resident's overall regional trip. Only 24% of the non-resident audience at Horseshoe Curve used this classification. Approximately one-half of the non-resident visitors at the Flood Museum, Flood Memorial, and Allegheny Portage classified their visit as a minor event. Nearly 70% of the non-resident visitors to the Inclined Plane used the same classification.

Table 2. Distribution of non-residents classifying their AIHP visit as primary, shared, or minor to their regional trip.

Visitor Center	Primary	Shared	Minor
ALPO	22.6%	21.5%	55.9%
RRM	17.4%	28.2%	54.4%
HC	62.3%	13.6%	24.1%
JFMem	31.5%	15.6%	52.9%
JFMus	37.1%	15.1%	47.8%
IP	13.4%	18.3%	68.3%

### Visitor Expenditure Profiles

A review of the average expenditures per visitor day shows a marked contrast between resident and non-resident visitors (Table 3). Not surprising, non-residents spent three to four times more than residents, largely due to their dependence on local businesses for food and lodging services and their increased cost for transportation.

Table 3. Average regional expenditures per visitor day for resident and non-resident visitors to AIHP centers, 1992.

Visitor Center	Resident	Non-Resident	All Visitors
ALPO	\$7.89	\$38.93	\$25.12
RRM	\$14.17	\$51.39	\$42.91
HC	\$17.97	\$55.62	\$47.66
JFMem	\$13.56	\$39.61	\$30.51
JFMus	\$13.29	\$48.18	\$38.82
IP	\$12.22	\$33.81	\$23.65

On an absolute measure, the non-resident visitors to the new Horseshoe Curve facility registered the largest average expenditure level, \$55.62 per visitor day. The next largest expenditure levels for non-resident visitors were at the Altoona Railroaders Museum (\$51.39/vd), Johnstown Flood Museum (\$48.18/vd) and the Flood Memorial (\$39.61/vd). Of interest, the resident visitors at Horseshoe Curve had the largest expenditures among all resident AIHP visitors, \$17.97 per visitor day.

On the basis of types of expenditures made by non-resident visitors, the lead item at most sites was food-related costs, usually involving about one-third of the average daily expenditures (Table 4). Following food costs were lodging expenses, representing from 20 to 30% of total expenditures. Transportation ranked third, representing 15 to 20% of the total. All other expenditures associated with the trip ranged from 10 to 15% of the daily totals. Site-related costs, including such items as entrance fees and souvenirs, typically accounted for 10% of daily expenditures.

Table 4. Allocation of average expenditures for non-resident visitors by site and type of expense.

Visitor Center	Food	Lodging	Transport	Site-related	Other
ALPO	31.2%	21.9%	22.3%	9.4%	15.3%
RRM	31.2%	20.1%	22.1%	10.2%	16.5%
HC	29.7%	31.4%	15.3%	11.3%	12.3%
JFMem	31.6%	25.4%	18.4%	8.6%	16.1%
JFMus	33.2%	31.3%	15.5%	10.8%	9.3%
IP	33.8%	24.0%	18.3%	9.2%	14.6%

### Total Annual Expenditures

Total annual regional expenditures attributed to resident and non-resident visitors (Table 5) was provided by the multiplication of each AIHP site's annual attendance by their respective average visitor expenditure levels. Expenditures attributed to non-resident AIHP visitors represented 87% of the regional total. The \$15.1 million in non-resident expenditures was largely attributed to two AIHP visitor centers -- Horseshoe

Curve with 51% of the total and Johnstown Inclined Plane with 20% of the total. The remaining four centers contributed individual shares ranging from 5 to 10% of the total.

Table 5. Total annual regional expenditures for resident and non-resident visitors to AIHP centers, 1992.

Visitor Center	Resident	Non-Resident	All Visitors
ALPO	\$131,763	\$810,836	\$942,598
RRM	\$48,207	\$747,345	\$795,552
HC	\$653,775	\$7,662,588	\$8,316,363
JFMem	\$286,161	\$1,559,234	\$1,845,396
JFMus	\$129,440	\$1,281,701	\$1,411,141
IP	\$982,697	\$3,053,715	\$4,036,412
<b>Totals</b>	<b>\$2,232,043</b>	<b>\$15,115,419</b>	<b>\$17,347,462</b>

Two other types of expenditures were added to the IMPLAN analysis. The first type was federal monies used for the operation of two National Park Service sites (Allegheny Portage and Johnstown Flood Memorial) and the federal contribution to operating costs at the Horseshoe Curve. Federally supported operating costs for the three sites amounted to \$1.87 million in 1992. The second type of "non-resident" expenditures was federal funds used for capital development at two of the AIHP sites. This amounted to \$124 thousand in 1992, with 91% tied to Allegheny Portage and 9% to the Johnstown Flood Memorial. For purposes of this study, the \$2.0 million in federal operating and development funds was organized as a separate economic center for IMPLAN evaluations.

Table 6. The economic impact of six AIHP visitor centers on the nine-county economy, 1992.

Visitor Center	Direct Sales	Total Sales	Value Added	Wages/Salaries	Employment
ALPO	\$495,200	\$1,372,600	\$868,200	\$538,300	38.6
RRM	\$649,200	\$1,856,300	\$1,101,700	\$656,500	51.6
HC	\$4,702,300	\$13,505,700	\$7,985,300	\$4,775,200	374.0
JFMem	\$900,200	\$2,554,500	\$1,612,200	\$998,800	72.6
JFMus	\$715,600	\$1,856,600	\$1,096,400	\$640,300	46.8
IP	\$1,835,000	\$5,528,100	\$3,354,200	\$1,980,600	161.1
Federal	\$1,248,800	\$2,533,900	\$2,831,350	\$2,213,050	99.9
<b>Totals</b>	<b>\$10,546,300</b>	<b>\$29,207,700</b>	<b>\$18,849,350</b>	<b>\$11,802,750</b>	<b>844.5</b>

### Summary

Just over one-half million visitor days were registered at the six AIHP centers during 1992. Nearly 67% of this audience originated from outside the nine-county study region, spending \$15.1 million within the region in conjunction with their AIHP visits. The average expenditure profile showed \$44.95 per visit, with 33% directed to food and food services, 28% to lodging, 17% to transportation, and 22% to site-related and other purchases. An additional \$2.0 million in regional expenditures was credited to the AIHP centers on the basis of federally supported operating and development costs.

The IMPLAN analysis of regional expenditures showed \$10.5 million in direct sales credited to specific economic sectors. About 50% of the direct sales were in the service sector, primarily identified with hotels, automotive repair, and the sites themselves. An additional 35% in direct sales was in the wholesale and retail sector, representing such businesses as restaurants, gas stations, food stores, and wholesalers.

The secondary effect of direct sales, measured in terms of indirect industrial activity and the induced household demands, totaled \$18.8 million. The lead sector, with 27% of the total, was finance, insurance, and real estate, largely due to business and household demands for financial services and the household sector's investment in real estate. Other key sectors were services - with 25% of the secondary activity;

In total, \$17.1 million in non-resident expenditures were attributed to the six AIHP visitor centers, with 88% tied to non-resident visitor expenditures and 12% to federal monies used for the operation and development of these six centers. These expenditures were introduced to the nine-county IMPLAN model, specific to the particular economic sectors receiving the payments.

### Economic Impact

In developing the economic impact of non-resident expenditures, these initial amounts were allocated as final demands to appropriate industrial sectors. Final demand, or direct sales, does not include the value of retail goods produced outside the region. The subsequent rounds of secondary activity were generated by inter-industry trade and commerce (indirect sales) and household consumption originating from the employment tied to direct and indirect sales (induced sales). Total sales are identified in this report as the sum of direct and secondary sales. Value added represents that portion of total sales attributed to employment, capital use, profit, and taxes. Whereas the cumulation of total sales among various sectors could include a certain "double count" (one sector's input costs can represent another sector's output revenue), the accumulation of value added omits this duplication providing a net measure of economic gain within the region. An important component of value added is the employee income garnered by the region's labor force. This was also measured by the number of jobs, reported on an annual measure of full-time and part-time positions. A summary of the economic impacts is presented in Table 6.

wholesale and retail trade - with 19%; transportation, communications and utilities - with 10%; and manufacturing - also with 10%. Total direct and indirect sales within the region credited to the six AIHP centers was \$29.2 million.

The net gains to the various sectors, identified in terms of value added, was \$18.8 million. In addition to the key sectors that participated in direct and indirect sales, the National Park Service was credited with 7% of the value added, on the basis of NPS employment. Employment supported by direct and secondary sales amounted to 844 jobs with an annual payroll of \$11.8 million. Two sectors realized most of this employment gain: wholesale and retail trade with 44% of the jobs and 32% of the employee income and the service sector with 35% of the jobs and 35% of the income.

### Conclusions

The six AIHP visitor centers represent a unique cultural and historical aspect of this region and the nation. They describe, in part, the industrial revolution of the 19th century as it occurred in southwestern Pennsylvania. Their presence insures a continued dialogue and interpretation of this important part of Pennsylvania's and America's heritage.

Allied to this role are the economic benefits associated with travel and tourism. Here, we can measure the sales registered and the jobs supported by the influx of visitors to this region.

The six AIHP centers contributed \$29.2 million in total sales and \$18.8 million in value added to the nine-county region. Over 844 jobs and \$11.8 million in income were generated by this recreation-based activity. These were the tangible economic benefits to the region attributed to the six AIHP visitor centers.

#### **Further Work**

As currently planned, the five year project will provide a year-to-year build of information on the expenditure characteristics and overall economic impact of the entire AIHP system in the nine-county region. This will include other AIHP visitor centers and an updating of economic impacts for AIHP centers previously studied. This will lead to a total economic description of the entire AIHP system and predictions of future growth.

A more rigorous examination of the nine-county region is also available in terms of the cause-effect relationships among particular SIC industries. Allied with this effort will be an evaluation of the relative strengths and weaknesses of this nine-county region in meeting the economic needs of an expanded AIHP system.

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## THE ROLE OF RURAL TOURISM IN COMMUNITY DEVELOPMENT—A CAVEAT<sup>1</sup>

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This paper draws upon the interactional approach in sociology to better understand the relationship between rural tourism development and sustainable community development. Hopefully, this understanding will enable individuals and organizations involved in rural tourism development to be more effective in attaining the goal of truly benefiting communities and their residents for the long term.

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### Introduction

While the popular view of tourism is that of "urban bigness" (Gunn 1988, p. 237), this perspective neglects a major segment of tourism. As tourism demand has diversified, the role that small towns and rural areas play in regions beyond the major cities has been recognized in terms of the provision of strong resource assets for tourism. Many rural areas have willingly, or unwillingly, become "host" communities to a growing influx of tourists attracted to resource amenities of the rural environment. Much of the impetus of this attraction may be attributed to the images individuals hold of rural areas.

Advertisers have long recognized the market potential of rural images and have used it to sell a wide range of products, many which are only tangentially related to rural life (Goldman and Dickens 1983). If rural images can be used to market these products, it seems reasonable to expect that the same images can be used to attract tourists to small town communities and rural areas for sight-seeing, shopping and other vacationing activities, and in the process make a contribution to the local rural economy (Willits, Bealer and Timbers 1992, p.11).

According to a recent state-wide survey conducted in Pennsylvania (Willits et al. 1992), a substantial proportion of state residents held positive images about rural living, agrarian values, and wilderness areas. These findings suggest that the population as a whole in the state, where 80% of the people reside in Metropolitan Statistical Areas, sees rural people and places as good, wholesome and desirable. "Indeed, the positive imagery is so strong and so pervasive that it seems appropriate to speak of a 'mystique' of rurality" (Willits et al. 1992, p.8). These findings demonstrate that there exists in Pennsylvania, and perhaps elsewhere in the nation, a deep reservoir of warm feelings about rurality (Willits et al., 1992, p.10). For many people, subscribing to the "rural mystique" translates directly into rural lifestyle choices—choosing rural-based leisure activities such as camping, hunting, fishing, picnicking, and sight-seeing in rural areas, buying produce directly from farmers, and enjoying shopping in small towns.

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Clearly, there can be many benefits for rural communities and areas involved in tourism development initiatives and efforts (The Economic Policy Council Working Group on Rural Development 1990; The Federal Task Force on Rural Tourism 1989; Subcommittee on Procurement, Tourism, and Rural Development of the Committee on Small Business 1989, 1990). Tourism development is being promoted as a viable economic development strategy for rural communities attempting to address the multitude of problems facing them in the modern world (Brown 1992; Stokowski 1992). The hope here is that tourism will help stabilize, diversify and improve the local economies of struggling rural communities, and help improve the quality of life in rural societies. Rural tourism development is often thought of as contributing to the viability and sustainability of rural communities, and to overall community development.

However, without careful planning and local control, the negative impacts of tourism can have devastating effects on rural communities. Recently, tourism development in rural communities has been approached with a sense of caution (Goodall and Stabler 1992), recognizing that "... ill-conceived and poorly planned tourism development can erode the very qualities of the natural and human environments that attract visitors in the first place" (Inskeep 1991, p. 460). In response to the potentially exploitive tendency of rural tourism development, the concept of "sustainability" has recently become associated with developmental initiatives and efforts (French 1992; Long and Nuckolls 1992). A critical challenge associated with sustainability is to not degrade environmental resources nor negatively exploit local human and cultural resources, in order that resources are maintained for present and future generations.

Therefore, keeping all of this in mind, our focus is to examine the role of tourism in relation to rural community development. As a field of inquiry, tourism is relatively new. As such, studies of tourism impacts on communities have been criticized for lacking a theoretical base or foundation (Burr 1992). The purpose of this paper is to draw upon one theoretical approach in sociology helpful in understanding the relationship between sustainable tourism development in rural communities and community development. Hopefully, this understanding will clarify the role of tourism development in rural areas and will enable individuals and organizations involved in rural tourism development to be more effective in attaining the goal of truly benefiting communities and their residents for the long term.

### An Interactional Approach to Community and Community Development

The concept of community is a puzzling but frequently studied social phenomenon. Basically, the substance of community is the patterns of relationships among people that have developed through the centuries to ensure human existence. Taken collectively, these patterns of relationships among people are known as social interaction, the one commonality that really stands out among the many sociological definitions of community (Wilkinson 1990). Social interaction is the foundation of community, involving individuals and groups working together in pursuit of commonly-held goals (Wilkinson 1990). It is natural and inherent to human existence—a given, whenever and wherever people live together. Community occurs through human interaction, simply connecting people through their relations with others, allowing for interaction as individuals and groups go about living their daily lives, and in this process establishing a sense of community (Wilkinson 1992).

This interactional approach to community recognizes three necessary elements for the emergence of community. First, there is a locality or place where together people meet their daily needs. Second, there exists a more or less complete local society of organizations and groups. Third, there is the opportunity for interaction, where community members,

whose lives are connected through a range of associations and collective actions, share interests in a local social life (Wilkinson 1991). These connections indicate the formation of a special kind of social field—a community field (Wilkinson 1970). In the presence of a viable community field, the activities of individuals and groups are less oriented to the pursuit of special interests and become more oriented towards the general needs and concerns of the entire community as a whole. Where these conditions exist, community naturally emerges, and contributes to the social well-being of community members. Where these conditions do not exist, community is blocked and social well-being is at risk (Wilkinson 1992).

Summers (1986) suggested that there are two types of development related to community, *development in* community and *development of* community. *Development in* community focuses primarily on factors such as economic growth, increased employment opportunities, or increased median family income. *Development of* community often involves the creation and maintenance of integrative social structures. Community development, as an interactional concept, refers to collective efforts by local residents for the purpose of building community relationships among themselves, or the development *of* community. If growth is to be an effective means of promoting rural community development, it should involve and encourage community action. Here the emphasis is on the process, because development is in the doing, in the efforts of people and not necessarily in the outcomes or achievements (Wilkinson 1990).

