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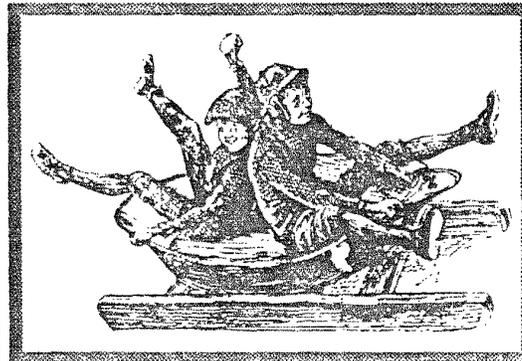
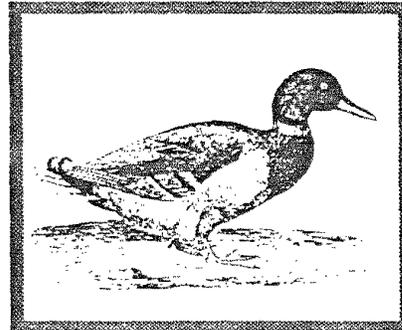
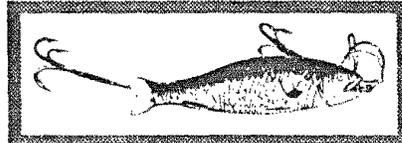
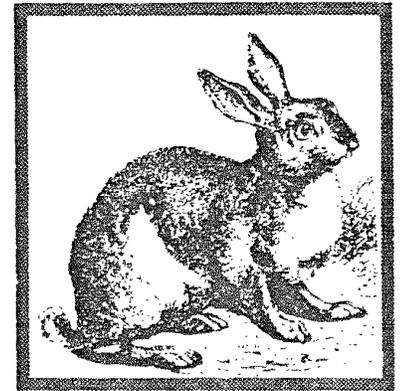
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Proceedings of the 1994 Northeastern Recreation Research Symposium

April 10-12, 1994
Saratoga Springs, New York



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.



Melding Research and Management

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PROCEEDINGS of the 1994 NORTHEASTERN RECREATION RESEARCH SYMPOSIUM

**April 10-12, 1994
State Parks Management and Research Institute
Saratoga Springs, New York**



Compiled and Edited by:

Gail A. Vander Stoep, Michigan State University

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MISSING PAPERS

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.

POSTER SESSION

Fees, Expectations and Behavior in Developed Campgrounds. Tom More, USDA Forest Service.

Spatial Inquiry, Analysis and Display of Site-specific Perceived Impacts to the Recreational Boating Experiences: A Comparison of GIS Software Packages and Procedures. John Confer, Jr., Alan Graefe, Pennsylvania State University; John Titre, U.S. Army Corps of Engineers.

OUTDOOR RECREATION MANAGEMENT

Visitor Impact Monitoring: Evaluating the Effectiveness of Management Actions. Jeff Marion, Virginia Tech, National Biological Survey.

Undergraduate Tourism Education in New Hampshire and Hungary: A Comparative Study of the Curriculum Development Process. Margit Mundruczo, Robert Robertson, University of New Hampshire.

The Gericke Farm Project. John Wood, Clay Pit Ponds State Park Preserve.

INTERPRETATION, EDUCATION AND OUTREACH

Evaluating the Effectiveness of Alternative Media Messages. James Petruzzi, Cinnamon Baldwin Foster, Jerry Vaske, Maureen Donnelly, Colorado State University.

"Public Outreach" Implications for Natural resource Recreation Management. William DelNegro, David Loomis, University of Massachusetts.

DEMOGRAPHICS

Demographics and Angler Diversity: Cohort-specific Analysis of Massachusetts Anglers. Al Ortiz, David Loomis, University of Massachusetts.

RECENT CHANGES IN FEDERAL AGENCY RECREATION RESEARCH AND TRAINING PROGRAMS

Recreation, Social Science and Human Dimensions--Fitting Together. Alan Watson, USDA Forest Service, Aldo Leopold Institute.

Future of Social Science in NPS and NBS. James Carroll, National Biological Survey, Washington, D.C.

OUTDOOR RECREATION: SATISFACTION AND CONFLICTS

The Hidden Public: Subculture Differences in Attitudes and Satisfaction. Rodney Zwick, Lyndon State College; David Tucker, Northeast Kingdom Community Action; Susan Bulmer, Vermont Department of Forests, Parks and Recreation.

ENVIRONMENTAL PERCEPTIONS AND ETHICS

State Park Stewardship Survey--1993 State of the Parks Report. Allison McLean, Wilbur LaPage, New Hampshire Division of Parks and Recreation; Rob Robertson, University of New Hampshire.

PLANNING AND G.I.S.

Boating Opportunities: A Geographical Analysis of Travel Patterns and Motivations. John Confer, Jr., Alan Graefe, Pennsylvania State University; John Titre, U.S. Army Corps of Engineers, WES.

The Moosalamoo Partnership: Using GIS and CPS for Composite Trail Maps. David Capen, Daniel Coker, University of Vermont; Mary-Jeanne Packer, Green Mountain National Forest.

*OUTDOOR RECREATION:
SATISFACTION & CONFLICT*



FACTORS IMPACTING THE SATISFACTION OF PRIVATE CAMPSITE OWNERS WITH CAMPGROUND RECREATION OPERATIONS

Andy Holdnak

Assistant Professor, Western Illinois University, Department of
Recreation, Parks and Tourism Administration, 400 Currens Hall,
Macomb, IL 61455

Ellen Drogin

Lecturer, The University of Maryland, Department of Recreation,
2358 HH HP Building, College Park, MD 20742

This project investigated the satisfaction of private campsite owners with their campground recreation operations. Regression analysis found five items impacted the overall satisfaction of campsite owners: overall impression of the campground, staff training for both recreation and aquatics staff, noise, and fees and charges. The impacts of these items varied depending upon user group.

Introduction

Woodhaven Lakes Campground in Sublette, Illinois is America's largest ownership camping resort with over 6,000 campsites were sold. As the project was sold out by the developer, the ownership and management of the common areas of the resort was turned over to a nonprofit owner's association, "The Woodhaven Association." The association is managed by an elected board of directors who establish policy, set fees and hire staff. In order to be responsive to their owners, the board conducts periodic surveys of campsite owners. This survey is one such project.

Of general interest in this survey were questions about the current recreation facilities and programs as well as future development of recreational amenities, particularly winter and amenities (i.e., year round pool and spa, ice rinks, sledding hill etc.). Woodhaven was originally designed and sold as a seasonal operation but as time passed, interest has been expressed in developing the area into more of a year round operation, bringing with it a number of operating problems.

A special purpose of this study was to investigate factors impacting the satisfaction private campsite owners feel with the campground's recreation department using methodology developed in previous satisfaction studies done on boaters by Graefe and Drogin (1989), Drogin, Graefe and Titre (1990), and Holdnak, Graefe and Drogin (1992). These studies are based on the Expectancy Theory of Satisfaction.

Methodology

The study explored a number of potential impacts on campsite owners' satisfaction with Woodhaven Lakes Campground, Sublette, Illinois. Campsite owners were surveyed by mail in the summer of 1992 as part of a regular program of surveys conducted by the campground management organization. Since the primary source of funding for development and operations is membership dues, it was of particular importance to management to give each owner the opportunity to respond to the survey. Thus approximately 6,000 surveys were mailed to campsite owners and 1249 usable surveys were returned yielding a return rate of slightly better than 20.8%. Managers reported that this response rate was consistent with responses rates of their previous surveys. Due to the large numbers of surveys mailed, follow-up mailings were not used. Researchers recognize that this is a low response rate and that a random sample method with follow-ups might provide superior data.

Factors expected to impact satisfaction with the campground recreation department were developed by the campground recreation department staff with input from the researcher. Factors included: the overall impression of the campground operation, crowding, noise, fees and charges, as well as staff friendliness and training, facility supervision and facility condition for both recreation operations and aquatics operations. A series of items measured on a five point Lykert scale were used to assess the level of agreement with statements concerning each item. Items measuring crowding and noise were reverse coded. Overall satisfaction with the recreation department was measured with a single item on a ten point scale, where 10 = "extremely satisfied". A stepwise multiple regression analysis was conducted testing the impacts of the study variables on the satisfaction of the campsite owners. This methodology is consistent the previously mentioned studies.

Results

In order to test the impact of the selected variables on overall satisfaction with the recreation operation, a stepwise multiple regression was run.

Results of the stepwise multiple regression indicated that five of the twelve variables studied did impact the owners impressions of the recreation department (Table 1). The higher the overall impression of the campground, the higher the satisfaction with the recreation operation. Also important was the perceived level of training of the recreation staff and the aquatics staff as well the perception that current fees and charges were appropriate. In addition, the noise of others at the facilities negatively impacted satisfaction. Overall, the multiple regression produced an R^2 of .488 which is comparable to previous studies.

An additional series of ANOVAs were run to see if any of the factors impacting satisfaction with the campground recreation department varied depending upon the user groups at the campground i.e., persons visiting as "individuals", "self and spouse", "immediate family with primarily children" and "immediate family with primarily grandchildren".

Though there was no significant difference between groups on their overall perception of the campground's recreation department, there were significant differences between groups on two of the variables found to impact the satisfaction with the department (Table 2). People who visited Woodhaven Lakes as "self and spouse" were lower in their evaluation of Woodhaven Lakes overall than were the other groups. Also, the impact of noise at the facilities was felt more strongly by those visiting as individuals or with spouses than by the groups visiting with children or grandchildren.

Table 1: Summary of multiple regression of selected variables on satisfaction of private campsite owners with campground recreation operations.

Independent Variable	Overall Impression of WHL Recreation Department	
	r	Beta
Overall impression of Woodhaven Lakes Campground	.636	0.614
I avoided certain areas of the lake because of crowding.	-.003	
The noise at the facilities reduced my enjoyment.	.195	0.089
There is adequate supervision at recreation facilities.	.041	
There is adequate supervision at aquatics facilities.	.015	
The recreation staff is well trained.	.406	0.525
The recreation staff is friendly and helpful.	.049	
Recreation facilities are in good condition.	.044	
The aquatics staff is well trained.	.349	0.239
The aquatics staff is friendly and helpful.	.036	
Aquatics facilities are in good condition.	.044	
Current fees and charges are appropriate.	.278	0.159
Percent of Variance Explained (R square):	.488	

Table 2: The influence of "group" on selected impact variables

	Grand Mean	Group			F Value	Signif.
		Individ.	Self & spouse	Immed. Family		
Overall impression of WHL Recreation Dept	7.35	7.21	7.35	7.37	0.258	.773
	N= 979	88	360	531		
Overall impression of WHL Campground	7.57	7.72	7.33	7.71	5.509	.004
	N= 1027	90	391	546		
The recreation staff is well trained.	3.73	3.7	3.75	3.73	0.191	.826
	N= 955	79	350	526		
The aquatics staff is well trained.	3.82	3.71	3.78	3.86	2.391	.092
	N= 941	78	338	525		
Current fees and charges are appropriate.	3.44	3.48	3.5	3.4	1.282	.278
	N= 926	77	337	512		
The noise at the facilities reduced my enjoyment.	3.09	2.87	2.86	3.28	13.53	.000
	N= 938	77	345	516		

Discussion

This results of this study indicate that the expectancy theory of satisfaction can be valuable in the evaluation of campground recreation operations. By focusing on the factors shown to significantly impact the impressions of campsite owners, recreation managers can most efficiently improve the owners satisfaction with their operation.

Of particular note in this study was the relative importance of training for both the recreation and aquatics staff. Training was found to be significant while friendliness and quality of supervision was not. For this operation, additional staff training programs would seem to be appropriate.

Additionally, the respondents feelings about fees and charges impacted their overall satisfaction. Further studies of willingness to pay should be conducted at this campground.

The methodology used in previous satisfaction studies was shown to be applicable in the study of campground operations. Additional uses of this methodology in a variety of public and private outdoor recreation operations should be conducted.

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RECREATION CONFLICTS ON MT. EVANS

Jerry J. Vaske
Associate Professor

Karin Wittmann
Research Assistant

Susan Laidlaw
Research Assistant

Maureen P. Donnelly
Assistant Professor

Colorado State University, Department of Natural Resource
Recreation and Tourism, Human Dimensions in Natural
Resources Unit, Fort Collins, CO 80523

This study examines recreation conflict at Mt. Evans, Colorado; a high visibility area that attracts both hunters and non-hunters. Two types of conflict were distinguished: goal interference and conflict in values. Data were obtained from a series of on-site and mailed surveys. For *hunting related events* (e.g., seeing an animal being shot, hearing guns being fired), 70% or more of both hunters and non-hunters experienced no conflict. Among non-hunters, conflicts in values (between 24 and 27%) were more evident than goal interference problems (1 to 5%). For the hunters, less than 15% reported either goal interference or conflict in values. For *human/wildlife interaction events* (e.g., people disturbing wildlife, people feeding wildlife), between 40 and 68% of the non-hunters experienced no conflict, compared to 24 to 57% of the hunters. Twenty-one to 36% of both groups expressed a conflict in values. Hunters were more likely to report goal interference conflicts (19 to 55%) than non-hunters (6 to 36%). The management implications of these findings are discussed.

Introduction

Mt. Evans is a 14,150' mountain located 70 miles west of Denver, Colorado. The mountain is unique in that it has the highest paved road in North America, climbing almost 7,000 feet to the summit. The road offers visitors a variety of scenic landscapes, ranging from lakes and pine forests, to alpine tundra and snowcapped mountains. Mt. Evans also supports one of the most accessible mountain goat and bighorn sheep populations in North America, providing excellent opportunities for both wildlife viewing and hunting.

Because Mt. Evans accommodates a variety of user groups, conflicts can occur. Management strategies to mitigate the potential for these conflicts requires an initial understanding of the causes of conflict. At least two sources of conflict are noted in the recreation literature. Conflict may occur when the behavior or physical presence of an individual (or group) interferes with the recreation goals of another individual (or group). For example, a person attempting to photograph wildlife is likely to experience conflict if the animal is scared away by the arrival of other visitors at the site. This type of conflict is labeled "goal interference" because the goal of the recreation activity is inhibited in some way (Jacob and Schreyer 1980). A second type of conflict occurs when people holding disparate values about how an area should be managed share the same resource. These situations are labeled "value conflicts" (Williams 1993). Such conflicts in values are likely to result independently of actual contact between the groups.

Understanding these sources of conflict is important for wildlife managers because the solution to conflict depends on the cause of the problem. Zoning, for example, may reduce conflicts stemming from goal interference because the user groups are

physically separated. On the other hand, zoning is likely to be ineffective when conflicting values are involved (Ivy et al. 1992, Owens 1985). Because social contact is not necessary for this type of conflict to occur, physically separating users will have little influence. In these situations, education may be more effective.

Recognizing the potential for conflict on Mt. Evans, the Colorado Division of Wildlife (CDOW) initiated a series of actions to elicit public opinion regarding acceptable management strategies. The first step was to recognize that there is no single public. Rather, the public can be segregated into a number of groups or publics; for example:

- (1) recreationists [e.g., wildlife viewers, wildlife photographers, campers, hikers, hunters, anglers],
- (2) regional residents,
- (3) special interest groups, and
- (4) agency personnel.