#### **Economic Stability of Rural Communities**

Rural communities continue to lag behind urban areas in terms of higher education and health care (LeDuc 1991), employment rates, job growth, median family income, and equality of housing (Flora and Christenson 1991), and many other public services (e.g., fire and police protection, transportation facilities, and water and sewage systems) (Willits, Bealer and Crider 1982). To address these problems community leaders have historically focused on economic development strategies in hope of ultimately achieving economic stability (Smith, Hogg and Reagan 1971). Usually economic strategies in rural communities have been developed around "... 'basic industries' and the multiplier effect ..." (Olsen and Johnson 1990). McCool (1992) suggested that in the West, communities have implemented various types of economic development strategies focusing on basic industries including, "... timber harvesting, mining, oil and gas, coal and agricultural" (p. 5). These resource-based communities are often dependent upon a single industry, and many experience "boom-and-bust" economic cycles at least to some degree (Grambling and Freudenburg 1990; Marchak 1990; Robinson 1984; Weeks 1990). Other communities have developed an economic base with a single focus (e.g., defense installations, manufacturing plants, gambling, nuclear energy), and also often become entangled in this "economic roller-coaster" (Pulver, Selik and Shaffer 1984). While there are diverse reasons for these boom-and-bust cycles, such as trends towards globalized economies, capital mobility, and devaluation of labor (Flora 1990), a commonly cited reason for economic instability in these communities is the narrowness of their economic base (Robinson 1984). Tourism development is presently touted as a viable economic development strategy to diversify a rural community's economic base and therefore has the potential to lead to economic stability (Dorsey 1989; Hunt 1992; LeDuc 1991; Long and Nuckolls 1992).

The aforementioned economic development strategies are examples of *development in* community—focusing primarily on such factors as economic growth, increased employment opportunities, or increased median family income, rather than *development of* community—creating and maintaining integrative social structures (Summers 1986). For example, local actions can be directed toward economic development,

say through efforts to increase tourism in a community. Individuals and groups involved in such actions perform certain tasks that are oriented towards accomplishing the specific goals of tourism development. These actions and interactions represent the formation of a special interest field, where efforts by individuals and groups within a community focus solely on the economic development strategy of tourism development (*development in* community), rather than the general needs and concerns of the entire community (*development of* community).

The caveat or warning presented within this paper pertains to the rationale behind the use of tourism as an economic development strategy. Tourism may help diversify a rural community's economic base and lead to *development in* community. However, from an interactional perspective, understanding rural tourism as a special interest field may lead to *development of* community and may be more helpful in establishing sustainable rural communities.

#### **Implications of Rural Tourism Development as a Special Interest Field of Community Action**

Rural tourism development can play a part in reaching the goal of community development. Ideally, rural tourism development involves community action. Community members' support and involvement are important components of sustainable rural tourism development, for these local actions and interactions help ensure the protection and preservation of environmental and community amenities which are the foundation of tourism (McCool 1987). From an interactional perspective, local action in tourism development offers key opportunities for interaction within the community, leading to relationships between and among community members and other special interest fields, and allowing for the natural emergence of community (Wilkinson 1992).

There are many examples of dynamic rural tourism development where community interactions start with a specific local action initiated by a few key leaders in their community and lead to further community development (Dahms 1991; Fleming 1988; Lins 1991; Stokowski 1992; Stubbles 1990; The Wilderness Society 1992). Often governmental officials and organizational leaders provide support and legitimation to these highly involved leaders. Common interests and overlapping group memberships among these leaders provide a basis for cooperation and are an indication of a functioning community field. However, even with strong local leadership and community interest and support, it is often necessary to obtain the expertise of specialists not available locally for planning and implementing complex projects, and to secure outside funding in order to realize most large-scale projects (Israel and Beaulieu 1990). The successful implementation of sustainable rural tourism development in a community is often dependent upon a community's ability to establish connections with other special interest fields and other community fields. This can lead to dynamic sustainable development of rural tourism, creating opportunities for further community development and contributing to the general quality of life for community residents.

Community development is represented in efforts to develop the community field, the network of social interactions that includes and integrates a variety of interests found in the local society (Wilkinson 1991). An effective approach for individuals working together on some community project is to focus on the relationships that develop as they work together. Using rural tourism development as an example, the goal of increasing jobs and income for local residents through tourism development initiatives, drives the action, but special attention paid to relationships among local residents can have the effect of making sure this action truly addresses common local needs. Otherwise, local economic development can be divisive and disruptive as elite local players, in league with outside investors, scramble for private profits at the expense

of community welfare. Community development can occur if individuals and groups working in tourism development also make efforts to build relationships through which community actions can occur on other issues, thus providing opportunities for further community development. Community actions would meet the needs of all people and create an atmosphere where interaction flows freely and openly among all individuals and groups.

The solution here is purposive intervention at all levels of government to protect rural interests and to remove barriers in order for the process of community development to succeed. Intervention must be focused on the essential steps in the process of community development (Wilkinson 1992, p. 7-8). First, the opportunity must be created for people to participate as the main players in the process of identifying and tackling community problems. Facilitation of local leadership and wide residential participation in planning and decision making about community change is very necessary. Second, inequality must be reduced—in rural-urban power relations and between the disadvantaged and more powerful groups. This requires local influence and control, education, as well as opportunity. Third, new modes of rural organization are required to focus community efforts on problems common to all residents. Mobilization of local and extra-local resources—people, ideas, materials and money—is a fourth essential step. A fifth step is informed decision making through better access to information to aid in making sound decisions about community goals and action strategies. Finally, the most important step is the action itself—community action builds the capacity for subsequent community actions as it creates networks, roles and a pool of shared experience. The development of community can be self-sustaining if all these steps are possible.

The effective implementation of sustainable tourism development appears to occur in highly interactive communities where local leaders from diverse special interest fields interact with one another, and in the process create a viable community field, the network of social interactions that includes and integrates a variety of special interests found in the local society. The main task confronting all of these special interest groups is to remove those barriers and constraints interfering with the natural tendency of community to develop, by simply making sure that nothing prevents the development of relationships and free-flowing interaction from happening.

An awareness and application of the components of an interactional approach to community development can help in the implementation of a policy of sustainable tourism development, regardless of whether a rural community is attempting to develop rural tourism as an economic development tool or simply attempting to capture the economic benefits of current tourism visitation.

Local efforts directed towards sustainable tourism development in rural communities also contribute to the long-term sustainability of those communities. In the presence of a viable community field, the activities of individuals and groups become less oriented to the pursuit of special interests, such as tourism development, and more oriented towards meeting the general needs and concerns of the entire community as a whole, resulting in community sustainability. Whatever economic development strategy is selected, an interactional community will be able to move towards sustainability because community members have developed the ability to adapt to changing trends and needs, and to select and integrate development strategies with a goal of benefiting all community members.

Not all rural communities lend themselves equally well to economic revitalization efforts through tourism development. Distance from population centers, the nature of access, and the characteristics of the local area may restrict or enhance such

development (Willits et al. 1992). However, in all instances, local communities must weigh the advantages against the costs of tourism development. Social impacts from visiting tourists, more intensive development of historical, cultural and natural resources, and increased burdens of infrastructural support, must be offset by advantages of social and cultural exchange and strengthened economies (Gunn 1988, p. 249). Rural communities need to utilize all strategies available to them to increase their awareness about tourism and to initiate effective actions to deal with tourism development. In the process, rural tourism development, as a special interest field of community action, can encourage, cultivate and contribute to sustainable rural community development.

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*RECREATION RESOURCE  
MANAGEMENT*

## INCREASING CUSTOMER SATISFACTION WHILE CUTTING BUDGETS

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The intent of this paper is to demonstrate the successful implementation of a "cutback" strategy which changed the mission of the Ohio Division of Parks and Recreation to one which focused upon customer satisfaction, reorganized the Division into a responsive horizontal structure, and installed a customer satisfaction feedback system which produced measurable increases in customer satisfaction. The statistical accuracy of the customer satisfaction feedback system is demonstrated through an independent follow-up survey conducted by The Ohio State University Polymetrics Laboratory. Lastly, we will show that this measurably successful strategy was atypically implemented during a time of severe budget cuts. It was installed in a period when the inclination of many other public organizations under similar circumstances is to "hunker down" and do less with less.

### The Change in Mission

Prior to 1992 the mission of the Ohio Division of Parks and Recreation was perceived to be that contained in the 1949 legislation establishing the Division. It embodied the work processes of the Division and stated that the Division of Parks and Recreation was to "...create, supervise, operate, protect, and maintain a system of state parks and promote the use thereof by the public."

In 1992 we restated that mission, one which embodied the work products of the Division and stated that the Division of Parks and Recreation was to "...produce the service of an outdoor recreational experience for visitors to Ohio State Parks which meets or exceeds their expectations."

This new mission translated into many major changes in the key policies of the Division. The major thrust of these changes can be summed up as follows:

The old: policies and procedures were designed to insure customer compliance with rules and regulations and to facilitate administrative practices.

The new: policies and procedures are designed to insure customer satisfaction and rules and regulations will be modified as necessary to ensure customer satisfaction.

Two examples of policy changes taking place include:

1. The expansion of pet camping provision to all campgrounds from a few.
2. The change in check-in times in campgrounds to accommodate specific clientele such as fishermen staying out late on the lakes.

### The Reorganization

The approach to "rightsizing" the Division of Parks was to eliminate layers of middle management and to delegate a much higher degree of responsibility and accountability directly to the park managers in the field. The four district offices were eliminated in favor of a regional cluster organization which required no additional manpower. The regional cluster coordinators do not supervise the park managers in their clusters. Rather, they coordinate the cluster's activities as a team function. Park managers are now empowered to unilaterally make a wide range of decisions without seeking approval from a higher authority. (An organization chart of the old organization is shown in Figure 1, and the contrasting new organization chart is shown in Figure 2.)

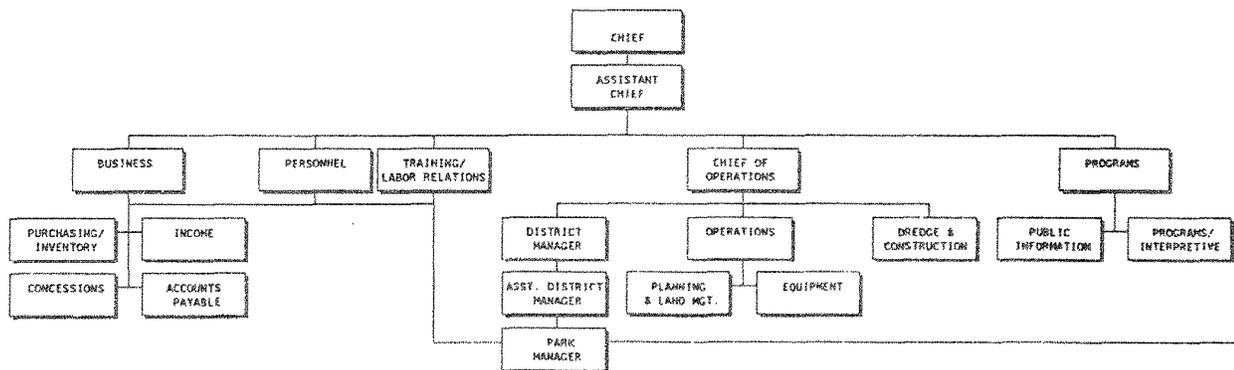


Figure 1. The Division of Parks and Recreation prior to November 25, 1991.

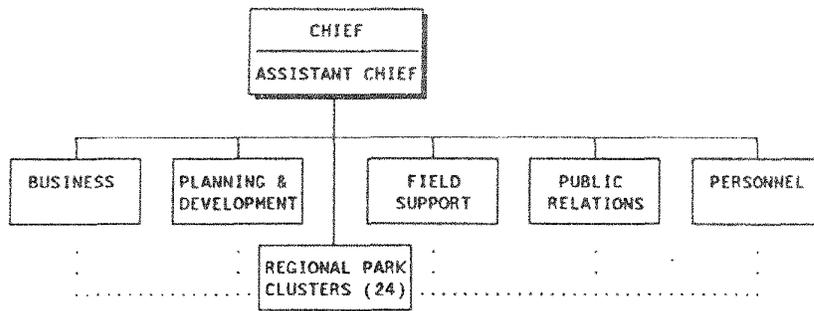


Figure 2. The new organization of the Division of Parks and Recreation.

Park managers became responsible for the first time for supervising all employees in their parks and for budgeting all of their funding. The hiring, scheduling, and supervising of park naturalists by the Columbus office and districts was ended and park managers assumed all supervisory duties for naturalists working in their parks. The centralized construction crews were reduced significantly in favor of using existing park maintenance staffs on projects; especially over the winter. Full time employees such as campground coordinators, park rangers, and others were replaced with summer seasonal employees to decrease fixed costs in the winter. A rigorous zero based budgeting system was also implemented for the managers at this time.

This reorganization resulted in the reduction of permanent full time employees from approximately 813 to just over 650. Much of the reduction was accomplished through early retirements, directed reassignments to vacant positions, and abolishment of vacant positions. However, a total of nearly 81 full time employees had to be laid off in this process. The business of parks is one of high fixed costs and low variable costs. Salaries and wages consume 72% of our operating funds. This fact alone dictates that any reorganization must significantly impact numbers and categories of employees.

Out of this very major reorganization came an organization which is very horizontal in structure, with many fewer layers, which delegates vastly more authority to the managers of the 72 parks, and within which employees operate in a much more "matrix" or "collegial" mode. Most importantly, the new organization focuses the human resources of the Division in the parks where we deliver our product of visitor services and in the summer season when most of our park visitors come.

In 1991 over 10% of the operating funds of the Division were spent on district and central office "overhead". Today only about 4.7% of the operating funds for the Division are spent for "overhead" in the central office. The balance of 95+% is spent on producing the services for our visitors in the parks.

Reorganization is also an ongoing process for the foreseeable future. Each vacancy is evaluated and a decision made as to the most effective and efficient use of the financial resources it represents in terms of customer service.

### System for Increasing Customer Satisfaction

Customer surveys are a dime a dozen in the private sector and are beginning to get that way in the public sector. To loosely paraphrase Grantland Rice: "It ain't whether you have a customer survey system that counts; it's how you analyze and use its data." In our exploration of customer surveys we found many instances in which the surveys were just filed and forgotten. In other instances the negative comments and positive comments were answered routinely by a "customer complaint person" and front line operating people were not involved. We felt that there was real potential to make a difference in our operations if we could involve the employees

actually doing the job with the data we would receive from a customer satisfaction survey.

For the 1992 heavy use season of May through September, when 80% of the visitation occurs in Ohio State Parks, we installed a customer survey feedback system which involved the front line employees. Ohio has one of the nation's largest and most heavily visited state park systems. It is comprised of 72 state parks serving 65 million visitor occasions annually. Only New York and California compare in scope and usage.

We prepared and printed 200,000 customer surveys (a copy of this survey is shown in Figure 3, next page) and followed up with a second printing of 200,000 more later in the summer. These surveys were available to our visitors everywhere in the parks. They were at restaurant cash registers, in lodge and cabin rooms, at golf pro shops, at beach lifeguard and concession stands, at dock and boat ramp facilities, at every campground check-in station, on picnic shelters and the like. Employees in all capacities also passed them out directly to visitors not otherwise contacted.

The surveys were addressed to the Chief of the Ohio State Park System and were returned directly to Columbus. They were entered into a database, copied, and filed. Each week a bundle of the copies were sent to each of the park managers. The managers in turn shared them with their operating staffs and analyzed them for ways they could improve customer satisfaction by correcting things complained about, by implementing customer suggestions, and by capitalizing upon customer pleasing items singled out in the returns.

We also reviewed the returns on a park by park basis at headquarters and made "suggestions" to park managers on items which were recurring and which obviously were not receiving attention over the course of the weeks and months.

The response of the front line employees was surprisingly favorable. We found that most employees appreciated feedback and responded favorably to the ideas presented by our customers. This was no doubt aided by the 87% above average favorable response rate that our customers returned. Employees really do like to get favorable feedback on how well they are doing their job; especially from their customers.

We received about 2,000 responses a month for our five month summer period for a total return of 9,832 survey forms. A statistical strength of our survey lies in its almost 10,000 replies.

We ran a summary sheet for each month and a cumulative one for the entire five month season. (The cumulative summary for the entire season is shown in Figure 4.) We were able to demonstrate an increase in the overall average of customer satisfaction each and every month of the 1992 visitor season through this system. (See Figure 5 for a graphic display of the monthly overall average numbers.)

*As chief of the Ohio Department of Natural Resources, Division of Parks and Recreation, I strive to provide the best possible experience for all park visitors. Your comments can help me make our parks a better place for you to visit. Please take just a few minutes to fill out applicable sections of this evaluation form and drop it in the mail to me.*

How would you rate your visit to this park overall?      Excellent    Good    Average    Poor    Unacceptable  
                                                                               

Specifically, how would you rate the following ...

	Excellent	Good	Average	Poor	Unacceptable	
<b>General Park</b>						
Appearance	<input type="checkbox"/>	Comments: _____ _____ _____ _____ _____				
Cleanliness	<input type="checkbox"/>					
Convenience	<input type="checkbox"/>					
Employee Helpfulness	<input type="checkbox"/>					
Facilities Condition	<input type="checkbox"/>					
Your Experience	<input type="checkbox"/>					
Services You Received	<input type="checkbox"/>					
<b>Campground</b>						
Cleanliness	<input type="checkbox"/>	Comments: _____ _____ _____				
Appearance	<input type="checkbox"/>					
Employee Helpfulness	<input type="checkbox"/>					
Facilities Condition	<input type="checkbox"/>					
<b>Cabin</b>						
Cleanliness	<input type="checkbox"/>	Comments: _____ _____ _____				
Comfort	<input type="checkbox"/>					
Facilities Condition	<input type="checkbox"/>					
<b>Lodge</b>						
Activities	<input type="checkbox"/>	Comments: _____ _____ _____				
Facilities Condition	<input type="checkbox"/>					
Cleanliness	<input type="checkbox"/>					
Employee Helpfulness	<input type="checkbox"/>					
<b>Food Service</b>						
Quality	<input type="checkbox"/>	Comments: _____ _____				
Service	<input type="checkbox"/>					
<b>Picnic Areas</b>						
Cleanliness	<input type="checkbox"/>	Comments: _____ _____				
Facilities Condition	<input type="checkbox"/>					
<b>Beach</b>						
Employee Helpfulness	<input type="checkbox"/>	Comments: _____ _____ _____				
Cleanliness	<input type="checkbox"/>					
Facilities Condition	<input type="checkbox"/>					
<b>Marina</b>						
Cleanliness	<input type="checkbox"/>	Comments: _____ _____ _____				
Facilities Condition	<input type="checkbox"/>					
Employee Helpfulness	<input type="checkbox"/>					
<b>Golf Course</b>						
Course Condition	<input type="checkbox"/>	Comments: _____ _____ _____ _____				
Employee Helpfulness	<input type="checkbox"/>					
Cleanliness	<input type="checkbox"/>					
Pro Shop Services	<input type="checkbox"/>					

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Date of Visit \_\_\_\_\_ Park Visited \_\_\_\_\_

Figure 3. Customer survey form.

**OHIO DIVISION OF PARKS AND RECREATION**  
**Customer Satisfaction Survey**  
**Summary of All Parks**  
As of 10/29/92

Total surveys returned: 9832		Number of Numerical Ratings					
	Avg.	Avg.	5 Excel.	4 Good	3 Avg.	2 Poor	1 Unacc.
Overall percent distribution:			48%	39%	9%	3%	1%
Overall average:		4.283	4689	3784	932	279	139
General park average:		4.268					
Appearance:	4.445		5112	3269	598	140	50
Cleanliness:	4.303		4357	3492	893	218	95
Convenience:	4.229		3738	3405	1021	281	69
Employees:	4.412		4990	2533	744	211	96
Facilities:	3.996		3094	3444	1441	507	224
Experience:	4.290		3859	3365	733	206	105
Services Received:	4.301		3843	2929	820	172	104
Campground average:		4.244					
Cleanliness:	4.336		3057	2203	522	140	80
Appearance:	4.367		3090	2145	460	154	52
Employees:	4.400		3200	1686	481	150	63
Facilities:	3.905		1973	2125	947	400	256
Cabin average:		4.093					
Cleanliness:	4.195		558	380	123	56	33
Comfort:	4.099		457	414	163	47	30
Facilities:	3.999		421	416	156	73	40
Lodge average:		4.238					
Activities:	4.145		570	448	179	63	26
Facilities:	4.262		774	548	183	55	22
Cleanliness:	4.271		830	536	169	63	31
Employees:	4.316		844	502	151	52	30
Food average:		3.800					
Quality:	3.768		601	721	440	177	93
Service:	3.842		708	644	365	158	114
Picnic average:		4.240					
Cleanliness:	4.354		2548	1997	417	103	39
Facilities:	4.129		1949	1918	611	184	118
Trail average:		4.360					
Cleanliness:	4.467		74	37	6	4	1
Condition:	4.267		58	40	10	7	1
Beach average:		3.941					
Employees:	4.158		1497	1319	486	111	79
Cleanliness:	3.944		1481	1633	696	288	149
Facilities:	3.861		1257	1535	743	309	150
Marina average:		4.101					
Cleanliness:	4.141		849	846	280	61	51
Facilities:	4.000		740	808	289	82	96
Employees:	4.252		909	620	223	42	46
Golf course average:		4.324					
Condition:	4.220		323	254	43	30	24
Employees:	4.366		347	219	48	13	13
Cleanliness:	4.473		370	223	41	9	2
Pro shop:	4.295		293	218	69	13	7

Figure 4. Cumulative summary for the entire season.

DIVISION OF PARKS & RECREATION  
Overall Park Rating

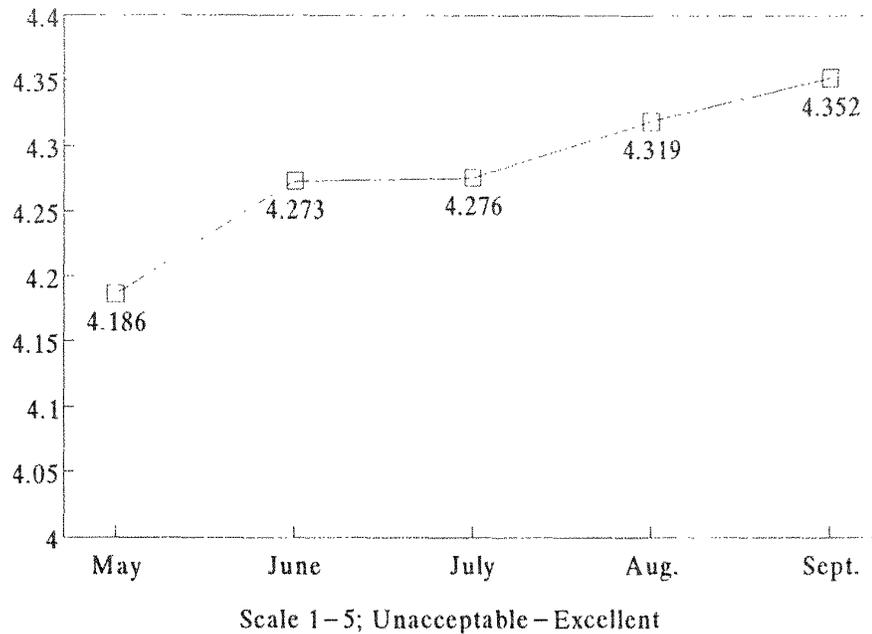


Figure 5. Monthly overall average numbers.

Predictably the improvement from our first month to our second one was the greatest as we corrected the most egregious problems. The progress we made during the season, so apparent on the accompanying graph, also became apparent to managers and employees alike as we implemented changes. For example, as we expanded pet camping, at our customers' suggestion, to all units in the state park system, complaints from pet owners dropped off and positive comments increased from satisfied customers who experienced the ability to take their pet to our campgrounds for the first time.

Our improvement of monthly means from 4.186 to 4.352 over five months represents about a 3% movement on our 5.0 scale. We believe that given our present high approval rating already and the great numbers of visitor occasions we are dealing with that this 3% improvement indeed represents a significant gain. The point here is that changes can demonstrably be effected by park managers and staffs which decrease the number of dissatisfied customers and increase the number of satisfied customers. Employees can now see and measure the results of their efforts.

**The Statistical Validation**

The results of any survey which is not tightly controlled by a scientific, systematic random sampling process is suspect. Even though our "in house" survey looked good and had a very large "N" out of nearly 10,000 responses, it could not meet the test of a scientific, systematic random sampling process. However, we felt we could validate our survey results by comparison to a parallel survey which did employ a scientific systematic random sampling process. We contracted with The Ohio State University Polymetrics Laboratory to perform this service for us.

The OSU survey used a systematic random telephone survey technique to identify customers who used the parks in the last year and to carefully administer exactly the same survey to them that we used in the field. Nearly 1,100 people were contacted to generate the necessary sample size of 306. This survey was conducted in late summer of 1992 while we were collecting our own survey data. The mean they generated of 4.320 with their 306 sample size compares quite favorably with the mean of 4.283 which we generated with 9,832 responses and is within the  $\pm 4.4\%$  reliability factor that OSU developed for their data. These means do not appear to be statistically different. (The OSU data and percentages are shown in Figure 6 and a graphical comparison between the data in our survey and the OSU survey is displayed in Figure 7.)

Our survey results showed 87% above average satisfaction and The Ohio State University survey showed 91% above average satisfaction. Predictably the returns at the extreme ends of the scale of our own "in house" survey were higher than the OSU survey. We received more "excellent" and "unacceptable" ratings than the OSU survey turned up. When survey respondents self-select participation, they tend to be more motivated to do so at the extremes of the scale used. These two figures are within the  $\pm 4.4\%$  confidence factor that OSU developed for its data and do not appear to be statistically different.

OHIO DIVISION OF PARKS AND RECREATION  
Ohio State Customer Satisfaction Survey  
Summary of All Parks

Total valid responses: 306

Number of Numerical Ratings

	Avg.	Avg.	5 Excel.	4 Good	3 Avg.	2 Poor	1 Unacc.
Overall percent distribution:			42.5%	48.7%	7.8%	0.3%	0.7%
Overall average:		4.320	130	149	24	1	2
General park average:		4.181					
Appearance:	4.278		126	143	34	2	1
Cleanliness:	4.213		113	149	39	3	1
Employees:	4.247		88	106	25	4	0
Facilities:	4.023		75	174	37	11	3
Services Received:	4.157		74	144	29	0	2
Campground average:		4.246					
Cleanliness:	4.317		51	60	12	0	0
Appearance:	4.264		48	63	13	1	0
Employees:	4.321		46	50	9	0	1
Facilities:	4.091		29	76	14	2	0
Cabin average:		4.068					
Cleanliness:	4.091		7	10	5	0	0
Facilities:	4.045		6	11	5	0	0
Lodge average:		4.275					
Activities:	4.234		18	22	7	0	0
Facilities:	4.216		17	28	6	0	0
Cleanliness:	4.231		16	32	4	0	0
Employees:	4.420		22	27	1	0	0
Food average:		3.918					
Quality:	3.745		16	50	24	7	1
Service:	4.093		24	58	15	0	0
Picnic average:		4.048					
Cleanliness:	4.134		69	128	31	2	1
Facilities:	3.961		47	137	36	7	2
Trail average:		4.326					
Cleanliness:	4.428		92	93	9	0	0
Condition:	4.223		62	114	15	2	0
Beach average:		3.913					
Employees:	4.009		25	63	14	5	0
Cleanliness:	3.853		28	82	33	4	3
Facilities:	3.903		24	89	24	7	0
Marina average:		4.035					
Cleanliness:	4.097		21	39	11	0	1
Facilities:	4.000		18	37	14	2	0
Employees:	4.000		20	22	12	4	0
Golf course average:		4.167					
Condition:	4.182		8	10	4	0	0
Employees:	4.143		7	12	1	0	1
Cleanliness:	4.364		9	12	1	0	0
Pro shop:	3.947		3	13	2	1	0

Figure 6. Ohio State Customer Satisfaction Survey.

DIVISION OF PARKS & RECREATION  
Survey Comparisons

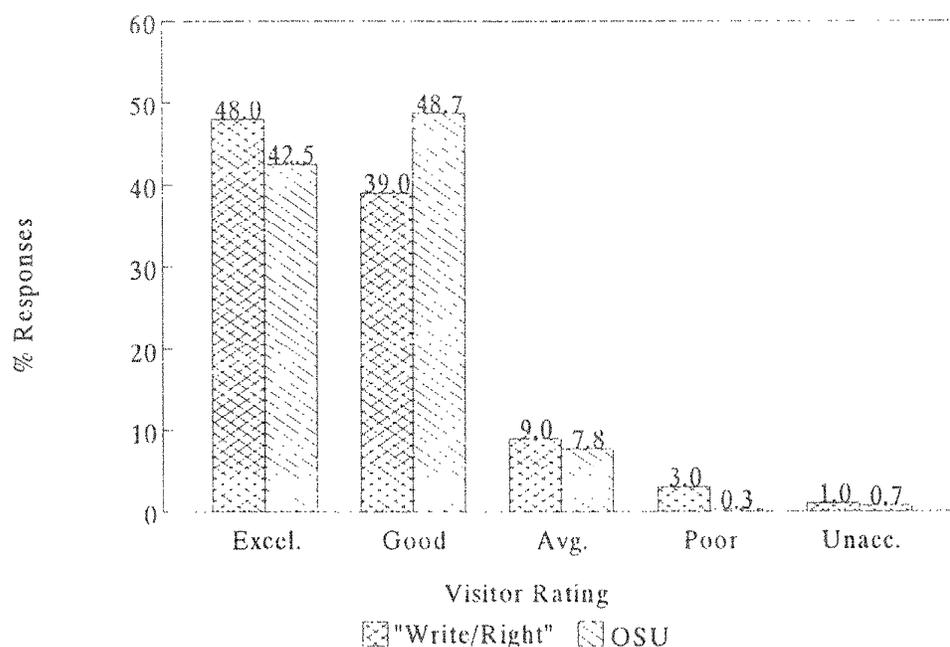


Figure 7. Comparison between the data in our survey and the Ohio State University data.

**The Budget Cuts Absorbed**

In fiscal year 1992 the Ohio Division of Parks absorbed approximately a \$6.0 million budget cut on about a \$40.0 million operating and maintenance base. In fiscal 1993 it absorbed an additional \$1.2 on the reduced base. The combined cut, just short of 18%, is discussed because the fiscal years for Ohio begin on July 1 which is right in the middle of the high recreation season for park visitors.

Services to our park visitors were not significantly cut during our implementation of these changes. In fact, in some instances customer services were expanded somewhat. The mentality of cutting services to customers to protect jobs was avoided. The old "when we are cut, we bleed" attitude just was not permitted to take root.

Some programmatic changes were affected at park levels which had negligible effect upon visitor services yet saved significant dollars. A costly dairy milking operation which few visitors viewed was terminated. This historic locks on the Muskingum River had their hours of operation reduced for recreational boaters to weekends and "on demand".