Separating the general public into homogeneous groups promotes a more systematic evaluation of the management alternatives preferred by different segments of society. The fundamental cause of today's contentious natural resource issues is the clash among incompatible values held by different publics (Vaske et al. In press, Manfredo et al. In press).

Once the publics were identified, mechanisms which facilitated input from diverse interests were established. Just as there is no single public, no single public involvement format can reach all potentially affected individuals. Consequently, a range of alternative techniques was used, including open houses in a variety of locations, stakeholder meetings, and letters to interested individuals soliciting their input. Individuals who attend public hearings or respond to direct mailings, however, may not be representative. To increase the range of contact with other interested parties, a series of scientific surveys were conducted: 1) an on-site survey and 2) three mailed surveys. One of the goals of these surveys was to systematically examine the frequency and magnitude of the occurrence of the two types of conflict on Mt. Evans. This paper summarizes findings from this investigation.

Methods

The On-Site Surveys

The objective of the on-site survey was to gather information from individuals who currently use Mt. Evans. The one-page survey included questions on the reasons for visiting, perceptions of problem conditions, if any, and reactions to alternative management scenarios. Data were collected on 11 randomly selected days between June and September, 1993. The sampling strategy included 4 days during hunting season to allow examination of potential goal interference conflicts.

Surveys were distributed by a team of interviewers to visitors at Echo Lake, Mt. Goliath Research Natural Area, and Summit Lake. An attempt was made to survey all visitors in the area during the data collection periods. Ninety-six percent of the visitors contacted (n = 986) completed the survey. Individuals who were willing to participate further were mailed a follow-up survey.

The Mailed Surveys

A 12-page questionnaire was mailed to all 600 Mt. Evans visitors who had provided their names and addresses on the on-site survey. Three separate mailings were used, with a reminder postcard after the first mailing. Of the 600 surveys in the initial mailing, 13 were undeliverable due to incorrect address information. A total of 401 completed surveys were returned (response rate: 401/587 = 68%).

Surveys were also mailed to Mt. Evans hunters and individuals who reside in the Mt. Evans region. The sample of hunters included those individuals who had applied for a 1993 permit to hunt elk on Mt. Evans and those who had applied for a sheep, goat, or ptarmigan hunting permit between 1988-1993. The range of years was used to ensure a sufficient sample of the different types of hunters. Mailing procedures paralleled those for the

visitor sample. Of the 600 hunter surveys initially mailed, 569 were deliverable and 389 were returned (response rate = 68%). The sample of regional residents (n = 600) was identified through local telephone directories. Of the 542 deliverable regional surveys, 199 were returned (response rate = 37%).

Combining the completed returns from all three samples resulted in a total sample of 989 individuals. Of these, 135 respondents had never visited Mt. Evans. Because this paper is concerned with conflict perceptions reported by Mt. Evans visitors, the 135 non-visitors were excluded from the analyses presented here.

Independent Variable

Respondents to all three surveys were classified as either hunters (n = 434) or non-hunters (n = 420). Hunters included those who currently hunt; non-hunters were individuals who have never hunted or who no longer hunt.

Dependent Variables

Respondents were asked to answer two sets of questions regarding 6 events. In the first set of questions, individuals indicated how frequently each event had happened to them personally during all of their visits to Mt. Evans. The events included three non-hunting situations (seeing people feed wildlife, people disturbing / harassing wildlife, and dogs chasing wildlife), and three hunting associated incidents (seeing hunters, hearing guns being fired, and seeing an animal being shot). Response categories were "never," "once," "twice," "3-5 times," and "> 5 times". For the purposes of this analysis, responses were recoded

as either "observed" or "did not observe" the event. In the second set of questions respondents evaluated the extent to which they perceived each of the 6 events to be a problem at Mt. Evans. Responses were initially coded on a 4-point scale, ranging from "not a problem" to "extreme problem." These variables were recoded into two categories ("no problem" and "problem"). Problem situations included "slight," "moderate," and "extreme" problems.

Results

Combining the frequency of occurrence (observed versus not observed) variables with the corresponding perceived problem (no problem versus problem) variables for each individual produced a series of new variables; each with four possible attributes. Individuals who had either observed or did not observe a given event, yet did not perceive it to be a problem were considered a no conflict group (either in values or goals). Those who had never seen a particular event at Mt. Evans, but believed a problem existed for that event were expressing a conflict in values. Conversely, those who had witnessed a particular situation and believed that the event had caused a problem were indicating a goal interference conflict.

Columns 1 and 2 of Table 1 represent a "no conflict" group for hunting associated activities. These individuals, independent of whether they observed or did not observe an event, did not feel a problem existed. At least 70% of the non-hunters and 85% of the hunters were included in this no conflict category.

Table 1. Hunting associated conflicts on Mt. Evans.

Event ¹	Not at all a Problem ²		Problem ³	
	Did not Observe	Observed ⁴	Did not Observe	Observed ⁵
Seeing an animal being shot				
Non-hunters	71%	1%	27%	1%
Hunters	49	38	7	6
Seeing people hunting				
Non-hunters	70	3	24	3
Hunters	24	61	1	14
Hearing guns being fired				
Non-hunters	65	5	25	5
Hunters	28	59	3	10

¹ All comparisons between hunters and non-hunters are statistically significant (p < .001).

² No conflict groups

³ Problem condition = slight, moderate, or extreme

⁴ Conflict in values

⁵ Goal interference conflicts

Columns 3 and 4 of Table 1 illustrate the two types of conflict. Responses in column 3 represent those individuals who did not observe the event but evaluated the situation as a problem (i.e., conflict in values). About one quarter (24 to 27%) of the non-hunters expressed this type of conflict for the three hunting associated variables. Only between 1 and 7% of the hunters indicated a conflict in values. Respondents in column 4 (Table 1) observed the event and thought it was a problem. These goal interference conflicts rarely occurred on Mt. Evans. Five percent or less of the non-hunters experienced these types of goal interference, while 6 to 14% of the hunters noted these problems.

Table 2 examines the same types of conflict for non-hunting human/wildlife interactions. In general, the non-hunters were more likely to have observed these events as opposed to hunting related situations. Twenty-one percent had seen people disturbing wildlife and 47% had seen others feeding wildlife (columns 2 and 4). For these variables, between 40 and 68% of the non-hunters fall into the no conflict category (columns 1 and 2). Between 24 and 57% of the hunters were represented in this no problem group.

Table 2. Human/wildlife interaction conflicts on Mt. Evans.

Event ¹	Not at all a Problem ²		Problem ³	
	Did not Observe	Observed	Did not Observe ⁴	Observed ⁵
Dogs chasing wildlife				
Non-hunters	67%	1%	26%	6%
Hunters	55	2	24	19
People disturbing/harassing wildlife				
Non-hunters	43	1	36	20
Hunters	28	2	35	35
People feeding wildlife				
Non-hunters	29	11	24	36
Hunters	17	7	21	55

¹ All comparisons between hunters and non-hunters are statistically significant ($p < .001$).

² No conflict groups

³ Problem condition = slight, moderate, or extreme

⁴ Conflict in values

⁵ Goal interference conflicts

With respect to conflict in values (column 3, Table 2), about a quarter of the non-hunters felt that dogs chasing wildlife and people feeding wildlife were problems even though they did not observe the events. Thirty-six percent of the non-hunters expressed a value conflict with people disturbing or harassing wildlife. Among the hunters expressing conflict in values, the comparable percentages were 21% (feeding wildlife), 24% (dogs chasing wildlife) and 35% (people disturbing / harassing wildlife).

For non-hunting human/wildlife interactions, goal interference conflicts were more pronounced for hunters than non-hunters (column 4, Table 2). Between 19 and 55% of the hunters, compared to between 6 and 36% of the non-hunters reported goal interference problems. For both groups, people feeding wildlife presented the most serious problem.

Discussion

For hunting related events, conflicts in values were more evident for non-hunters than hunters. Goal interference for these events was noted by fewer than 15% of either group. For human/wildlife interaction events, between 21 and 36% of both groups experienced conflicts in values. Goal interference for these non-hunting situations were more likely to be judged problems by the hunters than the non-hunters.

Two general strategies have been recognized for dealing with conflict: zoning and education. When the conflict stems from differences in values, zoning is not likely to be very effective. For hunting events at Mt. Evans, physically separating hunters from non-hunters will not resolve the conflict in values expressed by the non-hunting group. Just knowing that people hunt in the area results in the perception of conflict. In this situation, education efforts designed to inform non-hunters about wildlife population management may be more effective.

Most research on goal interference conflicts has focused on the asymmetrical relationships between different activity groups, particularly between participants using motorized versus non-motorized equipment. Several studies conducted in the Boundary Waters Canoe Area, for example, have documented the presence of a one-way conflict between paddling canoeists and motorboaters (Lucas 1964, Lime 1975, Adelman et al. 1982). Paddling canoeists disliked motorized visitors, but the people

using motor-powered craft were not bothered by the other group. Schreyer and Nielsen (1978) found similar results among western river floaters. Asymmetrical antipathy has been shown between hikers and trailbikers (Lucas 1964), oar-powered and motor-powered whitewater rafters (Shelby 1980), cross-country skiers and snowmobilers (Knopp and Tyger 1973), and backpackers and horsemen (Stankey 1973, Watson et al. 1993). In these situations, zoning is likely to be effective.

The non-hunting goal interference conflicts noted in this study represent reactions to inappropriate behaviors (e.g., feeding or harassing wildlife) as opposed to differences in types of use. Because these behaviors are not managerially acceptable, zoning is not a viable option. Resolution of these conflicts will require a combination of efforts, including: increased law enforcement, expanded education programs and the posting of signs.

The Mt. Evans public involvement process represented one factor which must be weighed in the decision making process. The goal of this public involvement was to reach better decisions by making the manager aware of the range of alternatives. Better decisions can be made by not leaving out or alienating groups who, if ignored, will resort to traditional political and legal mechanisms to make their wishes known. The procedures followed here allowed input from a wide range of publics using 6 different techniques (direct mailings, public meetings, an open house, stakeholder meetings, an on-site survey, and three mailed surveys). Also evident here, however, is the fact that public involvement *does not* make the decision *easier*. If anything, successful public involvement makes decisions more difficult because it alerts managers to the complexities of working with more than one constituent group.

It must be remembered that public involvement is more than public relations (Heberlein 1976). Public involvement is not selling the public on a particular program or plan. It is honestly and openly soliciting public help in the development and selection of alternatives. Public involvement is not a means of achieving a consensus among different groups, but rather a set of procedures to determine what the various preferences are and who holds those preferences.

The data reported here provide a systematic view of the types of conflict existing on Mt. Evans. Resolution of these conflicts in values can only occur through continual discussions with the different interest groups. Periodic contact must be made with these individuals and groups even if there is little new information to communicate. Regularly established meetings and / or newsletters show the relevant publics their ideas are not being dismissed. This feedback to the participants is vital for the success of any public involvement effort.

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TRAVEL AND TOURISM



**SELECTED LEISURE LIFESTYLES OF
RESIDENTS IN RURAL TOURIST AND NON-
TOURIST COMMUNITIES IN
MASSACHUSETTS**

Lawrence R. Klar, Jr.

Professor, Department of Hotel, Restaurant and Travel
Administration, 107 Flint, University of Massachusetts, Amherst,
MA 01003

Rodney B. Warnick

Associate Professor, Department of Hotel, Restaurant and Travel
Administration, 107 Flint, University of Massachusetts, Amherst,
MA 01003

The *Lifestyle Zip Code Analyst* was used as a secondary data source to compare selected lifestyle characteristics of the adult populations in 21 tourist and 45 non-tourist towns in the Commonwealth of Massachusetts. Towns were rural in nature, with populations under 25,000. All tourist communities within the state were included in the survey. Non-tourist communities were randomly selected from towns with populations no less than 2,500 and no more than 25,000 in size. Adult participation rates were found to be higher for a number of leisure/culturally related activities in tourist communities. For other activities, little or no differences were found.

Introduction

In recent years, there has been a concerted effort to attract tourists in communities that have not always been known as tourist destinations. At the same time, efforts to stimulate even more tourism activity have been increasing in areas that have been established as tourist destinations for some time.

Considerable research has been conducted which has attempted to identify the impacts of tourism at the community level. Not all of the findings were encouraging. For example, the early work of Pizam (1977), Pizam and Pokela (1978) and Klar, Keegan and Warnick (1985) found negative relationships between tourism and various quality of life factors. These studies aside, much of the early research tended to focus on economic rather than social variables; it is more recently that research having to do with the social effects of tourism has increased (Ap, 1990). A number of those studies have generally found tourism to be related to positive factors such as certain quality of life indicators and residents' satisfaction with the presence or growth of tourism in their particular communities (Milman and Pizam, 1988; Long, Perdue and Allen, 1990; Klar, Warnick, Byrd and Pakkala, 1993; and Allen, Hafer, Long and Perdue, 1993).

What does not appear in the literature, however, is research that examines the lifestyles of the citizens who reside in high-tourism communities. Are there differences in the leisure lifestyles of adults living in tourist and non-tourist communities? Is the quality of life richer in one setting than another? Does the presence of tourism in a community stimulate participation in leisure activities, depress it, or have no effect at all? While only the surface of the issue could be scratched, such questions were the focus of this study.

Method

The *Lifestyle Zip Code Analyst* (1991) was used as a secondary data source to compare selected lifestyle characteristics of the adult populations in 21 tourist and 45 non-tourist towns in the

Commonwealth of Massachusetts. Specifically, adult participation rates were compared for the following activities:

Avid Book Reader	Hike and Camp
Bicycling	Run/Jog
Cultural Activities	Self-Help
Current Affairs/Political	Skiing
Fishing	Sports on TV
Fitness	Tennis
Gardening	Walking
Golf	

Tourist communities were selected on the basis of lodging and food establishments and the presence of entertainment facilities and obvious tourist attractions.

Results

This study attempted to identify possible relationships between the presence of tourism in rural communities and the leisure lifestyles of their residents. With the exception of watching sports on television, it was expected that participation in all activities would be higher in tourist communities if, in fact, tourism and enhanced quality of life indicators are related.

Mean participation rates in non-tourist communities were higher for only the four activities of hiking and camping, fishing, watching sports on television, and skiing (Table 1). With the exception of hiking/camping, the differences were not noteworthy.

Table 1. Higher mean percent participation in non-tourist communities.

Activity	Non-Tourist	Tourist	Difference
Hike and Camp	17.2	24.0	-6.8
Fishing	18.7	20.2	-1.5
Sports on TV	33.6	34.5	-0.9
Skiing	14.1	15.4	-0.8

Mean participation rates in the other activities were higher in tourist communities (Table 2). The most striking differences were in gardening and involvement in cultural activities. Differences were also high for walking, avid book reading and involvement in current affairs and politics.

Table 2. Higher mean percent participation in tourist communities.