The mission of the Division has shifted from one of "ensuring customer compliance with rules and regulations" to one of "ensuring customer satisfaction" with our product of outdoor recreational services. The new horizontal organization is much more responsive to input from managers and employees at every level of the organization enabling front line employees to make customer pleasing changes much faster.

The implementation of the weekly customer survey feedback loop to the folks who are really delivering the product of customer services is an excellent "fit" with the new organizational structure. Managers and employees can see the positive results of their action each week as the customer feedback forms are returned to them for review. The results of all these changes is a measurable improvement in customer satisfaction. In the public sector this doesn't make a bad "bottom line."

One last note: It is apparent from the foregoing that the Ohio Division of Parks and Recreation has just undergone a change of very major magnitude in its mission, organization, and the very way it measures its success. Changes of this magnitude are usually very difficult to bring off at all, let alone successfully during a time of severe budget constraints. This whole change just would not have been possible without the personal commitment, support, and individual efforts of the park managers of the Ohio State Parks who dedicated themselves to "making it happen."

## YIELD MANAGEMENT IN RECREATION

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The concept and techniques of yield management have received a great deal of attention in the travel industry. Recently, the hospitality industry, particularly hotel operations, has begun to implement yield management techniques as well. The purpose of this paper is to discuss the concept of yield management and evaluate its potential use in the recreation industry. Implications and measures for implementing the technique in recreation settings are provided.

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### Introduction

The recreation industry has been affected by the downturn in the economy. People find themselves with less discretionary income and the government, both state and federal, have reduced their budgets for public recreation. Economic problems have caused public recreation facilities to consider charging for services that used to be free. For instance, a public park in Northampton, MA charges people to enter the gate and use basic facilities. In addition, there are separate fees for using tennis courts and swimming pool at the same park.

Private companies such as ski resorts and golf courses are also finding it difficult to attract customers in this highly competitive economy. Consequently, recreation managers must become more creative in their marketing strategies and find some way to obtain a competitive advantage. Often the trend implemented is to consider competing with large price discounts and special promotions. However, these short-term strategies need to be implemented correctly if the firm is to realize adequate profits over the long-term.

Yield management has been used successfully applied by the airlines and hotels as a means of maximizing revenue or profit. The basic premise of yield management is to determine pricing and promotion strategies based on estimated demand for a given period (Orkin 1989, 1990; Relihan 1989). Product companies have been using this concept for some time. Prices and promotions are based on the seasonal demand for the product, as well as changes in the business cycle related to the economy. This method of pricing seems to be even more relevant to the services industry because there is no way to inventory unused products.

### Conditions for Yield Management

A basic yield management model usually focuses on maximizing revenues (Orkin 1989). However, this does not necessarily result in the maximizing of profit. The basic model must be expanded in order to include cost information so that profit maximization can occur. Yield management can be complicated and is not necessarily warranted for every situation. Kimes (1989) suggests that yield management techniques are only appropriate when the following conditions occur.

Where capacity is relatively fixed. Most recreation services are limited in their capacity. For example, the Basketball Hall of Fame in Springfield, Massachusetts is constrained by local fire laws as to how many visitors can be in the building at one time. Even outdoor recreation facilities would face similar constraints, although they may not necessarily be legal. A golf course or a theme park can certainly hold many customers at one time. There are physical limitations, often referred to as carrying capacity within most recreational facilities. However, when people have to wait for very long periods between holes (in golf), or between rides (in amusement or theme parks), it will drastically reduce their levels of satisfaction.

**When demand can be separated into distinct market segments.** The markets for almost all products and services can be segmented to some extent. Hotels have developed different pricing strategies aimed at their various target markets (Lewis 1986). This would also pertain to the recreation industry which markets to all stages of the family life cycle. There is no question that families, senior citizens and a variety of different user groups represent distinct market segments for recreation services.

**When inventory is perishable.** This is the case for all services. Because services are intangible, it is impossible to hold or store unused capacity. If there is little use of the golf course during certain times, days, or months, it results in a forfeiture of potential revenues. Or, if the New England Region experiences a relatively warm winter, this region's ski resorts will not attract visitors throughout the winter months which results in lost revenues.

**When the product is sold well in advance of consumption.** This condition is frequently met in the recreation field when season tickets are available or when advance bookings at resorts and/or campgrounds are taken. This would pertain to sports (participating and spectating), museums, aquaria, parks, and other major attractions. Advance sales make it easier to forecast demand, which is essential in determining pricing strategy and implementing profit yield management strategies.

**When demand fluctuates substantially.** If the demand for a service is steady over time, then it would be unnecessary to offer different prices or to aggressively consider new yield management strategies. In essence, there would not be any peak periods or off-peak periods to worry about. This is normally not the case in recreation. The demand for recreation is highly seasonal and it varies by time of day, day of the week, month of the year as well as season of the year. The use of many outdoor recreation facilities can likewise be affected by the weather during the season. Even indoor facility use (health and racquet clubs for instance) find demand to fluctuate over a variety of time intervals. Therefore, this condition is met in nearly every form of recreation.

**Where marginal sales costs are low and marginal production costs are high.** Marginal sales costs tend to be low for most recreation services. This is more pronounced in agencies where employees are normally salaried and ticket gates and entrances are covered during normal operating hours. The cost of then providing one more person with a ticket or pass is minimal. Marginal production costs are also low in regard to recreation services. Most recreation services require the customers to service themselves to some extent thereby contributing to the production and delivery the service.

### Yield Management Techniques

This section will the components of a typical yield management system. The application of yield management is an attempt to enhance a facility's ability to operate a flexible, adaptive and predictive market response strategy which seeks to match variable market conditions with the pattern of product or service offerings (Brotherton and Mooney 1992).

Unfortunately, many yield management systems are designed to maximize revenues assuming it will also result in profit maximization. This is not always the case depending upon the cost structure of the firm.

Yield, as a financial term refers to the return on an investment. In order to maximize the return, it is important to know the relationships between "price and demand" and "cost and demand." Price elasticity of demand suggests that as price is decreased, the demand or quantity sold increases. However, total revenue will only increase in this case if the demand for the service is elastic. Demand is elastic if the percentage change in quantity demanded is greater than the percentage change in price.

Profits will increase in the above example if the costs associated with service delivery remain the same, or decrease. However, it is not uncommon to see the fixed costs of operation increase as demand increases. For example, increasing the demand for a highly labor intensive service will require the firm to hire more workers. An increase in demand could also result in capital expenditures for additional equipment or facilities. For example, a ski resort which drastically lowers its prices may find a increase in skiers, but be faced with building higher fixed costs facilities such new trail development and increased lift capacity. Therefore, it is important to perform a detailed financial analysis before price is changed to determine the level of demand that can be accommodated given the current operating parameters of the firm.

Brotherton and Mooney (1992) present the following equation for yield management:

$$\text{Yield} = \text{realized revenue/potential revenue}$$

They would suggest that it is necessary to maximize yield as defined in the equation. However, once again this equation does not consider the costs involved in providing the service. It assumes that it is always good to increase revenues without regard to profit or profit potential. Economic theory indicates that one can increase profit by selling additional units only when the marginal revenue received for each unit exceeds the marginal cost of providing that unit.

Even though it is difficult to determine the marginal cost of providing a service to an additional customer, it is still necessary to perform some type of profit analysis. One possibility is to assume that fixed costs are sunk and not worry about allocating them on a per unit basis. This is the nature of the argument for maximizing revenues. Many hotels feel that they do not incur any significant increase in cost by selling an additional room. Salaries or wages for maids, front desk personnel, and food service personnel are already being paid. However, other factors such as the desired length of stay and the potential income from other sources, e.g. restaurants and retail services must be considered when deciding the optimal mix among market segments.

Duns and Brooks (1990) address the problem of looking at the various cost elements associated with each market segment and using a long-term profit approach rather than the standard short term quick yield management technique. The authors also consider the potential sources of additional revenue generated by the various market segments. They discuss the following considerations which are necessary to apply their approach:

1. Interdependence of operating department revenues.
2. Functional relationships between expenses and market segments.
3. Support costs from overhead departments.
4. Fixed costs.

Their technique is called "Market Segment Profit Analysis" or "MSPA" and is certainly an improvement over the typical

yield management approaches. However, it must be expanded to provide the flexibility needed to analysis of potential strategies so that decisions can be made in a timely manner. Furthermore, it requires detailed tracking of customer or guest or user history profiles. This is somewhat easy in hotels and restaurants, but may require more aggressive monitoring or tracking in recreation service situations.

The best approach to the maximization problem is probably using a linear programming model that looks at the overall profitability of a portfolio or range of prices and market segments. Furthermore, one would need to know more about their responsiveness to price sensitive issues. The first step would be to determine the marginal cost of servicing each segment. Then, revenue projections would have to be made for each market segment based on room revenues for resort hotels, camp site revenues for campgrounds, green fees or membership fees for golf courses as examples and then other income generated by the market segment would need to be projected (e.g., food and beverage, related retail sales, etc.). The room revenue projections are straight forward, however, the other income projections would have to be handled using a multiplier based on the past history of each segment (Yesawich 1984).

### An Application of Yield Management

In the tables which follows this section, information about a yield management technique is shared. A simplified, straight forward yield management technique example is provided in Table 1 (next page). This example shares how yield management could be hypothetically applied to the operation of a public golf course. The scenario could be easily adapted for other public and private service delivery situations.

This yield management application examines how by segmenting the market into different groups revenue can be generated in pricing memberships. There are two basic comparisons made in this application. First, an examination of the revenue generate with and without a market membership segmentation approach should be examined. In this case, with no different membership plans or no market segmentation only 250 memberships were recruited and \$71,250 in membership dues were generated. However, when membership plans were introduced [four different plans -- student membership, membership A plan (play anytime during the week) and membership B plan (play only during weekdays) and senior membership]; 371 memberships were sold and \$100,850 in membership fees were generated. This application could be further enhanced by including information on daily fee or green fee revenue by daily use for comparison purposes. Second, a comparison is made here by also examining the total revenue generated by the membership plans to the potential revenue if the golfers were only able to pay by round played at \$12 per nine holes. This assumes that the golfers would play at the same rate. Many golfers make the decision to purchase membership plans based on the number of rounds of golf they play (Warnick 1993). In other words, golfers purchase membership plans because they view it as a discounted method for playing golf. Many will determine if they play enough rounds to recover the membership cost. In this situation, the potential revenue is what could be realized if only the daily fee charge were available, but is used here as a comparison for the revenue generated by the membership plans. The yield management ratios are then calculated for each of the segments based on this potential revenue (if charged by individual use only) and revenue generated by each market segment membership plan. In this situation it appears that the agency has probably undercharged for the college student and the senior membership plans. Adjusting these plans slightly upward based on play levels would generate additional revenues. However, the agency must consider the elasticity for each segment as pricing changes are made. In both of these cases, each segment may be very price sensitive due to fixed incomes. Other factors to consider would be the substitutes for

Table 1. Example of simplified yield management technique in a public golf course.

Typical Market Segments:		Price	Participation Rates	Average Rounds Played Per Year with Membership	(RR/PR) Yield Mgmt Ratio
College Student Membership Plan	\$150	15.1%	24	0.52	
Membership Plan A (Weekly Play, Any Day)	\$375	15.5%	36	0.87	
Membership Plan B (Weekday Play Only)	\$225	7.9%	17	1.10	
Senior's Membership Plan	\$275	8.8%	45	0.51	
No Market Segments (Standard Membership)	\$285	11.5%	28		
Typical Round of Golf (Nine Holes)	\$12				
Typical Market Segments		# Members	Unit Revenue	Potential Revenue (PR) If Charged Per Round	(RR/PR) Yield Mgmt Ratio
College Student Membership Plan	95	\$150	\$14,250	\$27,360	0.52
Membership Plan A (Weekly Play, Any Day)	135	\$375	\$50,625	\$58,320	0.87
Membership Plan B (Weekday Play Only)	56	\$225	\$12,600	\$11,424	1.10
Senior's Membership Plan	85	\$275	\$23,375	\$45,900	0.51
<b>Totals - Market Segmentation Plans</b>	<b>371</b>		<b>\$100,850</b>	<b>\$143,004</b>	<b>0.71</b>
No Market Segments (Standard Membership)					
<b>Totals - No Market Segments</b>	<b>250</b>	<b>\$285</b>	<b>\$71,250</b>	<b>\$84,000</b>	<b>0.85</b>

golf memberships and the unique character of this golf facility. The fewer substitutes, the more unique the course and lower the percent of players who are low or fixed income individuals: the less sensitive the pricing decision will be. This application could be enhanced by including additional cost, and revenue sources by market segment.

### Legal Considerations

The concept of yield management also lends itself to legal scrutiny. After all, the underlying premise is to charge different customers different prices depending upon when they call, or consume, and what market segment they represent. The Robinson-Patman Act states that it is unlawful to discriminate in price between different purchasers of commodities of like grade and quality, if the effect is to lessen competition. Agencies must be careful in developing services and attractions that are of like grade and quality especially if it is intended to eliminate or lessen the competition. This is particular true when public or non-profit agencies compete for the same markets with identical service levels.

Morris (1987) found price differentials to be widely used by industrial product managers; however, many of the managers were unaware of the Robinson-Patman Act and its importance in using price differentials. The arguments for differential pricing are: 1) to make due allowances for differences in the cost of manufacture, sale, and or delivery of the product or service, 2) to match competition, or 3) to compensate for changing market conditions. Differential pricing is not legal if the intent is to charge each customer, or market segment, a price based on the value that the customer's received.

There are several articles in the hospitality literature that discuss the deceptive practices by hotels in conjunction with yield management systems (Herman and Quain 1982; Lewis 1986; Lewis and Roan 1986; Wilson 1992). According to Wilson (1992), federal and state unfair and deceptive acts and practices statutes are purposely written to be broad and flexible so as to apply to many types of abusive business practices. The Federal Trade Commission is also responsible for enforcing laws dealing with unfair and deceptive business practices such as price discrimination.

### Conclusions and Implications for Recreation Resource Managers

There is no question that yield management can be useful to organizations in the recreation industry. In fact, a number of organizations are already using yield management principles to some degree. The main task for most firms is to quantify the process and gather more information such as price elasticities and cross-selling by segment. Furthermore, total expenditures of added revenue and the perception of value of the part of different target markets may be very helpful in this process. This information can be used as input into a structured yield management system, such as those shared in this article and can help management to make better and more informed decisions under uncertainty.

Yield management techniques and the concept may be useful in recreation resource management in both the private and public sectors. The current economic conditions and the trend toward privatization places the burden on governmental agencies to maximize revenues and yield. For example, states like Kentucky, West Virginia and Ohio have park systems that include lodging, golf courses, campgrounds, concessions and additional amenities. It is necessary for these organizations to compete with the privately owned lodging and recreation facilities and to make a profit under varying economic conditions. Pricing strategies must be part of an overall marketing plan and they should be based on the market characteristics of the various consumer segments.

Managers must also recognize that if they desire to implement yield management techniques they must quantify the process and gather more customer history information and carefully

monitor demand with regard to price elasticities and the cross selling potential of various market segments. If the trends towards privatization continue; then, burden public agencies and highly competitive private sector agencies must maximize revenues, profits and yields.

The conditions for the application of yield management are satisfied within the recreation management field as described in this article. However, managers must use caution in recognizing the difference between maximizing revenues and maximizing profits. Brotherton and Mooney's (1992) recommendations for developing a yield management equation provides particularly sound promise of the application within this field. Combined with the additional sources of information (e.g., additional revenue sources and cost information) by market segment as suggested by Dunn and Brooks (1990) through the "Market Segment Profit Analysis;" improvements in the yield management technique and its application may be enhanced in this field. Furthermore, agencies must understand the legal ramifications of their pricing decisions with regard to price discrimination. Private agencies which directly compete with public sector agencies in the delivery of the same products and services are now more aggressive in pursuing unfair pricing strategies of both public and non-profit recreation agencies.