Activity	Non-Tourist	Tourist	Difference
Gardening	42.9	31.3	11.6
Cultural Activities	25.8	14.8	11.0
Walking	46.9	38.4	8.5
Avid Book Reader	47.3	40.6	6.7
Current Affairs/ Political	21.4	15.3	6.1
Bicycling	19.1	15.4	3.7
Tennis	9.4	6.1	3.3
Run/Jog	12.0	10.2	1.8
Self-Help	15.6	14.4	1.2
Golf	19.3	18.5	0.8
Fitness	32.9	32.6	0.3

Since involvement in cultural activities is generally associated with a high quality of life, that particular activity was examined on a town by town basis (Table 3). Two figures are reported. The first column is simply the participation rate expressed as a percent of the total adult community and the second is the index

compared to the norm for the United States as a whole where 100 is the average. Thus, participation in Lenox is 159% greater than for the country as a whole while in Dighton the rate is 42% below the national average.

Table 3. Cultural activity comparisons.

Non-Tourist			Tourist		
High Group	Pct	Index	High Group	Pct	Index
Wellfleet	28.6	181	Lenox	41.0	259
Nahant	27.0	171	Deerfield	40.2	255
Montague	26.6	168	Stockbridge	38.3	243
Orange	23.3	148	Williamstown	35.1	222
Sheffield	22.5	142	Provincetown	31.8	202
Essex	21.3	135	Nantucket	30.3	192
Ipswich	21.2	134	Chatham	27.0	171
Williamsburg	20.5	130	Orleans	26.3	166
Hatfield	20.2	128	Rockport	26.2	166
Northfield	19.7	125	Newburyport	25.3	160
Dalton	18.0	114			
Low Group			Low Group		
Dighton	10.8	68	Dennis	25.2	161
Millbury	10.5	67	Lee	24.6	156
Spencer	10.0	63	Brewster	24.2	154
Whitman	9.9	63	Edgartown	24.0	152
Ware	9.7	62	Sturbridge	22.1	140
Uxbridge	9.6	61	Oak Bluffs	19.6	124
Athol	9.3	59	Eastham	19.2	122
Blackstone	8.7	55	W Yarmouth	18.9	119
Acushnet	8.4	53	Bourne	16.7	106
Templeton	4.7	30	Adams	14.5	92

Involvement in cultural activities was clearly greater in tourist communities, whether comparing the high groups or low groups. In fact, with the exception of Adams, participation in every tourist community was above the national average while participation in all non-tourist communities in the low group was well below the norm.

Discussion

According to these findings, participation in selected leisure activities was higher in rural Massachusetts towns categorized as tourist communities than non-tourist communities for gardening, involvement in cultural activities, walking, avid book reading and being involved in current affairs and politics. To a lesser extent, participation was also higher for bicycling and tennis. Hiking/camping participation rates were found to be somewhat higher in non-tourist communities. For the remaining activities, the differences were small or virtually non-existent.

Participation rates in tourist communities for certain activities were clearly greater; however, this does not mean that the presence of tourism causes adult participation rates to be higher. Instead, the nature of tourism in these communities may be such that these tourist towns attract people who are more educated, more politically active, and more culturally aware than individuals residing in other rural towns in the state. If that is so, it suggests that the presence of certain kinds of tourism activities contributes to the quality of life and "livability" of communities, at least in rural settings.

It would be helpful to examine rural communities which promote other types of tourist activities. For example, in Massachusetts the types of tourist activities that are "typical" emphasize the historic features of the area, numerous cultural events, especially music and dance, and the many activities associated with the North and South Shores, Cape Cod and the Islands, and the Berkshire Mountains. The quality of life in other types of tourist towns may be quite different if the tourist attractions take on a different flavor. For example, the characteristics of adults living in towns with such tourist attractions as theme parks, gambling or sports may be quite different from those living in the tourist communities in this study.

It may be that the criteria by which tourist communities are selected should be refined. For example, the towns of Wellfleet, Nahant and Ipswich clearly attract many tourists, yet did not meet the criteria primarily due to the lack of food or hotel facilities. These communities are clearly in a high tourism region. Had they been classified as tourism communities, the differences between the two groups would have been even greater.

It would be useful to control for income, education and length of residence, as well as changes in the number and type of tourist attractions in each town. For example, it would be particularly appropriate to identify changes in tourist attractions over the past ten to fifteen years and changes in each town's residents by education. Theoretically, tourist communities have will have attracted more highly educated, culturally inclined individuals. Furthermore, in addition to tracking secondary data, it would also be valuable to identify the primary reasons new individuals selected their respective communities as their place of residence.

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**RURAL INFLUENTIALS' PERCEPTIONS OF
TOURISM AND ITS POTENTIAL FOR
ECONOMIC DEVELOPMENT:
A QUALITATIVE STUDY ¹**

Steven W. Burr

Assistant Professor, Recreation, Park and Tourism
Administration, Western Illinois University, Macomb, IL 61455

Rural residents' perceptions of tourism and its associated impacts are likely to be important in planning, development, marketing, and operation of existing and future tourism projects. This study examines rural influential's perceptions of tourism as a tool for economic revitalization in Pennsylvania's rural counties, its present impact, and its potential for rural economic development in the future.

Introduction

Tourism significantly contributes to the economy and consequently has become an important element in the economic bases of many states and their local communities. Whether the tourism industry prospers or declines is of great concern to these states and communities (Economic Research Associates 1989; Federal Task Force on Rural Tourism 1989; Long 1991) and this concern is especially strong in rural communities that 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 (Willits, Bealer and Crider 1982).

Tourism development is presently being endorsed as a viable economic development strategy to diversify a rural community's economic base and therefore potentially contribute to economic stability (Hunt 1992; LeDuc 1991; Long and Nuckolls 1992). Such a strategy can help rural communities address the multitude of problems facing them in the modern world (Brown 1992; Stokowski 1992). Tourism as a development industry can create recreational uses for the natural and man-made amenity resources of a rural community and convert these into income producing assets (Siehl 1990; Willits 1992). Visitors from outside the immediate community, county, or state can introduce outside money into rural areas through tourism-related spending. Tourism is a source of jobs, income, and tax revenues. Tourism can employ both managers and unskilled, entry-level workers, provide opportunities for small business development, and support a variety of service-related businesses. Through tourism, income is redistributed, often from affluent urban and suburban residents to service providers in rural communities. Tourism is generally perceived as being a "clean" industry with few serious environmental impacts, especially when compared to the resource extractive industries on which rural communities have been traditionally and often solely dependent (Grambling and Freudenburg 1990; Marchak 1990; McCool 1992; Robinson

1984; Weeks 1990). Furthermore, when a community refurbishes to attract tourists and focuses visitors' attention on the unique features of local heritage, architecture and scenery, a new sense of community pride on the part of local residents may result (Willits 1992). Rural tourism development can play an important part in the process of community development. Ideally, rural tourism development involves community action. Community members' support and involvement are important components for 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 developing contacts within the community, leading to relationships between and among community members, and allowing for the natural emergence of other community networks (Burr and Walsh 1994; Wilkinson 1992).

There can be many benefits for rural communities and areas involved in tourism development initiatives and efforts. Tourism can help stabilize, diversify, and improve the local economies of struggling rural communities, help improve the quality of life in rural societies, and contribute to the overall process of community development. Because of the potential benefits, utilizing tourism as part of an economic development strategy for rural communities may make a lot of sense from the planner's and developer's point of view. However, consideration of resident perceptions of tourism and its potential for economic development are just as important.

Over the past twenty years, research has increasingly focused on the impacts of tourism on "host" communities. Most of the early studies focused on the economic aspects of tourism (Pizam 1978). This approach is still ongoing, especially with regard to rural tourism. As a rural economic development strategy, tourism is widely perceived as a potential basic industry, which brings in outside dollars to local communities and provides local employment opportunities, tax revenues, and economic diversity for rural communities (Perdue, Long and Allen 1990). More recent research attention has been given to the social effects of tourism (Ap 1990). The main reason for this attention is that residents' perceptions of tourism and its associated impacts are likely to be important in planning, development, marketing, and operation of existing and future tourism programs and projects (Ap 1992). Concerns about the impacts of tourism development on rural quality of life and the environment have created a significant demand for comprehensive planning, including assessments of local resident support for tourism development (Perdue et al. 1990). As a result, research has been generated which focuses on increasing understanding of local resident perceptions of tourism's economic, social, and environmental impacts. Overall, findings from this research suggest that there is very little difference in perceived tourism impacts by socio-demographic characteristics, that perceived impacts of tourism decrease as the distance between the individual's home and the tourism core of the community increases, and that the overall favorability of tourism impact perceptions increases with the individual's economic dependency on tourism (Milman and Pizam 1988; Murphy 1983; Perdue et al. 1990; Pizam 1978). It has also been suggested that resident attitudes of support for tourism development often emerge in response to the perception that local economic conditions are deteriorating (Perdue, Long and Gustke 1991).

Although our knowledge base of resident perceptions of tourism and its potential for economic development is developing, it is still limited. This is especially true for a sub-group of rural residents who may be identified as rural influential's. These rural residents are the leaders in rural communities, actively involved in decision-making and problem solving, and influential in the planning, development, and implementation of local policies, initiatives, and projects. Consequently, these rural influential's can affect the general perceptions of all rural residents.

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Purpose of the Study

The purpose of this particular study is to examine rural influentials' perceptions of 1) the extent to which tourism has played a role in the economic revitalization of Pennsylvania's rural counties, 2) the impact tourism has had on rural residents, communities, and the environment, and 3) the potential of tourism for rural economic development in the future.

Methodology and Research Design

Four Pennsylvania counties, each having a 1990 population that was over fifty percent rural, were selected from different geographic regions of the state for in-depth case studies of tourism's role as an economic development tool. Although geographic distribution across the state was an important factor in

the selection of the counties, other variables were also of importance. These included some variation among the four counties in total land area, population, population density, population change, percent of the population considered to be rural, age composition of residents, per capita and median income, education, and current unemployment. Descriptive data for the four case study counties are displayed in Table 1. Also of interest were county variations in past and present dependence on tourism, current levels of tourism development efforts, different types of tourism present (e.g., natural resource, outdoor recreation, historical heritage, cultural heritage, special event), and both tourism-related and non-tourism-related economic development activity.

Table 1. Descriptive data for the four case study counties.

COUNTY ^a	County B	County G	County C	County S	PA TOTAL
Population	47,919	39,550	5,913	152,585	
County Seat	B-ville	G-ville	C-ville	S-ville	
Population	3,137	4,270	2,513	16,603	
Total Square Miles	1,017	577	398	782	
Population per Square Mile	46.0	70.2	16.8	205.5	264.3
% Population Change 1980-1990	2.4	-2.3	-11.4	-5.2	
% Population Rural	91.3	89.2	57.5	58.3	31.0
% Age Composition					
0-17 years	25.1	25.6	25.6	22.1	23.5
18-64 years	59.6	57.9	55.9	57.9	61.1
65+ years	15.3	16.5	18.5	20.0	15.4
% Female Pop.	51.1	52.5	51.1	51.8	52.1
% White Pop.	99.3	98.5	99.4	98.9	88.5
Per Capita Income	9,954	10,005	10,190	11,193	14,068
Median Income	25,335	25,284	24,006	29,041	34,856
% High School Degree	68.5	68.0	73.1	68.4	74.7
% College Degree	7.8	11.3	9.8	8.1	17.9
% Unemployment (4/93)	13.2	14.5	10.1	11.3	8.6

^aData are from the 1990 U.S. Census. Unemployment figures are from the Pennsylvania Bureau of Labor Statistics.

Within each county, key informant interviews were conducted with a wide variety of individuals who could be characterized as rural influentials. These individuals represented county, city, borough and township government, governmental agencies, and other public and private agencies and organizations. Other key informants represented certain media-oriented businesses, such as newspapers and radio. Although some of these individuals were professionally associated with tourism-related efforts and initiatives, such as an Executive Director of a Tourism Promotion Agency, most were not. Additionally, a modified "snowball" technique was employed through these key informant interviews to identify other individuals for further contact about local tourism-related efforts.

An instrument was developed for the purpose of interviewing key informants in the four counties. The interview instrument design was semi-structured and consisted of open-ended questions related to topics of interest. This was pilot tested in one rural county and after some minor modification of format was subsequently used in the three other counties. Overall, 53 key informant interviews were conducted in the four counties over a sampling time frame of approximately five months during the first half of 1993. Key informants considered to be rural influentials and interviewed for the study are displayed in Table 2.

Table 2. Key informants interviewed in the four case study counties. (N=53 for all key informants.)

County B Key Informants (N=14)

Executive Director, Office of Economic Development
 Senior Planner, Office of Economic Development
 Medical Professional and Community Activist
 Borough Manager
 Editor, Community Newspaper
 Director of Planning, Office of Economic Development
 Member, County Historical Society
 Director, Chamber of Commerce
 County Commissioners (2)
 Director of Tourism Promotion Agency
 Mayor, Small Town in County
 Past President, Federal Retired Employees Association
 Director, Retired Senior Volunteer Program

County C Key Informants (N=13)

County Commissioners (3)
 Executive Director, County Chamber of Commerce
 Executive Director, County Economic Development Office
 Case Supervisor, Office of Human Services
 Executive Director, County Tourism Promotion Agency
 Marketing Director, Tourism Promotion Agency
 Owner, Campground and Motel
 State Park Manager
 Owner, Local Radio Station
 Publisher and Editor, County Newspaper
 Executive Director, Community Action Corporation

County G Key Informants (N=15)

Director, Industrial Development, Inc.
 Director, County United Way
 Administrator, County Historical Society
 Director of Health and Human Services
 Director, County Parks and Recreation
 Director, County Planning Commission
 Editor and Publisher, County Newspaper
 County Commissioner
 Supervisor, Area Agency on Aging
 State Park Manager
 Owner and Artist, Art Gallery
 Executive Secretary, Chamber of Commerce
 President, Area Tourism Promotion Agency
 Professor of Sociology in Higher Education
 Borough Council Member

County S Key Informants (N=11)

Executive Director, County Visitors Bureau
 Executive Director, Chamber of Commerce
 County Commissioners (3)
 Director, Economic Opportunity Cabinet
 President, Economic Development Corporation
 President, County Historical Society
 Member, Community Betterment Association
 State Park Supervisor
 City Administrator

The raw data for this study are the field notes and tape records compiled from the key informant interviews conducted in the four rural counties. All field notes and tape records were transcribed into a standardized format in order to facilitate data analysis. The content of these transcribed interviews was then qualitatively analyzed by noting certain recurring themes, similarities, and differences which were evident.

Findings²

The study found rural influentials' perceptions of tourism and its potential for economic development to be extremely varied and mixed, although some common themes emerged. First and foremost, tourism was not recognized as being a major element in each county's economic base. When asked about the major elements and employers in the county's economy, the vast majority of the 53 key informants (72%) did not identify tourism or tourism-related businesses as major players. Key informants mentioning tourism as being a major element (28%) were for the most part professionally associated with tourism-related development and promotion efforts. However, ten of the fourteen key informants in County B mentioned tourism as being a major element in their county's economic base. In this particular county, the County Office of Economic Development and Tourism Promotion Agency were very active in heritage tourism development and promotion efforts as a result of substantial outside funding supporting regional tourism development projects. Although these efforts certainly contributed to a greater awareness of tourism among many key informants, these individuals were also aware that their perceptions of tourism and tourism development were of particular interest to the research project, having been notified of this fact by telephone and letter prior to their actual interview.