Finally, yield management is not a cure-all for unprofitable operations nor a way of confusing customers and forcing higher rates. It is a process that serves to increase revenue and profits and provide better services, products or programs to customers. The ultimate test of implementing a yield management technique is the response of the customers or users of the facility. They must perceive the decisions made by management in executing their purchases to be fair, to provide choice, and to provide value. The technique will need more serious consideration in the recreation management field as it moves more aggressively to revenue enhancement.

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**RECYCLING AND SOLID WASTE  
MANAGEMENT PROGRAMS WITHIN  
IOWA'S CAMPING AREAS: A STUDY  
OF PARK MANAGERS**

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The specific purpose of this study was to collect baseline information on solid waste management/recycling programs and practices within Iowa's public and private camping areas. The information was collected through a scientific survey (mail questionnaire) of the managers of local, state, federal and private camping areas in Iowa. The data reported represent 86 percent of the camping areas in Iowa. This research suggests that Iowa's camping areas make a significant contribution to the total waste stream in Iowa. Only a small percentage of the areas currently provide the opportunity to recycle, even though a majority of the managers recognize the value of recycling and are willing to participate in model recycling programs. This research points towards the need to develop comprehensive solid waste management plans and policies that integrate various units and levels of government and provide guidelines and mandates for recycling and other waste management programs within Iowa's camping areas.

**Introduction**

The garbage crisis has become a major issue for every governing body in this country. The development of effective and successful policies and plans of action for reducing, recycling, storing, or disposing of solid waste are increasingly difficult. These problems are particularly difficult for park and recreation agencies with limited resources and vague directives. Iowa's parks and camping areas provide an excellent setting for the exploration and evaluation of innovative policies and methods for solid waste management. Such efforts could serve to minimize the impact of camping areas on local (mostly rural) landfills, while extending a progressive and "good neighbor" image. These efforts could ultimately have a carry-over effect on values and behaviors of persons when they return home.

Despite the many values and benefits associated with recycling and comprehensive solid waste management, no data is available on the volume of solid waste generated or on the barriers to the development of recycling programs and solid waste management plans within park and recreation settings. To address these information needs Iowa State University, with grant support from the Iowa Science Foundation, conducted a study of managers of Iowa's local, county, state, federal and private campgrounds in the fall of 1991.

**Study Objectives**

The purpose of this research was to collect preliminary data which will assist in the development of comprehensive recycling and solid waste management programs and policies within Iowa's camping areas. This paper will provide a summary of the research to include a description of the survey methods, profiles of the campground managers and of the camping areas, brief descriptions of key findings, and recommendations for the development and management of campground recycling programs.

**Survey Methods**

Various references and lists were utilized to compile a listing of 488 camping areas within the state of Iowa. The managers of each of the identified camping areas were mailed a questionnaire with a letter explaining the study and the importance of obtaining a valid assessment of current solid waste management programs in Iowa's camping areas. By April 1st of 1992, 378 questionnaires were returned for an initial response rate of 77 percent. An additional 40 questionnaires were returned blank with an explanation that the manager had included this camping area, when completing the questionnaire for another camping areas, for an adjusted and final response rate of 86 percent.

**Profile Of Camping Area Managers**

Table 1 presents a demographic profile of the managers participating in the recycling study, as well as information on their personal recycling behaviors. The average campground manager has considerable experience in the profession of park management, is well educated (4 years of college) and has been exposed to recycling programs (84% recycle household waste).

Table 1. Profile of camping area managers.

Summary of Demographic Information	
Age	40 years (mean, mode, median)
Total family income	\$25,000 to \$34,999 (35%)
Education	4-year college degree (52%)
Educational training	Natural Science (55%)
Current job title	Director (43%) Park Ranger (34%)
Years in position	9 years (mean)
Years in profession	13 years (mean)
Home residence	Town or city (44%) Rural or farm (37%) At park (20%)
Summary of Recycling Behavior	
Recycle household waste	Yes (84%)
Recycling opportunities in home community	Curbside pickup (17%) Local drop off (58%)
Attended a workshop or seminar on recycling	Yes (45%)

**Profile Of Camping Areas**

The research project collected descriptive information on Iowa's camping areas, to include the following:

- Administrative Agency for Campgrounds: 70% County; 16% State; 6% Private; 5% Federal; 3% Local and other.
- Visitation to Campgrounds: 1,317,500 Federal; 1,298,000 County; 701,000 State; 55,500 Other. Total visitation to the camping areas was estimated at 3.3 million visitor for 1991. This estimate of total visitation combined with the average length of stay (2 days) and the average amount of waste generated per person per day (3.8 lbs) suggests that the yearly waste stream for Iowa's camping areas is over 25 million pounds. (Figure 1. next page).
- Types of Campgrounds and Number of Spaces: 2% backcountry; 39% primitive; 28% modern/flush toilets; 31% developed with full hook-ups.

- Years Campgrounds have been in Service: The majority of campgrounds (53%) have been in service for over 20 years.
- Proximity of Campgrounds to Closest Community: 75% of the camping areas are within five miles of a community. Sixty-two percent of the communities located closest to camping areas have a population of less than 2,500.

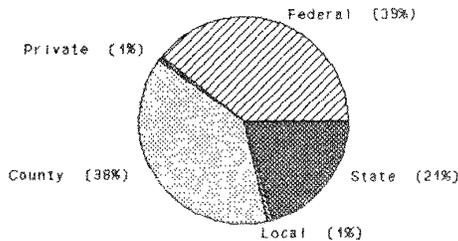


Figure 1. Estimated percentage of Iowa's total camping area waste stream by administrative unit.

### (1) Findings: Waste Stream, Current Solid Waste Disposal Practices and Costs

#### Waste Stream

According to the campground managers, waste paper makes up the greatest proportion of waste stream in camping areas, followed by food waste and plastic containers, aluminum cans, tin cans and glass. The least common materials were cardboard, newspaper and fish remains. This initial analysis of the waste stream indicates that a paper recycling and/or composting project(s) would be the first steps toward waste reduction. (Although a more detailed analysis of the waste stream should be conducted before any concrete plans are made).

#### Waste Disposal and Collection Techniques

Ninety-one percent of the respondents indicated that the campground waste is hauled out of the park to a landfill. Forty-nine percent use private waste haulers and 42% use park staff to haul waste. Fifty-five percent of the camping areas have garbage cans or dumpsters distributed around the campground. Forty-three percent of the sites have centrally located collection areas, 8% have garbage cans at each site, and 1% require campers to haul out their own garbage. Collection of solid waste is frequent in the majority of campgrounds. 55% had one trash pick up a week, while 36% had more than one a week.

#### Cost of Collection

The results indicate that nearly 33% of the campgrounds pay between \$61 and \$100 for garbage removal and disposal. The total cost for garbage removal for the 300 campgrounds (those which provided this information) was nearly \$33,000 in 1991. These figures may seem nominal, however the cost of waste disposal is expected to increase at a much greater rate than other budget items.

### (2) Findings: Inventory of Campground Recycling Programs, Availability of Markets for Recycled Materials, and Fiscal Costs of Recycling Programs

#### Inventory of Campground and Staff Recycling Programs

Only 13% (49) of the camping areas included in the study provide the opportunity for campers to recycle (Table 2). However, 69% (260) of the administrative offices associated with the camping areas have established some type of recycling program for staff; these programs offer an initial infrastructure for recycling programs for campers.

Table 2. Recycling opportunities provided within camping areas.

Recycling Receptacles Provided for:	Camp-ground	Office
Aluminum cans	9%	47%
Plastic	5%	24%
Glass	4%	17%
Tin cans	4%	15%
Paper and cardboard	2%	34%
Oil and grease	1%	53%
Other materials	3%	23%

Recycling opportunities are more available for staff than visitors to the camping areas. Seven percent of the campgrounds provide campers with the opportunity to recycle only one of the listed items; approximately 4% provided the opportunity to recycle two or three of the materials, and 2% provided the opportunity to recycle four or more of the items.

Fifty-six percent of the campgrounds were involved in some type of environmental education programs. Almost 40% use recycled paper products, and 27% recycle their office paper. About 18% of the campgrounds are involved specifically with recycling education.

#### Markets for Recycled Materials

A majority of the camping areas included in this study are within a thirty minute drive of a market for most types of materials. The managers had the most knowledge of locations to recycle aluminum and the least knowledge of where to recycle tin and glass.

#### Cost of Recycling Programs

Thirty managers reported the expenditures for on-site recycling for park visitors averaging \$1,630 a year. Staff recycling programs, reported by 55 managers, averaged a cost of \$350 a year. Off-site recycling programs, drop off sites and collection outside of the park, averaged about \$1,060 a year according to 40 managers. Finally, 109 managers reported that environmental education programs, for campers or the general public, cost on an average about \$2,240 a year.

### (3) Findings: Managers' Attitudes Toward Campground Recycling Programs

The most important reasons for recycling efforts are related to the conservation of natural resources for current and future generations (Table 3). Managers identified the lack of staff, money and inadequate resources as the most important reasons for not sponsoring a recycling program for visitors to the campground.

Table 3. Motivations and barriers to recycling.

Motivations for and Barriers to the Development of Recycling Programs	Percent Agreeing
<b>Important reasons for recycling</b>	
• To conserve natural resources	56%
• It saves resources for future generations	54%
• To save landfill space	52%
• Shortages in raw materials	40%
• Recycling is an effective way to protect resources	36%
<b>Important reasons for recycling</b>	
• Not enough staff	25%
• No market for recycled materials	24%
• No pick-up in area	17%
• Lack of appropriate facilities	15%
• Not enough volume of solid waste	13%

Thirteen percent of the managers felt that the most important reason to not recycle was not sufficient quantities of solid waste to justify a recycling program.

**(4) Findings: Importance of Solid Waste Issues**

Ninety percent of the campground managers disagree or strongly disagree with the statement, "More fuss is being made about the need to recycle than is justified". Less than 30% of the park managers believed that landfills are a safe way to dispose of waste. However, almost 50% of the managers believed that new technology will solve future garbage problems.

According to the results of the survey, managers are aware of the need to recycle and the safety related problems associated with landfills. However, there is considerable disagreement between the managers over the ability of new technology to resolve waste management problems. A vast majority of the park managers appear to be sensitive to the need for comprehensive solid waste management policy.

The most serious problems associated with park management, according to this sample of managers, are lack of markets for recyclable materials, not enough places to recycle, soil erosion, inadequate support for parks and recreation, inadequate environmental education programs, and lack of long range community and regional planning. Thirty to forty percent of the park managers were not aware of the solid waste management plans in the community closest to their camping area. However, the managers did report that nearly 80% of these adjacent communities were presently involved in curbside or drop-off recycling, and about 40% were composting garbage.

**(5) Findings: Management and Administrative Support for the Development of Recycling Programs**

Nearly 50% of the managers have had specific education on recycling, and about 80% recycle household waste and use recyclable products. Over 85% percent of the campground managers said that they would be willing to participate in a model/demonstration recycling program and/or an environmental education program. The most common reason for wanting to take part were related to the conservation and educational benefits. The reasons for not participating were insufficient resources (i.e. staff, time and cost), and that they already tried it and it was not worth the trouble.

Most managers know how to recycle and are willing to be involved, but nearly 70% say the agency they work for does not sufficiently support recycling efforts. Eighty-five percent of the sample believe that agencies involved in resource-based

recreation have an obligation to encourage recycling behavior. Only 26% believe that the cost should be offset by penalties to campers who do not separate recyclable materials. A greater percentage, 45%, believe that camping fees should be increased to pay for the recycling programs.

Managers are in agreement that programs that depend on external sanctions/rewards, volunteers, or campers carrying out their own garbage would not be effective solid waste management strategies. According to Table 4 there is less agreement on what programs would be effective, however, a majority (60%), believe that education on the values and the methods of reducing waste, and the provision of campground recycling are the most effective solid waste management programs (61%).

Table 4. Managers' perceptions of the effectiveness of various solid waste programs.

Programs Which Will Be Effective	Percent
• Educate the public on value of recycling	62%
• Provide the opportunity for campers to recycle	61%
• Educate the public on waste reduction practices	60%
Programs Which Will Not Be Effective	Percent
• Fine campers who don't separate waste	93%
• Require that campers "carry out" waste	82%
• Charge a garbage fee based on the volume of waste	77%
• Use volunteers to assist with recycling program	72%
• Provide financial incentives to encourage recycling	59%

**Conclusions and Recommendations**

This research suggests that Iowa's camping areas make a significant contribution to the total waste stream in Iowa. Only a small number of camping areas (13%) currently provide the opportunity for campers to recycle, even though a majority of the managers recognize the value of recycling and are willing to participate in model recycling programs. The research points towards the need to develop comprehensive solid waste management plans and policies that integrate various units and levels of government and provide guidelines and mandates for recycling and other waste management programs within Iowa's camping and recreation areas. Specifically this research suggests that:

- Composting could significantly reduce the proportion of waste currently being landfilled. Park staff could develop a compost area on site which serves multiple functions (e.g., waste reduction, environmental education and soil enrichment).
- Any federal or state policy mandating the development of solid waste management plans for local municipalities must include provisions for camping and recreation areas; and should include mechanisms to insure compliance and to promote teamwork between the federal, state, county, and local units of government.
- There is a need for a detailed on-site waste composition study within Iowa's camping areas.

- Future research needs to evaluate the advantages and disadvantages of various waste collection strategies in terms of their impact on the development and operation of recycling programs, and to empirically address the question "will campers participate?" with a random sample of visitors to camping areas.
- The initial infrastructure for the development of recycling programs is already in place (i.e., many of the materials are already being collected at a majority of the parks through staff recycling programs) and could be used and expanded to include recycling programs for the camping "public".
- Guidelines should be prepared as to what constitutes recycled products and procedures for ensuring that agencies purchase the products made with recycled materials, and a list of markets for specific materials should be developed and distributed to campground managers.
- A model recycling programs should be developed and evaluated at various locations with various administrative units.
- There is a need for a series of focus groups with managers and campers to determine the most efficient and equitable way to pay for campground recycling programs.
- A manual or guidelines should be developed as a reference for park managers interested in initiating a campground based recycling program.

## MEASURING THE EFFECTIVENESS OF CAMPGROUNDS AND OTHER FACILITIES

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Recreation managers must find ways to reduce costs. This paper demonstrates an indicator of cost effectiveness of campgrounds and other recreation facilities. Managers who critically examine their levels of service can use this indicator to help them determine which of their services are cost effective.

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### Introduction

In 1985, Parks Canada was concerned with expanding camping and with appropriate pricing. This prompted studies such as a price elasticity study (Beaman, Hegmann, DeWors 1991). The price for camping was roughly doubled in the middle 80's. Still there was a general orientation to expansion. Beaman (1988) developed a "Campground Expansion Coefficient" (CEC) and calculated a value for the coefficient for all campgrounds to aid decision making regarding campground expansion.

In fact, by 1989, some camping was suffering from under-utilization so that capacity built in the 70's was being closed in the 80's. Market research and promotion campaigns were seen as part of an answer. For example, the Fundy National Park Camping Study (Parks Canada, 1989) was carried out, resulting in a marketing campaign to get "old" regional users of Fundy to come back to camping. A marketing campaign was successful at getting total camping use at Fundy up enough that capacity previously closed was opened.