This methodology was changed for the remaining three rural counties where the key informants were informed that the research interviewer was interested in their perceptions of general strategies for rural economic development. Out of 39 key informants interviewed in these three counties, only five individuals (13%) mentioned tourism as being a major element in their county's economic base.

When specifically asked about the role of tourism in their county's economy, the vast majority of key informants (87%) felt that it did play a role, although perceptions about its economic importance ranged from tourism playing some role and being a viable force (45%) to tourism playing an extremely significant and increasingly important role (42%). Only 13% of the key informants felt that tourism played an unimportant or insignificant role. Additionally, tourism was often mentioned as being the basis for some local economic development and impact. Consequently, tourism was perceived by some as having a much more raised profile in terms of its actual economic impact and generating more economic development and activity in the future. However, as one informant stated, "We know it's here; we just don't know what the real impact is for our local economy." This appeared to be a recurring theme as several key informants mentioned the fact that it was difficult to actually measure and quantify tourism's impact and that there was a definite lack of supportive data. Although some informants were unsure about tourism's growth and a few perceived tourism as not being a future growth industry, the perception was evident that there is significant potential for future economic impact through tourism if certain resource and development constraints can be overcome. Some informants felt that rural residents were becoming increasingly aware of the benefits of tourism and consequently were much more supportive of tourism-related development. Other informants noted that it was difficult to make residents aware of potential benefits.

Key informant perceptions of tourism impacts on the county's residents, communities, and environment were again varied and mixed. Although more informants perceived tourism as making an important impact with positive economic benefits (24 responses), quite a few informants perceived tourism as having minimal or no impact (18 responses). Mentioned were the

^{2/} Due to the constraint of space, tables which detail summary themes and frequency of key informant responses are not included in this paper. These tables are available from the author by request.

opinions that tourism was not large-scale, that the numbers of tourists were insignificant, and that there was no tourism in the county. However, mentioned more frequently were feelings that people wanted tourism for economic development, that tourism brought new businesses to the area, increased the number of jobs and provided entry-level jobs for the unemployed and under-employed, and that construction of vacation homes provided work for local tradesmen. Of further interest were perceptions associated with tourism's contribution to the quality of life for rural residents. Because tourists are interested in visiting and are attracted to the resource amenities of these rural counties, local residents have become more aware of what they have and who they are. Thus, tourism is perceived as contributing to a positive self-awareness and self-image and has helped to develop local enthusiasm and pride. Many rural people want to keep their history and way of life going, see the potential for tourism to help them accomplish these, and consequently are willing to share these with visitors. One informant even mentioned that contact with outside visitors had stimulated the thought processes of the local residents. Additionally, tourism has resulted in more environmental awareness among rural residents, since a quality environment is the product of rural tourism. This has also resulted in better sites, attractions and tourism-related products.

Although eight informants responded that the results or impacts of tourism in the county had been all positive, other informants identified some negative impacts. Negative impacts ranged from increased litter and traffic to increased demands on the infrastructure and demands for services to some hard feelings existing between locals and visitors. However, these were all considered by the informants to be relatively minor as the scale of tourism in each county was relatively small. However, there was some concern that these could become more problematic for residents with future tourism development and the presence of increased numbers of tourists.

When asked what the future role of tourism is in the county's economy, key informant responses ranged through different levels of optimism, to being optimistic but dependent upon certain conditions being realized, to being pessimistic/negative, to not knowing or being unsure of the future. The vast majority of informants perceived the future role of tourism with optimism. Three-quarters of informant responses were optimistic. Strong proponents perceived tourism playing a very important, key role in the future and being perhaps the biggest contributor to the county's economy. Two informants in County C were strong in their opinion that tourism is the future of the county. Tourism was perceived as being a growth industry which will grow stronger in the future and provide good opportunities for businesses to grow and develop. Tourism was also perceived as being a complementary strategy for economic development which could help diversify the county's economic base. One-quarter of informant responses were pessimistic in nature and were related to perceptions that there were very few or no major attractions in the county to bring in tourists, that with respect to tourism, local residents were apathetic, lacked enthusiasm, and were resistant to change, and that there was a greater preference for the higher-paying jobs in manufacturing rather than low-pay tourism jobs. Two informants, one in County C and one in County S, did not know or were unsure about the future role of tourism.

Of the informants that were optimistic and/or hopeful about the future role of tourism in the county's economy, many of these opinions were dependent upon certain conditions being realized or certain barriers or constraints being overcome. Several themes are evident here. First, increased efforts must be directed to developing a more broad and diverse mix of attractions and activities for tourists, along with developing the necessary infrastructure and services to support increased numbers of tourists. Second, efforts must continually be made to increase both resident and government interest, support and involvement in tourism development at both county and local levels. This involves the development of better organization, leadership, and cooperation among interested and active parties, and more efforts to increase awareness among local residents about tourism's

value, importance, and real and potential benefits. Two constraints identified were lack of available funding (or dependence on outside funding) and lack of available local knowledge and expertise to develop tourism successfully. Third, there is the important question of whether or not tourism development can be realized; of whether or not the rural county and its residents can capitalize on tourism based on available amenities which might be attractive to tourists. Fourth, it's important that tourism produces jobs for local people, but tourism development should be balanced, not over-commercialized, nor negatively affect the quality of life for rural residents. This is related to the fifth theme, that there is a need for effective planning for tourism and associated development and that this planning and development should not be imposed from outside the county so that local control can be maintained.

Discussion and Implications

The findings from this study have some implications not only for professional planners and developers involved in economic development and rural tourism, but for rural community leaders interested in developmental strategies which will help stabilize, diversify, and improve local economies, improve quality of life, and contribute to community development. It's important to be aware of rural influentials' perceptions of tourism and tourism-related development. As leaders in rural communities, these individuals are actively involved in decision-making and problem solving, and influential in the planning, development, and implementation of local policies, initiatives, and projects. Consequently, these rural influentials can affect the general perceptions of all rural residents. As this study has demonstrated, these individuals are sophisticated, perceptive and astute, and have strongly-held opinions and viewpoints about tourism. In order for tourism development initiatives and efforts to be successful, it's important to seek out and actively involve supportive rural influentials who are proponents and promoters of such development on the local level.

If tourism development is a viable economic development strategy helpful in diversifying a community's economic base and contributing to economic stability, it must be more readily recognized as being important and present by rural influentials and other rural residents. This requires more readily available supportive data about tourism's impact and real benefits at the local level and the development and implementation of strategies to diffuse such information throughout the rural populace in order to gain local support. Key informants who were the strong proponents of tourism perceived a great need to not only "educate" workers in the service industry about the importance of tourism, but to educate all rural residents about both the realized and potential benefits of tourism. Many informants felt that increased resident awareness would generate greater support for tourism and be manifested in greater hospitality extended to visitors and a willingness to absorb certain tourism-related costs or inconveniences.

The vast majority of informants perceived the future role of tourism with optimism and believed that there is a great to good potential for future tourism development. However, there were mixed perceptions about whether or not the potential would be realized or if tourism can be a major growth industry. It is obvious that increased efforts must be directed to identifying and developing a more broad and diverse mix or "cluster" of attractions and activities for tourists. This mix must then be effectively packaged and marketed to the tourists. Increased visitation will require the development and maintenance of the necessary infrastructure and services to support increased numbers of tourists. In addition to the need for more funding to support tourism development, one perceived problem seemed to be that even though some interest groups were active in certain tourism-related efforts, overall coordination and cooperation were lacking. Furthermore, volunteers were perceived to be the main participants in such efforts and consequently a lack of professionalism, limited progress, and difficulty in county-wide promotional efforts were all identified by informants as constraints. Also recognized were the need for professional

knowledge and expertise in tourism development and the need to include tourism as a component in any county-wide planning efforts in the future.

If federal, state, and local governments are concerned about improving and sustaining rural economies, improving the quality of life for rural residents, and making a viable contribution to the process of rural community development, resources should and could be allocated for rural tourism development where reasonable, perhaps as one component of a larger developmental strategy, and be directed to addressing the perceived constraints and barriers identified by these rural influentials. Rural influentials' support and involvement are important and vital components of rural tourism development, and their perceptions and efforts affect the more general perceptions and efforts of all rural residents. A greater recognition and understanding of these perceptions can help tourism-related planning and development initiatives be more effective in attaining set goals and in the process, benefit rural communities and their residents.

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TIME SERIES ANALYSIS OF TRAVEL TRENDS

IN VERMONT

Varna M. Ramaswamy

Graduate Student, University of Vermont, School of Natural Resources, Aiken Center, Burlington, VT 05405

Walter F. Kuentzel

Assistant Professor, University of Vermont, School of Natural Resources, Aiken Center, Burlington, VT 05405

Vermont's travel and tourism industry is not keeping pace with the nation-wide growth in the travel industry. While travel indicators such as domestic travel expenditures, tourism generated employment, payroll and tax receipts have been steadily increasing across the United States, these indicators in Vermont peaked in 1978 and have declined ever since. The state tourism industry experts have attributed this downward trend to weather, the cyclic nature of the U.S. economy, Canadian exchange rate, increasing state tax burden, size of state travel and tourism budget, and overall tourism industry competition.

This longitudinal study of tourism in Vermont from 1974-1991, refuted popular beliefs about what causes changes in Vermont's travel industry. Personal income, disposable income, size of the state travel and tourism budget, the state's travel generated taxes, full-time employment status, and gasoline prices had little effect on Vermont travel trends. The results indicated that increased competition in the travel and tourism industry has influenced Vermont's market share loss. This finding suggested that Vermont's mature travel market may not be keeping pace with the increase in other tourism related businesses that are capturing an expanding tourism market. That part-time employment status in New England has a negative association with travel indicators in Vermont. Finally, travel expenditures in Vermont are positively associated with a higher Canadian exchange rate, suggesting that travel to Vermont benefits from an active U.S. Economy.

Vermont Tourism Trends

Vermont's travel and tourism industry is not keeping pace with the growth nation-wide of the tourism industry. While travel indicators such as domestic expenditures, tourism generated employment and payroll, and tourism generated tax receipts have been steadily increasing across the United States, these indicators in Vermont peaked in 1978, and have shown a downward trend over the last 15 years (Figure 1). Tourism industry leaders in Vermont are just beginning to recognize this downward trend attributing it to such causes as weather, economic recession, the growing cost of doing business, and the Canadian exchange rate. Typically, however, they only perceive this downward trend as a five year phenomenon that corresponds to the recession of the late 1980s. Consequently, the industry feels it is only temporary, and many people expect tourism will be Vermont's #1 industry by the year 2000. The 15-year duration of this downward trend, however, suggests there may be different forces at work in the state's tourism industry besides a momentary downturn in the U. S. economy. The purpose of this paper is to examine the effects of weather, U. S. economic indicators, state advertising budgets, state tax burden, and competition on Vermont's travel and tourism indicators. The study uses time-series analysis to gauge whether the trends in Vermont are temporary or whether they have longer term implications.

This paper looks at the longitudinal effects of six types of measures that people have said affect Vermont's tourism indicators: weather, national economic indicators, the Canadian exchange rate, size of the state's advertising budget, the state's travel related tax burden, and industry competition. Each of these has been the subject of public discussion in Vermont's tourism industry. First, Vermont's tourism industry relies heavily on the skiing, which dominates tourism to Vermont for up to half the year. A 1993 survey (Kuentzel 1993) of winter visitors to Vermont showed that 81% of the sample's visitors to the state went skiing while they were here. Similarly, Bill Stenger of Jay Peak stated that when winter tourism declines, tourism to Vermont during the rest of the year is negatively affected "because so many tourism facilities in the state are driven by winter tourism" (Pyne 1993). So, when Vermont has a year with little snow, it should have a significant affect on tourism activity in the state. Second, the tourism industry in Vermont often attributes downturns in tourism related business to economic downturns. Leisure is often thought of as a luxury that is the first item of discretionary income cut back in times of economic uncertainty. Economic recessions create employment uncertainty and diminishing buying power, which directly affect travel spending. Third, closely related to economic conditions is the Canadian exchange rate. Vermont benefits from roughly 300 million dollars per year (about 20% of total expenditures) spent in the state by Canadians (Zentz 1994). Therefore, when the price of the dollar is high, Canadians are less likely to spend their money in the state. Fourth, the recession of the last several years stands out as the "down-sizing" recession. This event not only put small businesses in jeopardy, but forced significant down-sizing by large corporations, educational institutions, and government agencies. Vermont's Department of Travel and Tourism was level funded throughout the recession. Subsequently, there is a push to increase the department's budget to offset some of the crisis that the industry now is beginning to perceive. Past research, however, (Hunt 1990) shows that the size of state travel budgets have little effect on travel indicators, and conversely, the lack of state promotion dollars should have no direct effect on declining market share. Fifth, legislators and travel industry people often point to a rising tax burden as a condition that discourages growth in the states tourism industry. An increase in the rooms and meals tax or the gas tax can give the impression that Vermont is no longer a travel bargain. Consequently, many people in the industry are concerned that increased state taxes may turn potential visitors away from the state. Finally, increased competition may be taking away former visitors to the state. More ski slopes with newer equipment, more tourism marketing organizations, and a greater variety of destinations may be cutting into what was once a stable and reliable tourism market for Vermont. Thus, this paper will test the effects of each of these variables on tourism expenditures, tourism generated employment and payroll, and tourism generated tax receipts in Vermont from 1974 to 1991.

Time-series Analysis in Tourism Research

Time-series analysis is a fairly new area of expertise in tourism research. Earlier trend analyses simply plotted measures and drew conclusions based on the visual and central tendency evidence. As the field of travel and tourism matured, the types of analyses have changed from use of basic descriptive statistics to increasingly complex multivariate quantitative analyses. Analyses of tourism trends are conducted for many reasons: for the researcher it may be out of curiosity, or the desire to forecast changes in the future; for businesses, states, and countries, it assists them in staying competitive in the travel and tourism market; and for practitioners it "provides useful guidance to those who plan for, provide, approve and fund..." tourism experiences (McClellan and Siehl 1989). The importance of generating accurate forecasts is particularly relevant for tourism. Archer (1987) points out that, "In the tourism industry, in common with other service sectors, the need to forecast accurately is especially acute because of the perishable nature of the product."

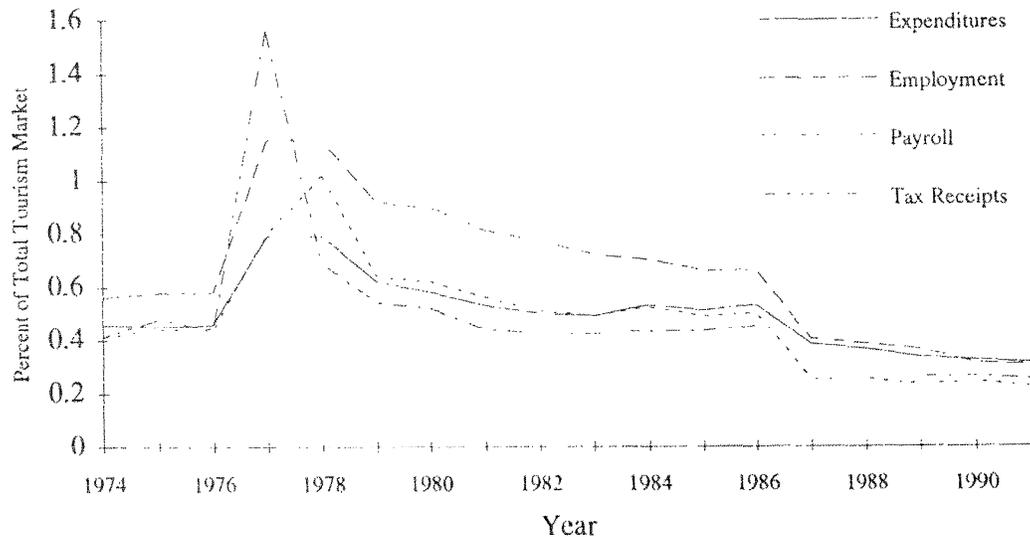


Figure 1. Vermont's tourism industry market share.

Two types of time-series quantitative analysis can be found in the literature -- regression models (Steinnes 1988, Johnson and Suits 1983) and forecast models (Sheldon 1993, Witt and Witt 1991). A forecasting model is typically a univariate analysis that uses the underlying pattern in the variable over time to model and extrapolate future trends. Regression analysis attempts to provide a causal explanation by using information on variables believed to influence the dependent variable. Hunt (1990) stresses the need for multivariate modeling of longitudinal tourism data. While it is easy to draw causal links between a single independent variable and the dependent variable, the researcher must be aware of the presence of other exogenous variables such as the overall economic conditions, weather, and competition, to name a few, that affect the nature of the impact of travel on the state.

Hunt (1990, p.11) also draws attention to one other limitation, i.e., lack of comparable longitudinal tourism data. At the state level, tourism has had support programs for the last 25 -50 years; however, compilation of comparable longitudinal tourism data has only been available since the 1970s with the inception of the U.S. Travel Data Center. The State of Vermont is just now realizing the importance of time-series analysis. The Vermont Department of Travel and Tourism has collected time-series data for many years. Its efforts, however, have been somewhat inconsistent. The consistent gathering of time-series indicators often falls by the wayside when tourism to the state is in a growth mode. Missing data points make an analysis difficult at best, and unreliable at worst. In any event, a formal time-series analysis of travel trends to Vermont has never been conducted.

Methods

Autoregression

This study uses a time-series regression analysis to investigate the trends in Vermont's tourism indicators between 1974 and 1991. The analysis seeks to determine the effects over time of weather, various economic measures, and market competition on domestic tourism expenditures in Vermont, tourism generated employment in Vermont, and tourism generated taxes gathered by Vermont's travel industry. Time-series data, however, presents a unique problem that ordinary least squares regression cannot handle. Time-series data characteristically has high levels of serial correlation. Serial correlation means that the best predictor of a value at time t is its measure at time $t-1$. A high value is usually

not followed by a proportionately low value, but instead measures are highly correlated with their previous values. Stock prices are the classic example. The price of a share of AT & T stock does not close at \$57 one day and \$13 the next. Similarly most people's income tends not to fluctuate up and down drastically from year to year. This quality of serial correlation violates the assumptions of ordinary least squares regression. Autoregression is the statistical technique devised to handle the serial correlation problem that is inherent in time-series data (Ostrom 1978). Autoregression controls for the effects of autocorrelation in the regression equation and estimates effects of an independent variable on a dependent variable with the effects of serial correlation parceled out.

Sample Size

This analysis included 18 years of data on Vermont travel related indicators. The results of this analysis therefore must be interpreted with caution. The reason for caution is not statistical. Autoregression is able to calculate unbiased estimates with relatively small sample sizes such as this. Since longitudinal data on tourism is hard to come by, the data set represents the best available measures of tourism activity in Vermont. The reason for caution, however, is that small sample sizes may not represent actual trends. The travel and tourism industry in Vermont has been active for 175 years. Eighteen years of data may only reflect a momentary deviation in an otherwise clear trend. Consequently, 50 years or more of data would represent a more accurate picture of a time series. Nevertheless, the tourism literature states that the tourism industry has grown steadily in the U. S. since the end of World War II (c.f. Fridgen 1991). Therefore, a downturn in tourism activity in the 1980s to an established destination like Vermont raises questions that can be statistically tested within an 18 year time span.

Measurement

Dependent variables. This study used secondary data from a variety of sources. The dependent variables came from the U. S. Travel Data Center's series entitled *The Impact of Travel on State Economies*. The U. S. Travel Data Center's estimates of travel impacts uses what Flemming and Toepfer (1990) call a aggregate model of economic impact. They use baseline indicators from a five year census of travel behaviors as constants in their model. They then input yearly secondary data on industry receipts and tax revenues and actual trip budgets from a yearly sample of travelers. Four variables from their series were included in the analysis: Vermont's domestic expenditures, travel generated employment (FTEs), travel generated payroll, and travel generated tax receipts.

Independent variables. The independent variables were taken from a variety of government sources. We used four measures of weather: annual snowfall (winter precipitation), annual rainfall (summer precipitation), average winter temperature, and average summer temperature (National Oceanic Atmospheric Administration). We averaged measures from Burlington (Champlain Valley), Mt. Mansfield (central mountains), and Bellows Falls (Southern Vermont) to create a statewide score for each weather variable. The study included three types of economic indicators. First were income statistics, including personal income, disposable income, and minimum wage (U.S. Department of Commerce 1989). Also included were labor statistics such as unemployment, full time employment, and part time employment (U.S. Department of Labor Statistics). We included overall measures of economic well being such as the consumer price index, inflation rate, and purchasing power of the

dollar (U.S. Department of Commerce). Lastly, we included the average price of a gallon of gasoline. The study also used gathered data from different Vermont state agencies. The Vermont Department of Travel and Tourism supplied state tourism budgets along with the proportion of their budget that was devoted to advertising. The state tax department also supplied figures for the gasoline tax and the rooms and meals tax (Vermont Department of Taxes). Finally, the study used membership statistics from the National Tour Association that were itemized by the number of tour operators, the number of tour suppliers, and the number of tourism related marketing organizations (National Tour Operators 1993). In the analysis, current dollars were regressed with variables that were measured in current dollars; whereas any independent variable that was measured in either constant (1987) dollars or was not a dollar measurement was regressed with constant dollars.

Results

The results generally did not confirm popular beliefs about the causes of Vermont travel activity (Table 1). One common belief in the state is that snowfall has a big impact on travel to Vermont. Though there was not a "big" affect, snowfall was found to be positively related to travel generated payroll. Table 1 shows that the lack of snowfall did not negatively affect Vermont's domestic tourism expenditures, employment or tax receipts. Neither did average winter temperature or the average summer temperature. Though a weak relationship was found between the amount of rainfall and tax receipts. While weather may have an impact on daily or weekly tourism indicators at specific sites, it does not have a big affect on the states overall tourism activity over the course of a year.

Table 1. Autoregression estimates (Betas) of economic, weather, and competition variables on Vermont's travel indicators.

	EXPENDITURES		EMPLOYMENT		PAYROLL		TAX RECEIPTS	
	Beta	SE Beta	Beta	SE Beta	Beta	SE Beta	Beta	SE Beta
WEATHER								
Snowfall	1.79	1.54	0.065	0.049	1.00*	0.461	0.578	0.338
Rainfall	6.38	7.05	0.157	0.228	2.34	2.380	-0.476**	2.540
Winter Temp.	-13.88	8.86	-0.408	0.285	-5.76*	2.930	-3.72	3.080
Summer Temp	-13.88	13.60	-0.545	0.420	-0.485	4.620	-4.23	4.720
ECONOMIC IND.								
NE Per Capita Inc.	0.026	0.019	-0.00076	0.00074	0.003	0.004	0.0020	0.0017
NE Per Cap. Dis. Inc.	0.030	0.022	-0.00090	0.00085	0.003	0.005	-0.0024	0.0021
Minimum Wage 356.420* 83.63	3.10	6.96	66.18*	27.870	20.95	14.93		
NE F.T. Emp.	0.180	0.316	0.006	0.011	-0.102	0.077	-0.084	0.047
NE P.T. Emp.	-1.410*	0.470	-0.066*	0.013	-0.487*	0.151	-0.236**	0.123
NE Unemp.	-0.536	0.589	-0.014	0.019	-0.147	0.195	0.0053	0.166
CPI								
Purchase Power \$	-3.59	3.78	-0.166	0.136	-1.56	0.991	-1.01*	0.489
Inflation	-91.14	308.73	0.932	10.87	23.30	86.28	35.23	40.52
Ave. Gas Price	25.71	21.28	0.953	0.720	5.37	7.38	2.36	5.52
	221.01	286.44	-5.85	11.79	65.89	66.97	-60.64	56.23
CANADIAN EXCHANGE								
Rate	1976.42	338.71	43.33	29.75	389.68*	130.66	136.81**	74.37
STATE TAX BURDEN								
Room and Meals Tax	0.006	0.007	-0.00034	0.0024	0.00069	0.0017	0.00071	0.00069
Gas Tax	0.014	0.012	-0.00047	0.0045	0.0017	0.0031	0.0015	0.0013
STATE TRAVEL OFFICE								
Dept. Budget	0.080	0.139	-0.0053	0.0049	0.011	0.033	0.015	0.014
Advert. Budget	-0.110	0.315	-0.014	0.011	-0.026	0.086	0.037	0.046
COMPETITION								
Marketing Org.	-1.13*	0.25	-0.047*	0.005	-0.379*	0.084	-0.081*	0.036
Tour Operators	-1.60*	0.47	-0.069*	0.010	-0.566*	0.122	-0.107**	0.057
Tour Suppliers	-0.338*	0.124	-0.011*	0.002	-0.129*	0.033	-0.019	0.014

*/ p < .05

** / p < .10

Another common belief is that tourism activity is subject to the cyclic swings of the U. S. economy. The results from the autoregression offer mixed support for this assertion. Table 1 shows that trends in Vermont's tourism indicators were not related to changes in the U. S. inflation rate, or the purchasing power of the dollar. Similarly, travel trends in Vermont were not related to all labor or wage statistics. Changes in personal income, average income, and disposable income had no effect on changes in tourism indicators. Similarly, full-time employment status and the unemployment rate had no effect on tourism activity in Vermont. Finally changes in the price of oil did not affect travel to Vermont. Only two labor statistics, part-time employment and minimum wage, were found to significantly affect Vermont travel indicators. A rise in the minimum wage was associated with a rise in domestic tourism expenditures in Vermont. CPI had a negative effect on travel generated tax receipts. Part-time employment had negative effect on all dependent variables.

The effect of the Canadian exchange rate on Vermont's travel indicators offer some evidence that tourism is related to the health of the U. S. economy, although the results were counter-intuitive to common beliefs in Vermont. Given the importance of Canadian visitors to Vermont's travel industry, many have stated that travel indicators in Vermont should decrease as the Canadian exchange rate increases. The results (Table 1) show a significant effect in the opposite direction. Tourism activity in Vermont increased with the increase of the Canadian exchange rate. A higher exchange rate is an indicator of increased economic activity in the U. S. Therefore, increased economic activity in the U. S. appears to be associated with increased travel to Vermont.

The results also did not support the "state level" arguments about what affects travel and tourism activity to Vermont. Increases in the state tax burden on visitors had no effect on Vermont's travel indicators. An increase in the gasoline tax (9¢/gallon in 1974 to 15¢/gallon in 1991) and an increase in the rooms and meals tax (5% in 1974 to 8% in 1991) had no effect on yearly travel generated expenditures, tax receipts, or employment. Thus, tax increases do not appear to drive away potential visitors to the state. The results also supported Hunt's (1990) findings that the size of a state's tourism promotion budget does not have a significant impact on travel expenditures. The size of the Vermont Department of Travel and Tourism's budget, and the proportion of that budget devoted to advertising had no effect on tourism expenditures, tourism employment, or tourism tax receipts.

Finally, the results showed that an increase in competition in the tourism industry nation-wide has a strong significant effect on tourism indicators in Vermont. Table 1 shows that an increase in destination marketing organizations (i.e., membership in the NTA) tour operators, and tour suppliers nationwide (attractions, motels, gift shops, restaurants, etc.) had a negative effect on travel generated expenditures, employment and payroll in Vermont.

Discussion

Contrary to the Vermont travel industry speculations, the effects of weather, national economic indicators, size of state advertising budget, and relative state tax burden do not have a marked affect on tourism activity in the state. On the other hand, competition, Canadian exchange rate, part-time employment and minimum wage significantly affected tourism activity in Vermont.

With the increasing competition in the overall tourism industry, it is important to realize the affect that it has on Vermont's tourism industry. First, the increase of marketing organizations in the nation, are often associated with state tourism initiatives. It is apparent that the main source of competition is coming from other states and destination marketing organizations (DMO), who are capturing larger portions of the market share pie and making it increasingly difficult for Vermont to maintain its tourism industry. Currently, states are increasingly active in marketing and promotion of tourism regionally, nationally and internationally. According to Hawes, Taylor, and Hampe (1991):

the successful states have infrastructure of a tourist industry, and a number of strategies at their command, and they can meet the tourism demand with necessary local resources such as motels, hotels, restaurants, transportation, or information. A state such as Nevada, for example, focused on a particular type of tourist activity (gambling) and developed the necessary goals, strategies, and tactics. (p.15)

These states, as Hunt (1990) says are "aggressive or bullish" in nature, and between 1977 and 1986 were able to gain \$8.8 billion in market share. This means that certain states are gaining larger slices of the tourism pie at the expense of other states. The state of Vermont who has thrived as a travel destination for 175 years, and is now faced with the dilemma of loss of market share and needs to become a "bullish" player in this ever increasingly complex and aggressive market.

Second, the increase in tourism is further highlighted by the increase in tour suppliers (accommodations, attractions, restaurants, entertainment complexes, gift shops, etc.) This increase in tourism suppliers suggests that the state's more mature tourism market may not be sharing in the growth of the overall U.S. tourism industry. Lastly, the negative association of the number of tour operators that are affecting generated employment, payroll, and tax receipts also seems to supports the current trend of loss of market share by the State of Vermont. These variables, though limited to membership in the National Tour Operators Association, mirror the steady increase in three sectors of the travel industry and assist in realizing the possible ramifications of diverse and competitive tourism market.

This competitiveness is also present at Vermont's northern border, where intuitively with the increase in the Canadian exchange rate should decrease the number of cross-border visits by Canadians. In this study, that was not the case. The Canadian exchange rate did not directly effect tourism activity in Vermont even though Canadians help makes up 20% of tourism expenditures (Zentz, 1994). Counter-intuitive to what is expected, a positive association between the Canadian exchange rate and expenditures was found. This says that with an increase in the rate of exchange, Vermont travel indicators also increases. This association represents an increasing strength of the dollar, which is in turn associated with the increased economic activity in the U.S. and hence increased travel activity in the state.