Parks Canada undertook a variety of camping studies in the late 80's to address a variety of decision issues. In this period, proposals for action were often based on new clients wanting more service so resources were requested for two reasons: first, to market camping to get more users; and second, to upgrade facilities so that more sites would at least have electricity in order to attract "the changing breed" of camper of the 90's and beyond. However, Parks Canada's budgets were shrinking and even with camping fees doubled, it was recognized that fees only roughly paid for operating costs. Marketing and upgraded services resulted in more revenue and higher operating and recapitalization costs. This was a serious problem. We were making decisions about camping supply in isolation from issues of cost or of whether the benefits we were producing were worth the costs.

The situation described is not unique. LePage (1983) recognized it as the typical approach of recreation planners. He also recognized that it was important to measure client satisfaction instead of assuming it was identical to planner satisfaction when planning campground supply. In other words, managing camping is more than just keeping the numbers up. Clients and costs are also important.

How can notions of clients and costs be incorporated into management decisions about offering campgrounds and other facilities? For managers to take these issues into account, they must be able to measure the benefits a facility produces as well as have a clear idea of what part of their budgets are attributable to the production of those benefits.

Because public agencies generally do not charge for services and programs, or charge at prices that are below the cost of production, it is difficult to let market forces decide whether a product or service is "worth it". Letting the market set the price or setting special prices also raises issues (Wicks and Crompton, 1986) of worth to whom? Surrogate measures or indicators can sometimes be derived to make up for the lack of market-established prices as indicators of the worth of the programs or services.

When Parks Canada recently undertook a review of its campground operations with the objective of finding more economical ways to provide that service, researchers in the Research Coordination Branch had the occasion to try to come up with a surrogate measure of the benefits of campgrounds (benefits in terms of the agency's mandate, which do not include the full set of benefits which can accrue to the camper). Although we did not try to monetize benefits, we aimed to develop a way to help managers get an idea of what is costing them to produce the benefits and to focus on what client groups were getting them at what cost.

This paper describes how we analyzed the costs and benefits of campgrounds, and how the results of that analysis produced a simple coefficient which can be used by managers to indicate that their campground or other service was performing as planned or was in need of examination. In addition, this approach appears to be generalizable to other facilities, services and programs which park visitors use.

### Analysis and Results

#### Costs

Costs we considered were the cost to operate the campground annually and capital costs. Operating costs included such things as maintenance, garbage collection, registration gate operation, utilities. Capital costs were defined as the amount that would have to be set aside annually in order to have enough money to replace campground assets when they had lived out their useful life. Interest on the money was not considered because, with more than 200 campgrounds, recapitalization is an ongoing operation requiring a regular annual flow of cash, not an amount we have to borrow or pay interest on.

As part of their asset maintenance program, Parks Canada engineers have estimated the replacement cost of individual assets in campgrounds (Public Works Canada, 1991). They also estimated life cycles of these various assets. Dividing the replacement cost of an asset by the length of its life cycle gives an average annual amount that should be set aside to replace it. Adding all the average annual replacement costs for all assets that make up a campground gives the annual capital cost of the campground, assuming normal maintenance is carried out. Parks Canada managers use such data to justify requests to central agencies for sufficient long term capital funding to restore all capital assets to normal operating condition.

Although our analysis dealt with specific campgrounds, we believed that we would better be able to illustrate our point about the economics of campgrounds if we used typical costs. Therefore, we took annual capital and operating costs for all Parks Canada campgrounds with thirty or more sites, and which regularly reported use. We examined cost data for 1990 and 1991, the two years which were available to us. For each year, we regressed the operating and capital costs separately against the number of sites in the campgrounds to obtain parameters to allow us to estimate the marginal operating and capital costs for an hypothetical average campground.

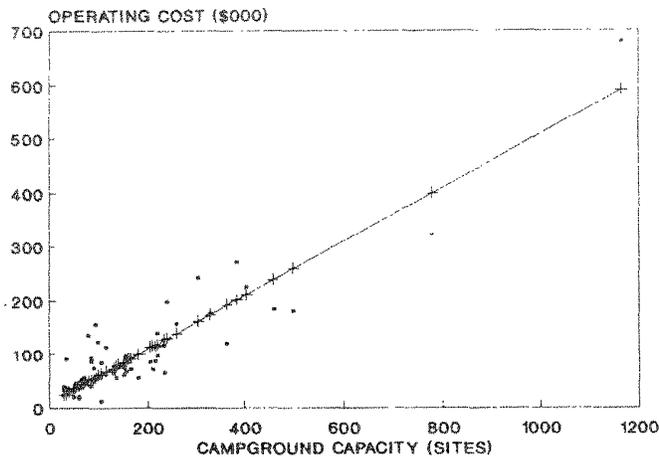


Figure 1. Regression line of operating costs against number of campsites.

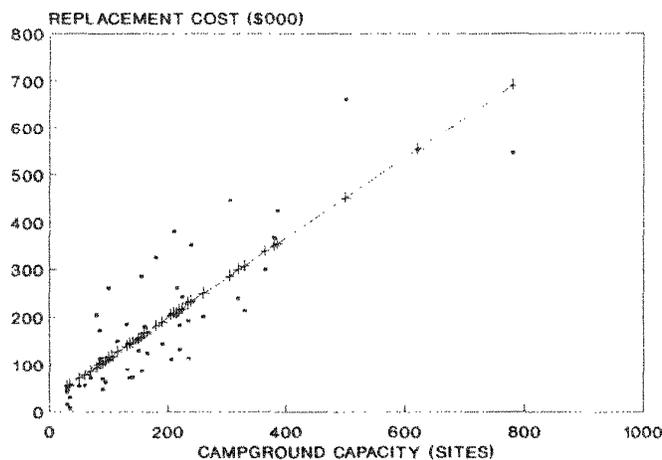


Figure 2. Regression line of capital costs against number of campsites.

The resulting equations were:

$$\text{OPERATING COST} = 8500 + 500 * \text{NUMBER OF CAMPSITES}$$

$$\text{CAPITAL COST} = 28000 + 850 * \text{NUMBER OF CAMPSITES}$$

The units are dollars.

We can therefore see from the regression equations that each additional site in the average campground adds \$500 to the operating cost and \$850 to the capital costs. These are the marginal costs.

We were only interested in the marginal costs, since one of the objectives of this analysis was to illustrate to managers the savings available through reducing the number of sites offered. Another objective was to give them some notion of how much it was actually costing to provide camping to some special segments of the user population, for example, local, weekend users. In such cases, the fixed costs (\$8,500 and 28,000) would remain constant, so only the marginal cost was really affected by any change management might introduce.

### Benefits

We did not attempt to measure the benefits produced by camping in any sophisticated way. It was beyond the scope of the analysis to use any of the various techniques which go under the general headings of contingent valuation or revealed preference to estimate a monetary value for the benefits produced by us as a result of accommodating visitors. Similarly, it was beyond our scope to try to measure the psychological benefits campers derive from the experience. Nor was economic impact of visitor expenditure on the regional tourism sector considered as a benefit, since our agency is not specifically mandated to produce such benefits, and is not given public funds with this purpose in mind.

Our mandate is to promote appreciation of natural heritage of our visitors, and enhance their understanding of environmental issues. When campers use and enjoy our campgrounds, we take as a basic premise that they are appreciating nature and they enhance, by at least some amount, their understanding. Therefore, we took the amount of camping consumed (i.e., the number of campsites nights actually used) as the basic measure of the benefit (in terms of our mandate) that we were creating for the expenditure of our budgets.

Figure three, which shows the use of a typical campground of 329 sites in our system, is therefore an illustration of the volume of benefits produced. Note that the amount use of a campground can also be referred to as the "effect" we achieve when we provide campgrounds. Therefore, the terms "benefit" and "effect" will hereafter be used interchangeably.

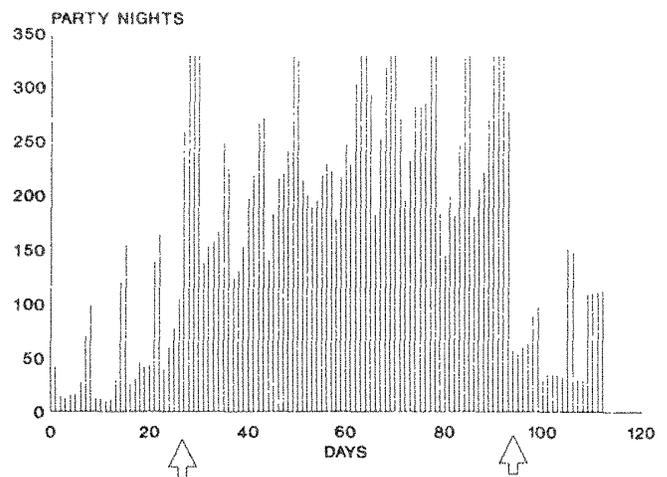


Figure 3. Typical daily use of a campground of 329 sites during the summer season 1991. The arrows indicate the days between the July 1 long weekend and Labour Day, which is the period all use figures were based on.

Now what we wanted to do was to compare costs and benefits in some simple way. We therefore defined a cost-effectiveness indicator as the ratio of costs to benefits. How cost effective the campground is can therefore be estimated by dividing the number of party nights of campground use for a year (or in this case for the high season: the July 1 long weekend to Labour Day) by the total average annual cost of the campground.

Not all the capacity is fully used even though it all costs roughly the same to build and maintain, so it is not all equally cost-effective. In our example campground, as in many campgrounds, much of the capacity is only used on the weekend, yet it must be provided over the whole season (campsites, roads, and washroom capacity do not cease to exist from Tuesday to Thursday). Therefore the costs per camper night of use are higher for a "less used portion" of the campground's capacity.

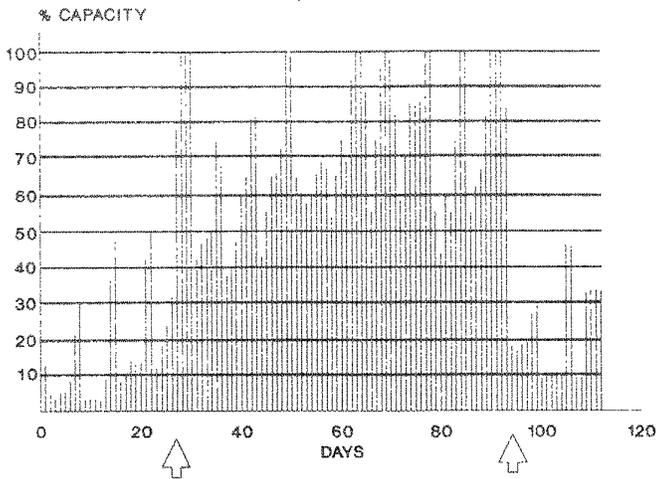


Figure 4. Campground capacity divided into 10% slices.

To estimate the costs associated with different amounts of utilization, we divided the campground's capacity into 10% slices (see Figure 4) and calculated the cost to offer each slice. We simply took the number of campsites in the slice, 33 or 10% of total capacity, and multiplied this by \$500 and \$850, the marginal cost per campsite. Note that we are not talking about specific campsites here. A half empty campground could mean all the sites are only used half the time, or half the sites are used all the time, and the other half never, or something in between; the analysis does not depend on which campsites are actually used.

Once we had calculated the cost of providing a slice worth of capacity, which is the same regardless of the slice, we counted the number of party nights of use that are found in that slice (see Figure 4). Dividing the cost by the number of party nights of occupancy gives us the average cost for providing a party night of use.

Figure 5 shows an example of the calculation for a slice. For the 70% slice, which had a cost of \$16,500 in operating costs and \$28,000 in capital, the cost per party night of occupancy was \$33. This is how cost effective those campsites were.

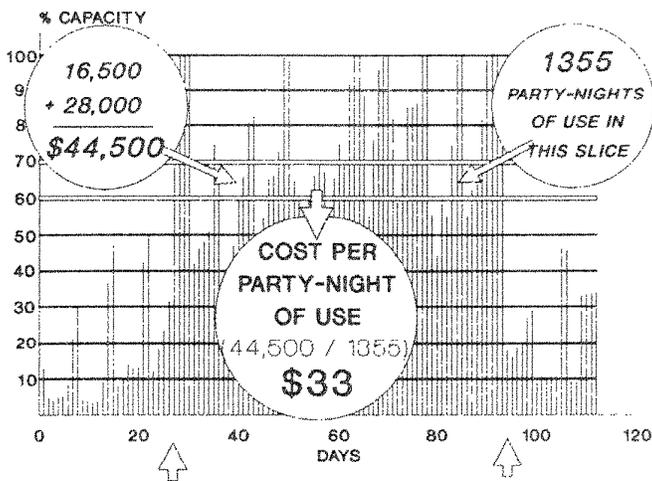


Figure 5. The calculation of our cost-effectiveness indicator.

When the calculation is repeated for each slice, a cost per party night of camping consumed is obtained for each slice. This cost can be plotted as the cost curve shown in Figure 6. Figure 6 shows that the cost per party night when the campground is full is at about \$21.00. Costs per party night start to rise rather sharply at the point where capacity is only used on the weekend (at about 70% of capacity).

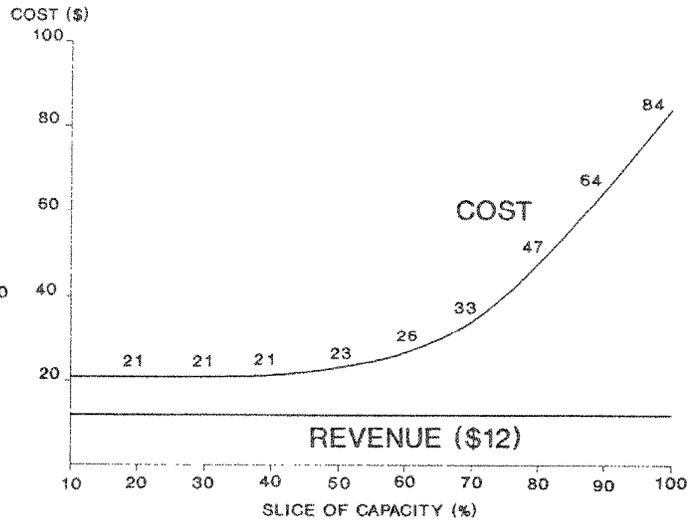


Figure 6. Curves showing the cost of providing a party night of use for each slice of campground capacity, and the revenue provided by that party night of use.

To be realistic, we should reduce any cost by the amount of revenue the cost generates. However, typical revenue from a party night of camping is in fact rather hard to determine because a variety of different fees are charged at different campgrounds. Therefore, to get a working average, we divided the total revenue we obtained from camping permits by the total number of camper party nights over the past four years, and in each year came out with an average payment per party night of about \$12.00. Therefore, we took \$12.00 as the average revenue currently earned from a party night of camping. Putting this curve in Figure 6, you can see that our net cost (the difference between what we earn from and what we pay for a party night of camping) can be anywhere from about \$9.00 to over \$70.00.

#### Client Groups

Are the experiences we are mandated to provide for our visitors worth a subsidy of this amount? Do visitors merit such a subsidy?

Visitors are not all the same. There are often different client groups using the same campground, client groups who differ with respect to demographics, economic class, behaviour, experiences sought, trip purpose, etc. To get some notion of how client groups differ, we took data on some basic visit party characteristics at our example campground, namely origin and length of stay for camper parties who arrived in our typical campground on weekday and weekend nights. These data are routinely collected from our automated registration process which is in place at this campground. Table 1 contrasts parties who arrive on weekends and on weekdays. As you can see, weekend visitors are much more likely to arrive from Halifax, the largest city in the immediate region of the campground. Visitors are much more likely to be from outside Nova Scotia (the province in which the campground is located) if they arrive during the week. Similarly, weekend users are very likely to stay only for the weekend, whereas weekday users are more likely to stay for longer. Although a formal segmentation to establish mutually exclusive groups was not

done, it is clear that weekend visitors are short term local users and weekday users are people from farther away who stay longer.