Additionally, as there is an increase in part-time employment in New England, there will be a negative affect on all tourism indicators in Vermont. New England is main source of tourism for Vermont, and a larger part time workforce may mean slower growth in total and disposable income in the region. If this is the case, New England income statistics may begin to have a significant negative effect on Vermont's travel industry in the near future.

Minimum wage was one of the only significant economic variables, but we think this finding is suspect. This effect can be explained by the nature of the trend of minimum wage which remained the same for the last 11 years. The high association with travel expenditures was due to steady increase in both variables in the 1970s and may not indicate any long term relationship between them. In addition, this variable would be more valuable if the number of minimum wage tourism jobs in the state were readily known.

This study was able to specify forces that work in the Vermont tourism industry over the last 18 years in order to understand a 15-year downward trend of loss of market share. There is however a need to recognize several limitations in the method of analysis and types of data used. First, the method of time series analysis of only 18 years of data could be limiting due to the possibility that small sample sizes may not represent actual trends. The 175-year history of Vermont's tourism trade may be relatively smooth and in actuality the 18 years may only represent a small bump in that trend line.

Second, the U.S. Travel Data Center data used in this study were estimated with the Travel Economic Impact Model (TEIM). This model has several limitations. First, the impact estimates fail to include two classes of travel generated expenditures: goods purchased in anticipation of travel (sporting equipment, travel books, language tapes etc.) and major consumer durable goods bought related to outdoor recreation (bikes, OHVs, snowmobiles etc.). Second, expenditure data is only recorded in a state if a person actually spends the night there or the state is the point of origin or destination. Third, model also excludes day-trips and travel less than 100 miles away from home. Finally, the expenditure data is collected through household surveys that carry sampling and non-sampling errors making estimates in smaller states less reliable (U.S. Travel Data Center 1992). Though all of these factors contribute to the potential for substantial error in the Vermont estimates, the error terms were distributed randomly across the years. This makes time-series analysis a suitable method of analysis of this type of data.

Conclusion

This study has used autoregression to analyze the causal factors that have affected trends in Vermont's travel industry between 1974 and 1991. The results refuted popular beliefs about what causes changes in Vermont's tourism generated expenditures, employment, payroll and tax receipts. Snowfall, rainfall, temperature, the Canadian exchange rate, personal income, disposable income, the state's travel generated taxes, employment status, and gasoline prices had little effect on Vermont's travel trends. The results did indicate that increased competition in the travel and tourism industry has influenced Vermont's market share loss. The state may be suffering from increased competition from other aggressive state promotion offices and destination marketing organizations. The mature state tourism industry may also not be keeping pace with the increase of other tourism related businesses that are capturing an expanding tourism market. Subsequently, this mature industry will not be able to compete with the growing number destinations that ten years ago were not even on the map. For the tourism planner in New England, this may indicate a need to become a more "bullish" player in the global tourism market through more creative and structured planning. Finally, travel to Vermont appears to benefit from a vital economy where U. S. dollars are more scarce and invested in an active economy.

Future time-series research should focus on maintaining consistent and reliable longitudinal data. More time-series observations will produce more reliable autoregression results. Research should also look more closely at the impact of Canadian travel on Vermont's travel related economy. Finally, this analysis needs more, and better, measures of industry competition, in order to determine where the state's promotional, demographic, and infrastructural shortcomings, and to focus its competitive efforts in directions that will capture a share of a growing travel market in the U. S.

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THE NEW ENGLAND TRAVEL MARKET: CHANGES IN GENERATIONAL TRAVEL PATTERNS

Rodney B. Warnick

Associate Professor, Department of Hotel Restaurant and Travel Administration, 107 Flint Lab, University of Massachusetts, Amherst, MA 01003-2710

The purpose of this study was to examine and explore the New England domestic travel market trends, from 1979 through 1991 within the context of generations. The existing travel markets, who travel to New England, are changing by age cohorts and specifically within different generations. The New England changes in generational travel patterns do not reflect national trends. Implications and discussion points were provided.
Keywords: Domestic travel, trends, New England, demographics, generations, generational marketing, and market implications.

Introduction

Evidence indicates that demographic shifts in the population age structure will affect many businesses and activities, especially tourism as the population ages and significant portions of the population have time to travel (Research Alert 1990). This will be particularly true as baby boomers reach older age cohorts. The distinct differences in travel-specific behavior and participation rates exhibited by changes over time will likely shape future demand for these activities. Recent studies (Warnick 1992B and 1993B) indicated that domestic travel in the New England has become a mature market. Rather than simply examine tourism travel trends by age cohorts, this study examines the generations as they cycle through time and relates their domestic travel behavior to the New England Region.

Purpose of the Study

The purposes of this research paper are three-fold: 1) to examine domestic travel to New England during the 80s and early 90s within the context of generations; 2) to determine how participation rates in domestic travel within individual age categories changed over time (from 1979 through 1991)? (Can watershed years be identified in a 13 year span?); 3) to determine how participation rates in domestic travel of generations changed as these groups passed from one age category into the next (i.e., from 25 to 34 in 1980 to 35 to 44 in 1990)? Will generational characteristics and personalities impact upon domestic travel?

Method

For the analysis of domestic travel, data for this study were compiled from the annual surveys conducted by Simmons Market Research Bureau, Inc. (1979 through 1991)¹. This research firm annually measures participation rates, demographic composition and media use patterns of a wide variety of leisure, sport and travel activities. The sample sizes range from 15,000 adults sampled in the early 80s to over 21,000 adults sampled in 1990. The data were analyzed over the period from 1979 through 1991 using an average annual adjusted percentage change rate.

Other change rate factors were considered (weighted change rate, moving average, and least squares method); however, this method was selected due to its wide acceptance. Within this study only travelers who indicated that they traveled to New England were included. Excluded from this analysis were travelers who visited the New England from other countries.

The nature of domestic travel and participation requires the description of three major components of travel demand. First, domestic travel must be defined. "Domestic travel" is defined as "any trip(s) of over 100 miles (one way) within the continental 48 coterminous U.S. states taken in the previous 12-month period" (Simmons Market Research Bureau, Inc. 1991). This definition of domestic travel includes all types of travel taken which fits the mileage and regional description; but excludes all types of travel taken of distances shorter than 100 miles. Second, "market size" is the "number of people who participate in domestic travel." This statistic in and of itself it is somewhat less meaningful than a statistic which more specifically quantifies demand or travel volume. However, the nature of this data set does not easily allow a projection of the number of travel days to New England. Third, "participation rate" is the percent of total adults by descriptor (total U.S. population or age - such as 18- to 24 -year-olds) who elected to travel to New England for any reason as a primary destination during the previous 12 months. In this study the geographic region definition of "New England" includes the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

Age cohorts in terms of the demographic patterns of travel include the following categories: 18 to 24; 25 to 34; 35 to 44; 45 to 54; 55 to 64 and 65 and older. Other groupings of age cohorts include young adults -- 18 to 34; middle aged adults -- 35 to 50; and mature adults -- 50 and older. The generations included were the GI Generation (born 1901 to 1924); the Silent Generation (born 1925 to 1942) the Baby Boom Generation (born 1941 to 1960); the Thirteenth Generation (born 1961 to 1981) and reference is made to the newest generation, the Millennial Generation (born since 1982). The Lost and Missionary Generations (both born before 1904) are referred to but are not a major portion of this study as they are now very few of these individuals who are active travelers. As generations move through time, they have been labeled and have been found to take recycle and within each generation a set of traits evolve or also cycle through time. Thus, as generations are added, they have been labeled "idealistic" like today's Baby Boomers, "reactive" like today's X Generation, "civic" like the older GI Generation or the youngest Millennial Generation, or adaptive like today's Silent Generation. Currently we are adding a civic generation as predicted by Strauss and Howe (1991) in the Millennial Generation. The cycle then is idealistic-reactive-civic-adaptive. Within each generation, such as the Baby Boom Generation, traits evolve over time. For example, Baby Boomers grew up being "indulged," then turned inward and became "narcissistic," and now are in a "moralistic" mode (note the move to "political correctness") and will eventually move into a "visionary" phase. These generations are based on the works of Strauss and Howe (1991). The cycle of generations and their specific generational traits have repeated over time since the 1500s and the authors expect these cycles to continue. Strauss and Howe's (1991) works defines these cycles through such concepts as social moments, secular crises, and social awakenings. For more details on the concepts of generations, generational cycles and generational traits, please see Strauss and Howe, 1991. The generations, their generation type name and their traits are listed below in Table 1.

¹ Permission to use the travel data base was granted by Simmons Market Research Bureau (SMRB), Inc. of New York for the purposes of this study. The interpretation of the data is the author's and SMRB is the source.

Table 1. Generation names, examples and traits.

Type	Generation Example	Generational Traits ^a
Idealist	Baby Boom	Indulged Narcissistic <u>Moralistic</u> Visionary
Reactive	Thirteenth / X	Criticized <u>Alienated</u> Pragmatic Reclusive
Civic	GI, Millennial	<u>Protected</u> (Millennial) Heroic Powerful <u>Busy</u> (GI)
Adaptive	Silent	Suffocated Conformist Indecisive <u>Sensitive</u>

^aThe current trait of the generation is underlined for each generation. Source: Strauss and Howe, 1991.

Age cohorts were fitted to the generations to examine the domestic travel behavior specific to the New England Region. Target regions, or the place where travelers come from, are defined by Simmons (1991) in four broad areas of the U.S.: Northeast, South, Midwest and West.

The data were analyzed using an average annual growth rate which is defined as the percent change in terms of the size of the market or travel volume. It is derived by taking the current year number (market size or market volume) subtracting the previous year number and dividing by the previous year number; percent change from year to year was then averaged over the study period of 1979 through 1991. Travel market composition is defined as the percent of the market from each area -- such as from each region.

Selected Findings

Overall Market Conditions for 1979 through 1991

The participation rate of all adults selecting New England as a primary destination averaged 3.6% over the decade. An adjusted annual change rate indicated 4.6% decline per year for the U.S. adult market choosing New England as a primary destination. This translates into losing about 140,000 to 150,000 primary destination travelers per year to the region. The peak year during this period was 1984 when 6.9 million destination travelers selected New England as a primary destination. The bottom year was 1991 when 4.2 million destination travelers selected New England. Caution must be noted in the overall results as 1991 was the Gulf War year which had dramatic impacts on the winter related travel during this period of the war. This was particularly harmful for New England as it retains a significant amount of travel based on winter recreational sports (i.e., downhill skiing, cross country skiing, snowmobiling, etc.). (NOTE: For a more complete update of the domestic travel trends for New England by demographic and geographic markets, please see the Warnick, 1993. "The New England Travel Market: Changing Demographics and Geographic Markets, 1980 to 1990." *1993 NERR Proceedings*, pp 205-215.) Those findings may be viewed as somewhat more stable as the Gulf War year was not included within those calculations. The region, as a primary destination, appears to have rebounded in 1992 (these data are not yet fully available, but preliminary reviews indicate the rebound). The overall statistics for this section may be found in Table 2.

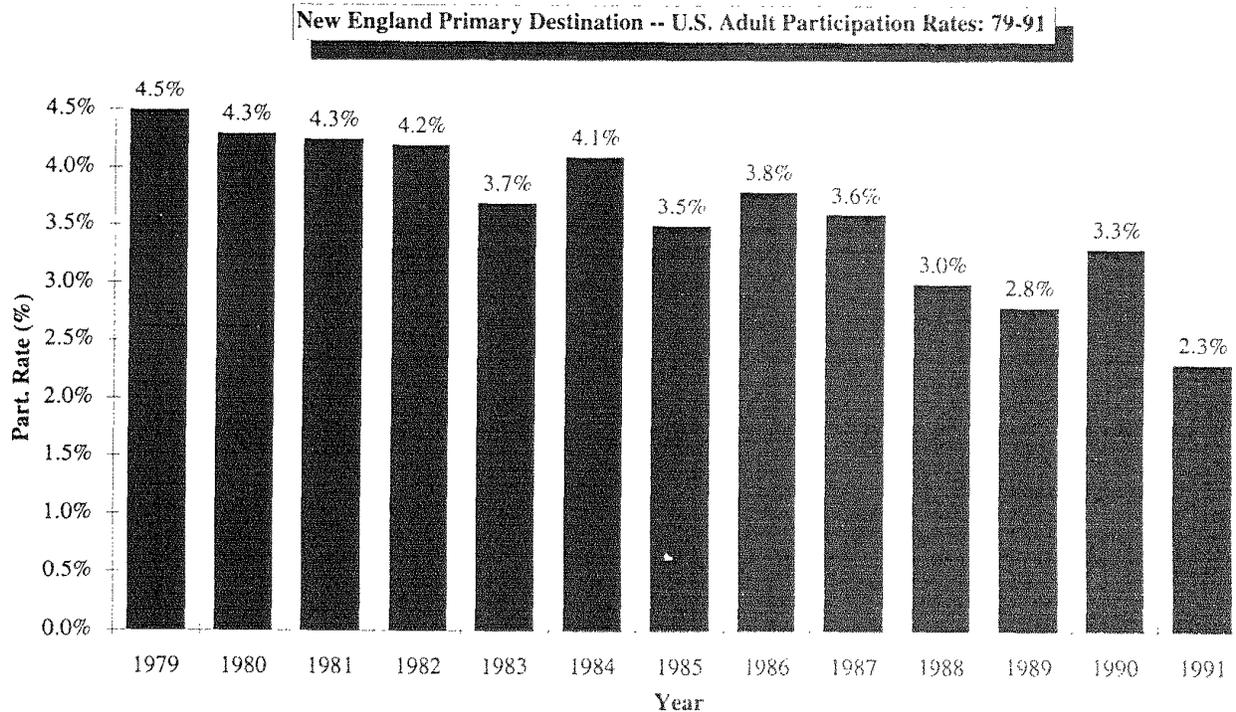


Figure 1. Adult participation rates for New England travel destination, 1979-1992.

Table 2. New England travel market.