Table 1. Some characteristics of visitors to our example campground by day of arrival.

Origin and Length of Stay	Parties which Arrive on Weekends (%)	Parties which Arrive on Weekdays (%)
Halifax	25	15
Rest of Nova Scotia	12	25
Outside Nova Scotia	<u>63</u> 100	<u>60</u> 100
5+ nights	5	22
3-4 nights	17	36
1-2 nights	<u>78</u> 100	<u>42</u> 100

Source: Kejimikujik N.P. registration records, summer 1992.

If the fact that weekend visitors stay a shorter period of time translates (as seems likely) into other differences of behaviour, such as less interest in natural heritage and interpretive programs (which they can see again and again) and more interest in recreational boating or sunbathing (which can be done over and over), then it may well be that more benefits (of the sort we are mandated to provide) are derived by visitors that arrive on weekdays than by those arriving on weekends. This is because our mandate to promote an understanding of Canadian Heritage takes precedence over any mandate we have for providing recreational opportunities. However, weekday visitors cost us \$9.00 per party night. Weekend visitors cost us from \$10 to \$70 a party night. If the benefits we gain from providing a camping experience for the weekday visitors are worth the \$9.00 subsidy we give to obtain them, are the possibly smaller benefits we get from the weekend visitor worth the \$10 to \$70 we must pay? Research cannot give an answer to this. It is a policy question. What research can do is to set out the question in clear terms so that managers can make appropriate policy on the issue.

### Discussion

Decision support systems need simple coefficients if managers are going to be able to use them to monitor performance of their facilities and programs. Manning and Cormier (1980) proposed a concentration index for campgrounds which could serve as such a coefficient. Beaman (1988) recognized this explicitly when developing the Campground Expansion Coefficient. It is clear from these initiatives that degree of use plays a central role in how a facility's performance should be judged. However, as pointed out at the beginning of this paper, costs are critical as well. The advantage of the cost-effectiveness measure described in this paper is that it takes account of use, but includes the notion of cost. This makes it a realistic coefficient in that it indicates what we are achieving at what cost. Services provided to a particular client group may be worth it at a certain cost, but not at others.

In decision support systems, coefficients such as this provide signals of potential resource allocation problems and a call for management examination. A low coefficient need not be a signal for immediate action. If the campground was built to

accommodate future growth, or is the subject of some management action such as a promotion campaign or if the campground is intended to absorb users after the closure of a second, uneconomic campground, then low coefficient (which is short term) does not necessarily signify a problem. It is possible, on the basis of forecasts of use, to estimate how the coefficient will change over the next few years, and this may act as justification for the building and maintaining of the campground at its present size. The coefficient can then be tracked over the period of years to see what the campground actually achieved. If the coefficient reaches expected levels, the manager's judgment was borne out. If not, he can be held accountable for a bad decision.

The coefficient becomes very useful when you consider a senior manager looking at the performance of a whole series of campgrounds. Looking at use patterns, or at occupancy tables soon becomes very confusing. It is much easier to look at a list of campgrounds, each with its expected coefficient value, and its actual coefficient value, and seeing at a glance which are performing well and which not.

Furthermore, this notion of a coefficient is readily applicable to other facilities which are used in a park. Any facility that is used by visitors can have a cost per transaction calculated for it. If the transactions and costs can be differentiated according to the different client groups served (some of whom are more crucial to the mandate of the organization than others), management can judge whether certain levels of use are cost effective and so set baselines under which the service becomes problematic.

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## PUBLIC WORKSHOPS FOR STATE PARK MANAGEMENT INPUT: A CASE STUDY

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In a time of budget cuts, increased scrutiny and accountability of public agencies by the general public, increasing diversity of needs and demands by service users, and increasing grassroots involvement by some segments of the public, it is becoming increasingly important that public input and involvement be solicited during planning and policy development phases. As a follow-up to a survey of western Massachusetts residents to determine their perceptions of budget cut-related service changes and public meetings, an alternative form of public workshop dealing with state park management issues was conducted.

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### Introduction

Across the country public agencies involved with managing outdoor recreation and natural resource areas are facing budget cuts. At the same time, the general public, observing or experiencing the effects of constrained budgets and what they perceive as inappropriately used funds, is increasingly scrutinizing actions and policies of "the government," and is holding public agencies accountable for how they spend funds as well as how they fulfill their missions. For land managing agencies, including those which provide and manage outdoor recreation opportunities, this public scrutiny presents both a challenge and an opportunity for how management policies and actions are made and implemented. Traditionally, land managers have based decisions on their training, experience and research results. However, with increased public interest and involvement, managers are finding they must at least consider (voluntarily) opinions of a diverse public in developing management strategies or be forced to consider them through litigation or other public actions. Management decisions also are becoming more difficult due to the increasing diversity of needs and demands by users and those with interests in non-use values (e.g., land preservation, biodiversity, animal rights, etc.).

The Commonwealth of Massachusetts is not immune to public interest and scrutiny. The state has a patchwork pattern of public open space and park lands that provide watershed protection, wildlife habitat, sports fields, skiing/hiking trails, campgrounds and a variety of other recreation opportunities. They are managed by a complex variety of agencies, including local conservation commissions and recreation departments, private non-profit land trusts, the Metropolitan District Commission, the Department of Environmental Management, and others. Some trails and access sites cross private lands, sometimes with legal easements, sometimes simply as a result of traditional use.

Rapid growth in the state during the late 1980s resulted in increased demands on and use of the area's land, including its park and recreation resources. New residents, often with different needs, lifestyles and expectations than those of long-time residents, complicated demands on the area's resources.

More recent economic decline led to major state budget cuts, which included cuts in budgets for park and recreation facilities, services and site maintenance. This resulted in some park closures as well as service reductions at other sites. As a consequence there has been increased potential for negative resource impacts, recreation use conflicts, park use restrictions, displacement of users to alternative sites or activities, deferred maintenance, and safety threats (both perceived and real). The challenge for park managers is to continue to provide resource protection and quality recreation opportunities without alienating or disappointing the users and other residents. Consequently it is important to know and understand the perceptions, perspectives and opinions of those clients.

As a preliminary step in assessing opinions of residents of the Connecticut River Valley, a survey of residents (systematic random sample) was conducted in spring of 1992 to determine: 1) how their use of state parks has been affected by budget cuts; 2) their issues of concern relative to provision of state park facilities, services, and management; and 3) if they participate (why/why not) in public forums dealing with park-related issues. (Partial results of this survey are presented in Vander Stoep and Dunlavy, NERR 1992 Proceedings.) Following completion of the survey, a non-traditional public meeting was conducted to gather additional input in a manner which facilitated face-to-face participant discussion. The selection of an interactive format was predicated on the assumption that effective public involvement strategies can help increase the public's awareness of the complexity of management issues facing resource managers while improving relations among diverse special interest groups. Related benefits of a non-traditional public workshop include:

- reduction of residents' (and park users') antagonism toward and legal action against management decisions;
- improved consideration of multiple issues during the decision-making process;
- increased public commitment to and support for final action plans; and
- improved public image of land management agencies (Vander Stoep and Dunlavy, 1992).

### Workshop Methods and Format

The non-traditional public workshop was planned to involve both interested survey respondents and other members of the Connecticut River Valley community. The purpose of the workshop was to provide a forum for residents to identify and discuss with each other, in small groups, the park management issues most important to them. Usually public meetings deal with predetermined issues or new park policies, and are often conducted to get public reaction to a proposal or plan. The purpose of this meeting, however, was to identify more broadly the most important issues to the public, which then could be considered during planning and policy decision-making by DEM staff, a time frame much earlier in the planning process than is often used. Because parks serve a variety of functions and provide multiple opportunities and benefits to diverse people, it is important for managers to "hear" diverse perspectives. This workshop format provides one tool for gathering this diverse public opinion for integration into future planning, and provides a non-threatening venue for direct public participation and interaction.

Of the approximately 450 respondents to the original state park survey, 55 had indicated an interest in participating in a follow-up workshop. Invitation letters, with RSVP postcards and maps to the workshop site enclosed, were sent to these 55 people. A total of 25 postcard responses were received, with 6 indicating that they would attend the workshop. (Of the other postcards received, most indicated a continued interest in the workshop and results, but were unable to attend because of previous commitments, evening work, lack of child care, or because they had moved from the area.) Four of these people actually participated. (It should be noted that the workshop was held on the evening before the national presidential

election. Also, the weather had turned cold and icy, perhaps prompting some people to stay home.) Additionally, invitations were sent to 18 representatives of organizations and legislative groups which might have an interest in the workshop content (state and local government officials, DEM personnel, local business owners, representatives of local non-profit organizations with interests in resource management and/or recreation, and members of state park/forest friends groups). Ten response postcards were returned, with four indicating that they would participate. Three actually attended. Additionally, two DEM representatives and four students (all of whom had worked seasonally for various land management agencies) participated.

To summarize, the final group of workshop participants included survey respondents, Massachusetts DEM employees, a legislative aide, representatives of organizations with state park interests (such as park "friends" groups, nature center directors, special interest group representatives), and seasonal land management agency employees.

The workshop was conducted at the University of Massachusetts, a location central to the study area and neutral relative to special interest groups and DEM. The building was posted liberally with signs directing participants to the wheelchair entrance and the workshop room. Participants were greeted at the door, given name tags, and asked to sign in if interested in receiving a copy of workshop results.

Participants, who had been invited to arrive as early as 30 minutes before the start of the workshop, were offered refreshments, then encouraged to interact informally with other participants and workshop facilitators. When the structured part of the workshop began, participants were presented with an overview (and selected results) of the survey which had preceded the workshop. The survey overview was followed by a brief introduction to the Massachusetts state park and forest system and the general impacts of recent budget cuts on park services, presented by Gary Briere (Bureau Chief of Recreation, Division of Forests and Parks, Department of Environmental Management). Workshop procedures were explained to participants and they were invited to get more drinks or refreshments whenever they wanted. The structured part of the workshop lasted two and one-half hours, from 7:00 - 9:30 p.m.

The initial plan was to use a computer aided systems approach (using EZ-Impact software, Bonnicksen 1991) to involve participants in identifying park use and management issues, proposing alternative management policies, assessing multiple impacts of such policies, then prioritizing objectives and selecting appropriate policies and strategies. However, due to a variety of logistical and technical problems (hardware/software incompatibility, professional move of the principal investigator, and challenges of orchestrating an extensive public process from several hundred miles distant), a substitute process was selected with the hope that at least some of the original intent of the alternative workshop format could be maintained.

Therefore, for this workshop, a modified *nominal group process* was used. This is a process through which participants first work individually, then as members of a small group to identify priority issues and recommendations. The process was selected because it helps to remove some of the barriers and fears people have about expressing their ideas in a public forum, particularly if they believe that they (or their ideas) will be judged harshly or reacted to negatively. The nominal group process, which attempts to build consensus, encourage understanding of others' perspectives, and facilitate EACH person's active involvement, works as follows:

- All participants are allowed to first develop their own ideas about a specific issue (and write them on a worksheet on which is written the general "guiding question").

- In rotation among small group members, all participants are asked to "put their ideas on the table" (in this case, written on flip charts visible to all group members)...without anyone else being able to comment, question or judge.
- Group members discuss the ideas (asking for clarification, discussing implications and alternative perspectives, identifying pros and cons, etc.).
- Individuals then rank their top 5 issues on a second individual worksheet.
- Rankings within each small group are tallied, then one member of each group (NOT the facilitator) presents his/her group's conclusions/ideas to the entire workshop group for further discussion and clarification.
- Individuals then "weight" their top X issues by dividing 100 points in any way they wish (imagining that they have \$100 to allocate) among as many of the possible alternatives or issues listed in the full workshop ranking lists (participants may have changed their opinions since the first ranking).
- Final group responses, complete with "funding allocation," are tabulated.

Two group facilitators worked with each of two groups, each composed of seven people representing a mix of perspectives. Two guiding questions were used with the groups, and the full process (as described above) was followed twice. The two guiding questions were:

- 1) *What major concerns do you have regarding the future management of Massachusetts state parks and forests, and visitors' access to and use of those parks?*
- 2) *Assuming a need to cut state park services, maintenance levels, facilities, and new land purchases in the future (based on tight budgets), which do you believe are most important to preserve?*

An additional question, for which the nominal group process was not followed due to lack of time, was responded to by individuals using a third worksheet. This question was:

*Assuming continued insufficient state funds for state park operations, would you advocate service reductions and park closures OR use of more user fees?  
WHY?  
If fees, for what types of park uses?*

### Workshop Results

Final results of the entire workshop group, based on allocation of each person's "100 dollars" (or 100 points) to their priority issues are presented below. The number in the right hand column indicates the sum of all the "dollars" allocated by the workshop participants. The services or facilities receiving the highest allocations of dollars overall, therefore, indicate the groups' highest priorities for use of available state park funds. [It should be noted that these "dollars" do not reflect any realistic relative costs for each of the services or facilities; they simply indicate weighted prioritizations of the individual items.] Results from the first and second phases of idea generation and prioritization are presented in subsequent tables to illustrate some of the flow of issues discussion throughout the three phases of the nominal group process.

While questions 1 and 2 were intended to address separate issues, it was clear on the individual worksheets and during discussions for Question 2 that the participants' thoughts and comments were influenced strongly by discussion and prioritizing of issues raised in response to Question 1. Therefore, responses and issues similar to those addressed during Question 1 discussion are noticeable in Table 2 (Question 2).

Table 1. Final nominal group process results from phase three for Question 1.

QUESTION 1: What major concerns do you have regarding the future management of Massachusetts state parks and forests, and visitors' access to and use of those parks?

Total Group Ranking	General Issue Identified	Total "\$" as allocated by all 14 participants
1	Adequately maintain facilities and equipment	425
2	Hire enough personnel to adequately staff parks and provide direct services to users	145
3	Keep the parks open	125
4	Provide appropriate and planned handicapped access	100
tie 4	Develop and implement better marketing strategies (residents need to know what's available)	100
4	Provide adequate law enforcement and ranger presence	100
7	Manage staff more effectively and efficiently to increase work accomplishments across the system	65
8	Provide quality (and adequate) signage, maps, information & educational materials	60
tie 9	Provide frequent trash collection	40
9	Seek alternative funding sources (besides state funds) to support park operations and staff	40
11	Reduce services to fit within budget rather than trying to do too much with too few resources	35
12	Assure compatible (not conflicting) uses within individual parks and adjacent to each other; and assure that uses provided are compatible with the resource itself	30

The additional question, to which participants responded using a third individual worksheet, placed participants in a position of having to make a decision about a general approach to park management under tight budget conditions. They were forced to decide whether to simply cut services across all parks, possibly closing some parks, or to try to raise additional funds to meet operations needs by implementing a fee system. Some respondents chose to implement a combination of user fees and service reductions (see Table 3).

Responses to this question as listed here are taken directly from individuals' preliminary worksheets. Due to lack of time, no group discussion occurred. It is possible that, had time been available for discussion, additional issues may have been raised, or the group may have come to some consensus about how to approach the challenge of reduced funding.

Table 2. Final nominal group process results from phase three for Question 2.

QUESTION 2: Assuming a need to cut state park services, maintenance levels, facilities, and new land purchases in the future (based on tight budgets) which do you believe are most important to preserve?

Total Group Ranking	General Issue Identified	Total "\$" as allocated by all 14 participants
1	Adequately maintain facilities and equipment	375
2	Keep as many parks open as possible (to be close to all segments of region's population)	260
3	Use strategic planning as a way to continually update and prioritize park management issues, policies	220
4	Preserve the "natural" parks	145
5	Have adequate ranger presence and staffing (for both safety and service)	115
6	Incorporate marketing into management strategies	80
7	Focus on service to the public (the users)	70
8	Develop a strong volunteer program to supplement park staff and services (hire a volunteer coordinator)	35
9	Encourage park activities that require the least cost for provision, maintenance and management of facilities	15

Table 3. Individual written responses to Question 3.

QUESTION 3: Assuming continued insufficient state funds for state park operations, would you advocate service reductions and park closures OR use of more user fees?

Prefer service reductions as a way to manage within the budget	2
Prefer user fees as a way to manage within the budget	7
Prefer a combination of service reductions and user fees as a way to manage within the budget	4

Two respondents preferred service reductions over user fees, citing the following as reasons or recommendations for this preference (direct quotes from worksheets).

- Keep as much operational as possible and curtail the services offered (*comment only; no justification was given*)
- Increasing user fees will not help parks a great deal because 1) fees go into a general fund, not kept in park fund, 2) it would be difficult for a park to pay for itself--couldn't generate enough \$-people wouldn't pay what the park needs to earn. I feel services should be reduced to a point. But first a study must be done to see what the users want to keep and what they feel is unnecessary or could be modified. User input is important and DEM doesn't ask for enough of it.

Seven respondents preferred implementing some system of **user fees** to be able to maintain a reasonable level of services and opportunities. Their comments regarding types of fees, how to implement fees, or why to use fees are as follows (direct quotes from worksheets):

- Selective fees for specific functions (with retained revenue) could generate revenue without closing the facility to the general public.
- Increase user fees (If they are dedicated to the park). It will not be as permanent as service reductions. If economy should get better it is easier to reduce fees than to re-implement services.
- I would try to add in more user fees but combine with fund raisers and donations. If this still is not sufficient, instead of raising them higher, I would slowly cut down on some services. Better to keep open and hope times will get better.
- Fees collected should be retained by park or facility they are generated to maintain. I think folks would be willing to pay for a quality experience.
- Public needs what parks and forests have to offer.
- Instead of closing parks and reducing services, ask for local volunteers.
- User fees could be the first step but can only go so high. State Parks provide a good service that can and does compete with the private sector.

Those preferring fees indicated they should be charged for the following services and facilities (again, the following are direct quotes from worksheets):

- Rinks, swimming and other site-intensive uses.
- Site-specific areas. Highly concentrated use areas (e.g. campsites)
- Entrance fee; facility fee; rely on donations and fund-raisers.
- Hiking, biking, bird watching, swimming, canoeing, camping, picnicking, fishing.
- Parking, picnicking, hiking trails, swimming, bird watching.
- User fees for high maintenance facilities (i.e. skating rinks, swimming pools, trash collection).
- Swimming, camping, picnicking. Things that require direct park services (i.e., trash pick-up, toilet cleanings, etc.)
- Pooled fees, with revenue retention, so that people feel they are donating to park services/upkeep instead of paying for something they already own--to increase money available to maintain parks - and to build a feeling in public that they have some responsibility to "replace" the impact they made on the park - and to provide an incentive to increase revenue generating activities without increasing costs that would eat up all increases - while still focusing on public interest and service aspects of the park as state assets.
- Entrance fees - walkers should be exempted. Should be a balance between free and too expensive -- would depend upon how many activities/uses are available.
- Trash pick-up; maintaining trails, etc.

Even with this small group, there seems to be some disparity in where, when and how to implement user fees. It is unfortunate that the group did not have time to discuss this issue and to move toward some consensus. It is expected that

discussion also could have helped clarify nebulous concepts, and allowed those with management experience to explain some of the operations and maintenance logistics as well as the current flow of money collected in fees to non-managers. Such insight could have influenced individuals' final decisions about fee priorities and implementation strategies.

Four respondents preferred a combination of **user fees and service reductions**, choosing to use as many managerial tools as possible in helping meeting management and operations needs. Their comments were as follows:

- Try to keep the public involved with the parks - Reduce services - seek other options to keep open - before closing outright. Build a strategy based on services - and where they can happen - rather than on a facility and what can we do with it. (*service reductions must be strategically planned*)
- The basic user fee should be minimal, i.e. entrance fees. The public has already paid for state park operations through taxes for the acquisition of the land, taxes staff. User fees in general are discriminatory in nature and typically hurt that segment of the public that needs publicly supported facilities the most. Fees for services, not basic, should be increased (i.e. for private events on state lands or special interpretive services).
- People are going to enter public parks and forests anyway, so some minimal surveillance/law enforcement is necessary. For those that are "more active" parks/forests - then some user fees are necessary for funding to keep people aware that services are not free and that some responsibility is on the individual too.
- If service reductions are necessary - may they be for the larger facilities - natural areas require less maintenance, less money.

The following tables show the results of phases one and two of the nominal group process. (They represent concepts and discussion leading to phase three results, which were presented in Tables 1 and 2.) In the left hand columns are complete lists of issues generated by members of each of the two workshop groups, based on their written completion of phase one (the individual responses) BEFORE any ranking or prioritizing occurred. Ideas listed are in no particular order, except for the top issues identified by each group, each of which is indicated in bold face type and followed by its ranking. In the right hand column are the group rankings for each of the highest priority items for each group based on their discussions and prioritizations during phase two of the nominal group process.

### Unsolicited Comments

Though not part of the workshop discussions, a few comments were submitted unsolicited by survey respondents who earlier had indicated an interest in the workshop and received invitations, but who were not able to participate on that particular evening. Comments were written on their workshop RSVP postcards. Some were simply statements of personal preferences and wishes (e.g., "We'd like to keep the Mt. Tom Reservation open full time."). Others provided recommendations for operating parks under restricted budgets (e.g., "Have retired people with park passes donate time to help at parks.").

### How Results Were Used

After the workshop was completed, all workshop results were compiled and sent to workshop participants and facilitators. Additionally, results were sent to regional and state headquarters of DEM where they were to be considered as one source of input for future planning and management of state parks and forests. After the workshop, the Bureau Chief of Recreation for DEM (who participated in the workshop) expressed an interest in possibly conducting similar workshops in other parts of the state. As of this writing, it is not known if such workshops have indeed been conducted.

Table 4. Results of phases one and two of the nominal group workshop for Question 1.

QUESTION 1: What major concerns do you have regarding the future management of Massachusetts state parks and forests, and visitors access to and use of those parks?

Issue	Group Ranking
<b>GROUP A</b>	
• maintenance of facilities	1
• marketing for current & future issues	2
• ranger presence	(tie) 3
• management of staff, problems with "idle time"	(tie) 3
• trash collection (needs to be regular)	5
• reduced service equated with reduced public support	6
• maintenance of swimming facilities	
• inadequate staff levels	
• issues related to open and closed parks	
• retained revenue (currently fees collected at an individual park are not retained on-site, or within DEM, but sent to the general fund)	
• user safety (law enforcement needs)	
• cleanliness of sites and facilities	
• handicapped access	
• vandalism	
• unqualified staff	
• visitor education and interpretation	
• status of closed areas (user unawareness)	
• access to information about park services, facilities, hours, fees, etc.	
• impact on open areas when other areas are closed	
• hours of operation	
• user fees - affordability	
• decision making process on major decisions	
• retrenchment of staff	
<b>GROUP B</b>	
• natural quality	1
• good signage and maps made available	2
• money for adequate personnel	3
• keep parks open (will the parks really stay open?)	4
• maintenance of trails and facilities, equipment, buildings, and trash removal	(tie) 5
• assure provision of uses that are compatible with the environment; & maintain appropriate use levels	(tie) 5
• adequate law enforcement	7
• maximization of limited fund	8
• new ways to seek alternative funding	9
• budgets	
• personnel	
• clean trails and beaches and campgrounds	
• feeling of safety at facility	
• interpretive services to enhance experience or some kind of educational component	
• land acquisition where applicable	
• handicap accessibility	
• assigning certain activities to certain parks/areas -- as ATVs and mountain bikes in one or more parks, but not in every one	
• matching funds to what park personnel can really accomplish within equipment, time, money constraints	
• user fees - will they be increased? established where there aren't any?	
• any volunteer efforts or means of accepting volunteer assistance?	

Table 5. Results of phases one and two of the nominal group workshop for Question 2.

QUESTION 2: Assuming a need to cut state park services, maintenance levels, facilities, and new land purchases in the future (based on tight budgets) which do you believe are most important to preserve?

Issue	Group Ranking
<b>GROUP A</b>	
• strategic planning (long term and present situation considered)	1
• maintenance of facilities	2
• keep as many parks open as possible	(tie) 3
• interpretation	(tie) 3
• preservation of natural resources	5
• direct services to public	(tie) 6
• marketing - change trends to prevent further cuts	(tie) 6
• restroom facilities where people are	
• maintain staffing	
• quality staff	
• education for users	
• new land purchases, new facilities	
<b>GROUP B</b>	
• prioritize uses (don't be everything to everyone at each park; don't spread resources too thin)	1 (combined idea)
• maintain areas for low cost activities (i.e., bird watching, hiking). Provide more of opportunities that don't require personnel	1 (combined idea)
• preserve the state forests (facilities that require the least expense)	3
• maintenance of facilities, buildings, equipment	4
• ranger presence/law enforcement	5
• increase volunteer support systems	6
• preservation of trails and picnic areas... "low maintenance areas"	
• good signs and maps	
• provide the most services to most people - keep maximum number of parks open, even with limited service	
• be practical and innovative - "if you have a tree stump, don't build a bench"	

### Discussion and Management Implications

Despite some of the logistical, technical and timing difficulties of the workshop, and the relatively small size of the workshop group, those who participated were active discussants in their groups, were willing to stay longer than we had anticipated, and were engaged in discussions on specific issues for longer periods of time than had been anticipated (preventing our being able to go through all three phases of the nominal group process for Question 3). Although no formal evaluation of participants' reactions to their participation in the workshop were conducted, verbal responses from participants before they left, and their eagerness to receive copies of the compiled results, indicated interest and effectiveness of the workshop for those involved. Regardless of the implementation of the group's ideas, two major objectives were met: 1) one more source of public input was presented to DEM to assist in its future planning and policy development; and 2) a group of diverse citizens with differing ideas, needs and motivations were able to share ideas, clarify their perspectives, and have an opportunity to "step into the shoes" of people with different perspectives than their own without feeling threatened.

This alternative format public workshop presents a model which can be adapted and applied to other resource management sites and issues. One advantage is that it can be used BEFORE major plans or changes are made (thus eliminating the simply reactionary role of most traditional public meetings), and that participants have relatively free reign with their comments rather than being restricted to a single, focused issue or situation. While such "looseness" presents some challenges (e.g., participant responses not directly responding to guiding questions; low degree of specificity in some comments and ideas; and limited consideration of interactions between recommendations, as evidenced in some of this group's comments), it does allow for broad exploration of ideas, discussion of diverse ideas, and an opportunity for intragroup negotiation about ideas and priorities. Such negotiation is evident in the differences between groups' phase two prioritizations of issues (see differences between Groups A and B in their top priorities in tables 4 and 5). Some of the differences are resolved to some degree during the phase three "allocation of dollars."

When planning such a public meeting, it is important to recognize the benefits, and to plan and conduct the meeting accordingly. However, it must also be recognized that there are certain constraints and challenges of such workshops that must also be considered...in order to minimize problems, to understand the limitations of the results, and to properly use the results of such meetings. Summaries of the primary benefits and challenges are listed below, as well as a list of suggestions for facilitating an alternative public workshop.

#### **Benefits of Conducting a Public Workshop**

Public workshops can be beneficial because they allow participants (who may have differing perspectives from each other) to discuss issues and ideas informally with other users as well as with park personnel, legislative representatives, and organization representatives, in a context in which none of the participants' opinions is more important or valid than any other participant's. Additionally, it:

- provides up front public input to planning process and policy development;
- breaks down barriers between agency and public;
- allows participants to hear perspectives of others in a non-threatening environment;
- allows participant recognition of the complexity of park management issues;
- builds sense of ownership in participants; and
- hopefully reduces legal challenge, project blockage, and litigation later.

#### **Constraints and Challenges of Conducting a Public Workshop**

Because typically there is strong self-selection bias in participation in such a workshop, we acknowledge that the workshop group responses are not representative of all Connecticut River Valley residents or all state park and forest users. Needs and concerns of other groups also must be integrated in future management decisions. Perhaps public workshops for specific, typically underrepresented groups can be conducted. However, this strategy sidesteps one of the major advantages of this type of workshop, which is allowing people of diverse needs and opinions to sit down face-to-face and discuss their differing ideas openly, and to identify common ground on which further discussions can build.

Some specific challenges of conducting a non-traditional public workshop are listed below:

- takes time and detailed planning;
- requires patience and sincere interest (positive attitude) of those facilitating the workshop;
- requires numerous facilitators;
- requires effort to make participants comfortable with non-traditional format;

- must minimize negative impact of vocal skeptics or nay-sayers who refuse to "follow the rules" during the process;
- requires follow-through;
- requires clarifying that the workshop is only ONE means of gathering input, and that results do not dictate final agency decisions or policies;
- must make sure that ALL relevant parties participate (or are invited).

#### **Giving a Public Workshop that *Little Extra Touch***

There are several "extra touches" that workshop planners and facilitators can use to make residents feel that their opinions truly are wanted and will be used, to make them feel more at ease in talking with others (most of whom are strangers), and to help build a sense of cooperation and trust rather than laying out a special interest battleground. Some of the details include use of the following:

- personalized letters of invitation
- trained facilitators
- continual personal contact with participants
- neutral site, comfortable atmosphere, easy access and parking, clear directional signage
- personal greeting at the door
- refreshments
- name tags
- list to sign in (to receive workshop results)
- organized, yet informal structure
- enforcement of judgmental comment restraint during first phases
- summary of results sent to participants along with thank you

Most importantly, sincere efforts should be made to consider and integrate participants' comments and ideas when appropriate and feasible. When this is done, the general public should be made aware of the contributions of workshop participants...and given information how they can become involved in the future.

#### **Conclusion**

While there are constraints on workshop results (most notably with regard to respondent bias and lack of representation of all citizens and relevant special interest groups), the results can be used as one information source about important park issues and management perspectives. However, a single workshop should not be the ONLY source of user information. Efforts must be made to specifically target minority and other less represented user groups.

If planned, facilitated and conducted properly, with a real desire to gather and use public input, it appears that non-traditional public forums can attract participation, at least by some segments of the population. However, there are still major barriers which must be overcome to ensure open participation and to incorporate input into management decisions, not the least of which involve changing attitudes. First, it is important to change agency attitudes. Employees must recognize 1) that the public may really have some valuable input and insights, 2) that their (agency employees') professional opinions and expertise should not be threatened by honest public input (when collected in a non-adversarial environment), and 3) that there may be long term benefits from gathering public input to counterbalance what may be perceived as short term hassles and nuisances of actually involving the public. Second, it is important to change the public's attitudes about their input, to assure (or show) them that their input is valued and used. Simultaneously, people must realize that there are many different publics, with many different viewpoints, and just because they have a specific opinion, it is not necessarily representative of everyone.

It is only with everyone working together, hearing and understanding the ideas and perspectives of those different from themselves, and exchanging ideas in a non-adversarial, non-threatening environment that progress toward inclusive, probably also compromising, decisions can be made. If public

land agencies are to manage for the people, and if they are to receive long term support for their efforts (legislatively, financially, in volunteer support, in lack of destructive behavior), they MUST manage for ALL the people, and must consider the opinions and needs of all those groups in their decisions. This does not mean that they should try to be all things to all people, or to make decisions counter to agency missions or policies; it means simply that their decisions should acknowledge and be sensitive to diverse needs, and that people's input should be facilitated rather than inhibited.

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