		New England Primary Destination Choice												Decade		Two-Point		
		1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Average	1991	Change Rate	Moving Ave.
Adult Part. Rate		4.5%	4.3%	4.3%	4.2%	3.7%	4.1%	3.8%	3.6%	3.6%	3.0%	2.8%	3.3%	2.3%	3.6%	2.3%	-4.6%	-3.9%
#New Eng. Trav.(000)		7,062	6,814	6,793	6,772	6,122	6,889	5,960	6,581	6,302	5,324	4,915	5,903	4,232	6,051	4,232	-3.3%	-2.7%
Age Cohorts														Decade		Two-Point		
Adult Overall Rate		4.5%	4.3%	4.3%	4.2%	3.7%	4.1%	3.8%	3.6%	3.6%	3.0%	2.8%	3.3%	2.3%	3.6%	2.3%	-4.8%	-3.9%
18 to 24		4.6%	3.8%	3.4%	3.4%	3.9%	3.6%	3.0%	2.8%	2.7%	2.5%	1.8%	1.9%	1.6%	2.8%	1.6%	-7.5%	-6.8%
25 to 34		4.5%	5.8%	4.7%	3.5%	4.5%	4.0%	3.8%	4.4%	4.5%	3.7%	2.7%	4.5%	1.9%	3.8%	1.9%	-3.3%	-4.7%
35 to 44		5.4%	5.2%	5.4%	5.5%	3.6%	5.1%	4.3%	4.2%	3.6%	3.7%	3.1%	4.5%	2.6%	4.3%	2.6%	-2.6%	-3.3%
45 to 54		5.2%	5.1%	5.2%	5.1%	4.0%	5.0%	4.0%	3.9%	3.9%	3.9%	2.9%	3.9%	3.0%	4.2%	3.0%	-2.9%	-3.4%
55 to 64		4.2%	3.5%	3.9%	4.2%	3.4%	4.7%	3.3%	4.6%	3.7%	3.7%	4.0%	2.5%	3.2%	3.7%	3.2%	0.9%	-2.4%
65 and Older		3.1%	2.3%	3.0%	3.7%	2.4%	2.7%	2.5%	3.0%	3.0%	2.1%	2.3%	2.5%	2.0%	2.6%	2.0%	-1.0%	-0.7%
Other Age Cohorts														Decade		Two-Point		
Adult Overall Rate		4.5%	4.3%	4.3%	4.2%	3.7%	4.1%	3.8%	3.6%	3.6%	3.0%	2.8%	3.3%	2.3%	3.6%	2.3%	-4.6%	-3.9%
18 to 34		4.6%	4.7%	4.1%	3.5%	4.5%	3.6%	3.5%	3.7%	3.8%	2.5%	2.4%	2.9%	1.8%	3.4%	1.8%	-5.7%	-5.5%
35 to 49		5.6%	5.3%	5.6%	5.9%	3.4%	4.9%	4.1%	4.3%	3.6%	3.8%	3.1%	4.4%	2.9%	4.3%	2.9%	-2.1%	-3.2%
50 and Older		3.8%	3.2%	3.6%	3.9%	3.3%	4.2%	3.2%	3.7%	3.4%	3.0%	2.9%	2.7%	2.5%	3.3%	2.5%	-2.4%	-2.5%
Target Region														Decade		Two-Point		
1979		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Average	1991	Change Rate	Moving Ave.	
Northeast		14.5%	14.3%	13.0%	13.4%	11.5%	13.1%	10.8%	11.5%	11.1%	8.8%	6.5%	10.2%	6.4%	11.0%	6.4%	-4.1%	-4.5%
South		1.7%	1.8%	1.9%	1.9%	1.2%	1.6%	1.4%	1.5%	1.4%	1.3%	1.8%	1.4%	1.1%	1.5%	1.1%	-1.4%	-2.4%
Midwest		1.6%	1.3%	1.4%	1.5%	1.5%	1.7%	1.8%	2.1%	1.8%	1.7%	1.9%	1.7%	1.4%	1.7%	1.4%	-0.4%	0.9%
West		1.6%	1.3%	1.3%	1.3%	1.9%	1.2%	1.0%	1.2%	1.5%	1.3%	1.4%	0.9%	1.1%	1.3%	1.1%	0.0%	-2.2%
Target Region Composition														Decade		Two-Point		
1979		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Average	1991	Change Rate	Moving Ave.	
Northeast		72.4%	72.9%	71.8%	70.7%	68.5%	70.5%	66.7%	65.9%	61.5%	50.1%	66.3%	58.1%	65.7%	58.1%	-1.2%	-1.3%	
South		9.6%	10.6%	11.3%	12.0%	8.4%	9.9%	10.1%	9.7%	9.4%	10.7%	15.7%	10.2%	11.2%	10.8%	11.2%	3.4%	1.3%
Midwest		11.0%	10.3%	11.0%	11.6%	13.6%	14.2%	17.6%	18.9%	16.8%	19.3%	24.2%	17.8%	20.6%	16.3%	20.6%	6.4%	5.9%
West		7.0%	6.3%	6.0%	5.7%	9.5%	5.3%	5.6%	5.8%	7.9%	8.5%	10.0%	5.8%	9.5%	7.2%	9.5%	7.9%	2.6%
Total Travel Destinations of Northeast Market ('000)														Decade		Two-Point		
1979		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Average	1991	Change Rate	Moving Ave.	
Total All Known Destinations		138,238	130,431	131,425	132,419	129,781	126,112	119,659	121,750	125,319	122,738	122,913	130,839	130,494	126,990	130,494	-0.4%	-0.2%
Northeast		27,646	25,426	23,534	21,642	25,862	28,141	24,064	22,931	24,620	23,877	20,069	21,780	20,870	23,568	20,870	-1.8%	-1.7%
New England		5,112	4,965	4,877	4,788	4,335	4,860	3,975	4,318	4,151	3,276	2,460	3,913	2,489	4,034	2,489	-3.4%	-3.7%
Mid-Atlantic		7,222	7,135	7,600	8,064	8,205	8,307	7,276	6,268	6,632	6,978	6,094	5,772	4,853	6,932	4,853	-2.9%	-2.5%
Other Regions		15,312	13,326	11,058	8,790	13,422	14,674	12,813	12,345	13,837	13,623	11,515	12,095	13,528	12,602	13,528	0.6%	-0.2%
NE Share of All		3.7%	3.8%	3.7%	3.6%	3.3%	3.9%	3.3%	3.5%	3.3%	2.7%	2.0%	3.0%	1.9%	3.2%	1.9%	-3.3%	-3.5%
NE Share of NoEa		18.5%	19.5%	20.7%	22.1%	16.8%	17.3%	16.5%	18.8%	16.9%	13.7%	12.3%	18.0%	11.9%	17.0%	11.9%	-1.7%	-1.7%
Mid-Atl Share of NoEa		26.1%	28.1%	32.3%	37.3%	31.7%	29.5%	30.2%	27.3%	26.9%	29.2%	30.4%	26.5%	23.3%	29.4%	23.3%	-0.4%	-0.4%

Source: Simmons Market Research Bureau, 1979 to 1991. Study of Media and Markets, Vol. P-4, Travel, New York, New York.
 NOTE: Use summary statistics (average, annual change rate, moving average) with caution; distorted by 1991 data (The Gulf War Year).

New England Primary Destination -- U.S. Adult Travelers: 79-91

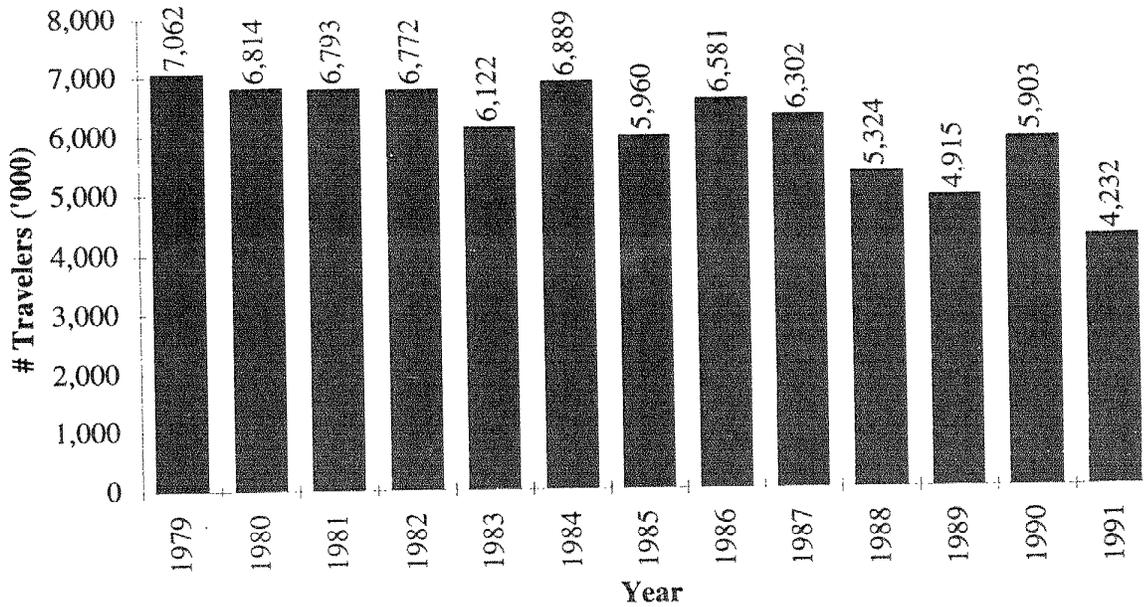


Figure 2. New England destination travelers, 1979-1991.

New England's Demographic Markets

Are the travelers to New England young or old and are there are prevalent trends noted here? These findings update the author's 1993 study by adding data from 1979 and 1991. New England declined as a destination choice for five of the six age cohorts:

- 18 to 24 year olds -- declined by 7.5%
- 25 to 34 year olds -- declined by 3.3%
- 35 to 44 year olds -- declined by 2.6%
- 45 to 54 year olds -- declined by 2.9%
- 65 and older -- declined by 1.0%

However, New England grew as a destination choice for one of the six age cohorts:

- 55 to 64 year olds -- increased by ".9"%

These data suggest that the New England destination market has continued to decline. There is some indication that age cohorts changes are more drastic and provides some speculation as to whether specific generations have indeed contributed to the overall decline in travel participation.

New England's Generational Market Trends

A different view of travel to New England may be gained when generations are examined over time. Is the market changing? Is New England's base market becoming older, is the region still attracting their fair share of younger adults?

There appear to be watershed years evident in these data even though there has been an overall decline in domestic travel to New England in the years examined here. Participation rates for five of the six age cohorts ticked up after 1989. This happens to

be the very point when each generation is neatly confined within the corresponding 10 year age segments. For example, in 1989 all of the Baby Boomers had moved up one age cohort from "18 to 24" to "25 to 34" and "25 to 34" to "35 to 44." This change, which appears to indicate a change in the overall decline trend could then be called a "watershed year" -- a point in time when the overall pattern changes. Even within these overall changes, there may be age specific changes which may provide more insights into the changes in travel patterns to New England. See Figure 3 (next page) for changes in travel pattern participation trends by age cohorts.

The overall rate of decline appears much more pronounced in age categories under 35; the rates of decline were more than double of their older counterparts (see "Other Age Cohort" configurations in Table 2 here). Specifically, rates declined at a rate of nearly 7% per year for 18 to 24 year olds and over 3% for 25 to 34 year olds. Rates of age groups over 35 also declined, but they declined at a slower rate of approximately 3% percent per year or less. The age category where domestic travel declined the least was the 55 to 64 and older category. However, the overall problem still remains. One is looking at static age cohorts; but, we need to look at generations as they move through time.

Some findings affecting the data provide insights into how the data are affected by the aging population and the movement of generations through particular age cohorts. For example, a look at the younger generations provides some insights into how people change their travel behavior over time. In 1979, Baby Boomers were 35 or under. By 1989, a watershed year, Baby Boomers were in the 25 - 34 and 35 - 44 year old categories. Within the 18 to 24-year-old category, for example, domestic travel

New England Primary Destination -- U.S. Adult Age Cohort Part. Rates: 79-91

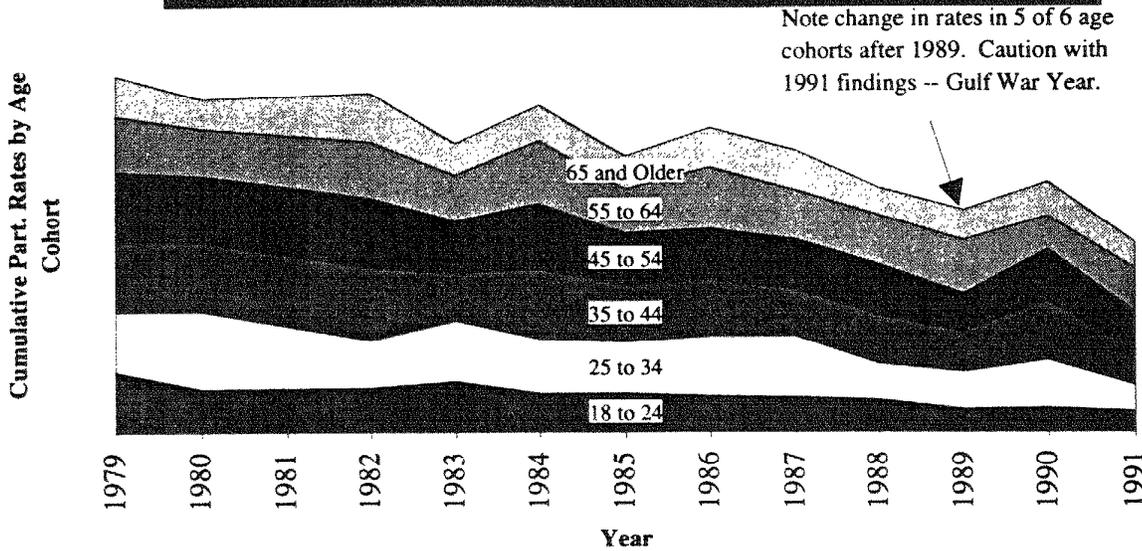


Figure 3. New England primary destination, U.S. adult participation rates by age cohort, 1979-1991.

participation rates declined steadily from '79 through '91. From '89 to '91, rates increased by 5% for 18 -24 year olds at the national level, but, there has been no corresponding change in participation rates among these young adults traveling to New England. The "Baby Bust" or "13th Generation" fully comprised the 18 - 24 year old cohort after the year 1989.

The "Silent Generation" adults were largely in the 35 to 54 age categories from 1979 through 1989; then moved ahead into 45 to 64 year old groups. Their domestic travel behavior participation rate declined from 1979 - 1989 in the 35 to 44 age category. In 1979, the New England travel participation rate was 5.4% and it declined to 3.1% in 1989. It appears to have rebounded in 1990 at 4.5%. The older half of the "Silent Generation," age 45 to 54, experienced a decline in New England travel participation from 5.2% in 1979 to a low of 2.9% in 1989. It, too, has appeared to have rebounded to 3.9% in 1990. However, this was the only age cohort to experience an increase in participation rates for New England.

Next, the "G.I. Generation" held the most stable New England travel participation rate over the decade when they were age 55 to 64. Their participation rates in 1979 was 4.2% and dropped to its lowest rate of 2.5% in 1990, but generally held between 3.3% and 4.7%. The "G.I. Generation" moved out of the 55 to 64 age group and completely into the 65 and older age category by 1989. The upward trend in growing domestic travel in this age category was largely fueled by the "G.I. Generation" moving into retirement years.

The year 1989 was a watershed year. This is a positive note for the domestic travel industry in New England. Participation rates

appear to have rebounded after the 1989 year; however the Gulf War in 1991 has clouded the picture. Caution must be observed because participation rates only indicate what percent the overall population and individual members of age categories participate and not how frequently they travel. New England's dominant demographic market are the 35 to 50 year olds, who have the highest participation rates and specifically the Baby Boomers (age 35 to 44).

The Transition of Generational Participation Rates in Domestic Travel

In this portion of the study, generations were examined during the transition from one decade to the next. The overall participation change by generation from one decade to the next was examined within the context of three periods(1979 to 1989; 1980 to 1990 and 1981 to 1991). National domestic travel participation of declined on average of 9% for these three year groupings (Warnick 1993A); however, travel to New England overall, was only off 1.6% on average over these three time periods.

The Baby Boom Generation's participation rate in New England destination travel declined at the same or a lower rate. This is a positive sign. The younger half of the Baby Boom Generation (those age 25 to 34 in the 90s), had participation rates which declined less than any other age cohort. This segment of the Baby Boom Generation has a participation rate which decline -1.1% on average for these three periods. In fact, from 1980 to 1990, their travel participation behavior actually increased slightly. The older half of the Baby Boom Generation, those age 35 to 44 in the 90s, had a decrease in participation rates as they aged, but it was not higher than the overall population participation rate change for the same period. The "Silent Generation" which appears to be a

growth market nationally is not as strong in its travel intentions to New England. The younger half of this generation, those age 45 to 54 in the 90s, had the highest decline in New England destination based travel of all of the generations. Because the GI Generation has entered into the 65 and older cohort, not as much

can be read into the changes in their travel patterns. However their participation rate change was equal to the overall population change for the region and is much lower than the change at the national level. See Tables 3 and 4 for changes in participation rates by generations over the decades.

Table 3. Generational changes in New England domestic travel participation rates: 1979, 1980 to 1990 and 1981 to 1991.

Generation, Age Category and Year	1979	1989	Change	1980	1990	Change	1981	1991	Change	Average Decade Change Rate
<i>Baby Boom Generation</i>										
18 to 24 year olds (79,80,81)	4.6%			3.3%			3.4%			
1->25 to 34 year olds (89,90,91)		2.7%	-1.9%		3.5%	0.2%		1.9%	-1.5%	-1.1%
25 to 34 year olds (79,80,81)	4.5%			5.8%			4.7%			
1->35 to 44 year olds (89,90,91)		3.1%	-1.4%		4.5%	-1.3%		2.6%	-2.1%	-1.6%
<i>Silent Generation</i>										
35 to 44 year olds (79,80,81)	5.4%			5.2%			5.4%			
1->45 to 54 year olds (89,90,91)		2.9%	-2.5%		3.9%	-1.3%		3.0%	-2.4%	-2.1%
45 to 54 year olds (79,80,81)	5.2%			5.1%			5.2%			
1->55 to 64 year olds (89,90,91)		4.0%	-1.2%		2.5%	-2.6%		3.2%	-2.0%	-1.9%
<i>G.I. Generation *</i>										
55 to 64 year olds (79,80,81)	4.2%			3.5%			3.9%			
1->65 and over (89,90,91)		2.3%	-1.9%		2.6%	-0.9%		2.0%	-1.9%	-1.6%
<i>Overall Population Travel Rate</i>										
Early Rate	4.5%			4.3%			4.3%			
1-> One Decade Later Rate		2.8%	-1.7%		3.3%	-1.0%		2.3%	-2.0%	-1.6%

* The generation change of the GI Generation is report for consistency only; this generation's domestic travel participation rates are confounded by the presence of two other older generations (those 85+).

Source: Simmons Market Research Bureau. 1979-1991. Study of Media and Markets, Vol. P-4. Travel.

Table 4. Generational diagonal in domestic travel behavior in New England.

Year----->>>> Life Stage and Age Cohort	-----The Early 80s-----			-----The Early 90s-----		
	1979	1980	1981	1989	1990	1991
<i>Elder</i> 65 and Older Travel Part. Rate	Lost/GI 3.1%	Lost/GI 2.3%	Lost/GI 3.0%	GI 2.3%	GI 2.6%	GI 2.0%
<i>Midlife</i> 55 to 64 Travel Part. Rate	GI 4.2%	GI 3.5%	GI 3.9%	Silent 4.0%	Silent 2.5%	Silent 3.2%
45 to 54 Travel Part. Rate	Silent 5.2%	Silent 5.2%	Silent 5.2%	Silent 2.9%	Silent 3.9%	Silent 3.0%
<i>Rising Adult</i> 35 to 44 Travel Part. Rate	Silent 5.4%	Silent 5.2%	Silent 5.4%	Boom 3.1%	Boom 4.5%	Boom 2.6%
25 to 34 Travel Part. Rate	Boom 4.5%	Boom 5.8%	Boom 4.7%	Boom 2.7%	Boom 3.5%	Boom 1.9%
<i>Youth</i> 18 to 24 Travel Part. Rate	Boom 4.6%	Boom 3.3%	Boom 3.4%	Thirteenth 1.8%	Thirteenth 1.9%	Thirteenth 1.6%

Source: Simmons Market Research Bureau. (1979, 1980, 1981 and 1989, 1990, 1991). Study of Media and Markets, Vol. P-4, Travel. Strauss and Howe. 1991. History of America's Future, 1584 to 2069. New York, NY: William Morrow.

Conclusions and Implications for Recreation and Tourism Resource Managers

Trends were evident in the New England Travel Destination Market from 1979 through 1991. New England has become even more mature as destination market over the last decade since the last year's review (Warnick 1993B). The travel market is not in a high growth mode and the findings here appear to be affected by the Gulf War of 1991. The actual adult participation rate has declined and the actual number of travelers is down slightly. Although New England is without a doubt one of the United States' most definable or marketable travel destination regions, the decline can be partially attributed to changing demographics and travel preferences of different generations.

However, this review of travel by different generations indicates some new insights and raises even more questions.

- Why is New England not gaining in popularity with the current young adults (those 18 to 24 years old)?
- Why is the Silent Generation not a growth market for New England as it is at the national level?
- The Baby Boomers appear to still be a potentially strong future market. Will they come?
- Can these data be used in predicting the future of travel to New England?

Trend analysis on an on-going basis is necessary. An analysis of these data for the period 1979 through 1991 indicated continued concern over an overall declining market for domestic travel in New England. However, the Gulf War and its impact on the 1991 data provides little comfort that the travel market has not yet fully rebounded. The addition of two more years of data indicated that the overall market declined up to 1989, then recovered in 1990 and then declined again in 1991. Was this a reflection of real market conditions or a spike in the data for 1990? Probably, it is a combination of both conditions. Furthermore, an examination of only year to year change can be misleading. For example, the Gulf War did influence travel to most all regions in the U.S. in 1991 and it appears to also had substantial impacts on the New England Region. The changes must be viewed in an overall pattern change.

Market change over time is another important travel trend issue which was examined here. People who participate in travel pursuits may change their rates of travel based on their individual household conditions. It is very possible that people who travel frequently one year might not travel as frequently the following year. Travel related behavior, like recreational related behavior, may reveal changing patterns over the life span or through age cohorts or even changes in attitudes about travel as one ages.

This study revealed further changes in the overall market traveling to New England. First, New England appears to be falling out of favor with young adults. This was most evident in the 18 to 24 year old segment where the rates declined by over 7% per year. This decline was even more dramatic than the 1993 findings indicated (Warnick 1993B). The 25 to 34 year market also declined in participation of traveling to New England by over 3% per year. Both the 35 to 44 and 45 to 54 year old markets declined by nearly 3% per year. The 55 to 64 year old segments increased only slightly and the 65 and over segment declined by about 1%. Finally, another view of the data revealed that the dominant age group for travel to New England are 35 to 44 year olds. This age cohort is comprised largely of Baby Boomers in the 90s.

These trends, if they continue may mean some very basic changes in how travelers use the resources in New England. If we assume that the region is losing the more active travelers (younger age cohorts usually have higher participation rates in active recreational pursuits than older cohorts); then activities which are likely to grow may include hiking, walking, visiting historic

places and more passive forms of recreation and entertainment. Activity resource areas which are likely to see declines in participation may include swimming, skiing, and outdoor resource based activities -- such as hunting, snowmobiling, water skiing, for example. These fundamental uses may not be dramatic changes, but will gradually change. Furthermore, unlike the national market where the Silent Generation, those 45 to 64, is seen as a strong growth travel market in the years ahead, this market is not growing in its choices of New England as a destination. At the national level, the younger half of the Silent Generation is the dominant market; however, this generation's travel participation behavior has declined the most in New England. Even though New England is losing its share of younger travelers, it does appear to be particularly at least stable for the older half of the Silent Generation -- those 55 to 64 years old. The Baby Boom Generation appears to be one of the potential growth markets for New England for the next decade.

New England is not the "hot market" it was a decade ago for domestic travel. Other regions appear to have marketed their regions more aggressively and successfully. More of the Northeast travel market, New England's primary source of travelers, have revealed more travel tendencies to other parts of the United States over the decade (Warnick 1993B). The aggressive nature of other regions, the revitalization of market areas, and the overall changing demographic and generational travel pattern changes may explain the repositioning of the New England Region. Furthermore, it may be that New England is now one of many choices and is losing market share based on a growing diversification in the travel market. Furthermore, business travel has slowed with the downturn in the New England industrial and manufacturing economy.

What are the choices for the tourism and travel industry and businesses within the New England? First, it must be noted that there is not high growth in the domestic travel market as defined within the context of this study. It continues to be a mature and declining market. It may be out hustled and repositioned by other more aggressive and perhaps potentially more attractive destination choices. Long term, there are signs that market conditions may improve. More retirees and an aging population with more free time should help to increase domestic travel demand to this region. Short term, the growing family market is particularly promising. New England is positioned near areas with large numbers of Baby Boomers with children. Agencies' positioning statements and plans and market place promotions should consider the family market. It is a viable market and will be aggressive pursued over the next decade. The rate of decline was smallest for the younger half of the Baby Boomer market which is just entering its rising adulthood years with children entering the nest. The market is likely to be strong for the next decade. The aging population and the increase of older markets is particularly promising for the New England. While the Silent Generation does not look as strong for New England as the trend does at the national level, the GI market may provide some promise for the very short term. This market declined the least after the Baby Boom Generation. New England's noteworthy historical, education and medical centers all may combine to attract more of these travelers to the region.

The longer stay behavior patterns of the family and older age markets does traditionally match well with the typical New England vacation. Those agencies which depend on a younger market (i.e., young adults 18 to 30 for example) must carefully review the future market potential and understand that this market's behavior is different than that of the older adults. This group of young adults belongs to the "Thirteenth or X Generation" and it is very different in its travel behavior than was the older Baby Boom Generation. The personality type of this generation is evolving from one of alienation into pragmatism. While they like to travel, destination choices must offer high quality and exciting experiences at relatively low cost. This group will become pragmatic much more quickly than their older counterparts, the "idealistic" Baby Boomers. Value is key to the X Generation due to income constraints. It is likely that this

market will be one of shorter stays, but perhaps more frequent trips. They view recreation, leisure and travel as a right, not a privilege. The message to them should reflect their culture of being blunt, flashy, kinetic, "MTVish", pragmatic and survivalistic (Warnick 1993A and Strauss and Howe 1991). One may learn how responsive this market is by watching the clues of how the market is targeted in the advertising world over the next decade.

With no strong growth patterns in the domestic market, recreation and tourism businesses must seek to balance market demand through either new markets or return markets. Furthermore, businesses must recognize that travel just does not "happen" anymore. Today's travelers have a diverse menu of national and international travel destinations to choose from during their free time. Heavily discounted airfares may prompt some travelers to go to more distant locales. Baby Boomers are a market who change their loyalties quickly. A decade ago they were called "Yuppies" and were buying big ticket items (BMW's, condos on the beach, wine coolers, etc.). They indulge in the fast lane of life. Today, this same generation is moving into family life, trying to juggle the same pace for life, but beginning to slow down. The items which they purchase may still be expensive, but they are indeed different (mini-vans: Legos™; fruit juices, etc.). They are rapidly moving to healthier lifestyles. They have realigned their life perspectives and are "downshifting" in order to simplify their hectic schedules. These cultural, generational and lifestyle changes will impact on their vacation desires, too. Once fast paced, exciting vacations were the draw for them. Today, stress reduction, healthy-orientation, and family experiences may be the draw. Time changes markets and markets change in their desires.

Tourism and recreation businesses can no longer expect to benefit from growth markets where a new customer base is constantly replaced with another customer base. Mature market conditions spur customer retention strategies and market share competitiveness. In other words, these businesses must work hard to retain their current patrons because other firms will be seeking to draw them away. It simply will be a more competitive tourism marketplace in New England in the 90s.

This review of domestic travel within the generational context of travelers to the New England destination area provides new insights and how the market conditions for the 1990s may be evolving. National trends can be misleading within a regional context. The changes in the national travel market were not duplicated in the New England travel market. However, closer and more intense monitoring of travel trends, both domestic and localized, is still needed. Much is still not known about the inner travel patterns within New England or about the travel volume of each of these segments examined here. But, travel patterns have evolved and the New England travel market is much different than it was just one decade ago.

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*INTERPRETATION, EDUCATION
AND OUTREACH*



THE EFFECT OF A VERBAL INTERPRETIVE MESSAGE ON DAY USER IMPACTS AT MOUNT RAINIER NATIONAL PARK

Anne Kernan

Graduate Student, The University of Maryland, Department of
Recreation, College Park, MD 20742

Ellen Drogin

Instructor, The University of Maryland, Department of
Recreation, College Park, MD 20742

The behaviors of 434 hikers visiting the heavily used Bench Lake/Snow Lake Trail at Mount Rainier National Park were observed to assess the effect of a verbal interpretive message on compliance with minimum impact hiking recommendations. Significant relationships were found between compliance and message exposure, and a variety of situational and demographic variables.

Introduction

Off-trail hiking at Mount Rainier National Park is of increasing concern. Many of the trails accessible to the day use visitor are located within fragile subalpine meadows. Off-trail hiking within these areas creates a variety of undesirable impacts including trampled vegetation, bare ground areas, soil erosion, and a network of unsightly social trails. Encouraging minimum impact hiking is important not only for minimizing impacts on the resource, but also for enhancing the park visitors' experience. The effects of the quality of the natural environment on visitor experiences have been well documented (Brown, Richards, Daniel and King 1990; Daniel, Brown, King, Richards and Stewart 1989; Vaske, Graefe, and Dempster 1982).

Mount Rainier's day user service area includes the growing communities of Seattle and Tacoma, Washington, which are within a two to three hour drive of Mount Rainier. Day use visitation from these areas is projected to increase as the population within the Puget Sound area of Washington state continues to grow. From 1980 to 1990 the three county area, Pierce, King, and Snohomish, on the eastern shore of the Puget Sound, experienced a 22.3% population increase to 2.5 million people, rising by 465,879 (U.S. Department of Commerce 1980; 1990). It has been documented that most of the off-trail hikers in the Paradise area of the park were in-state residents, thus exacerbating this management problem (Johnson and Swearingen 1988).

Because of the high levels of use and fragile habitats, the park's wilderness management plan includes regulations which prohibit off-trail hiking in the Sunrise and Paradise day use areas. Although it is not illegal, off-trail hiking is discouraged in the fragile meadows outside of these restricted areas. The existing park management policies are based on those methods that are the most effective in deterring off-trail hiking, yet least offensive to the visitor (Samora 1991).

The intent of this study was to investigate possible management strategies to discourage off-trail hiking. Specifically the indirect management approach of presenting a verbal interpretive message was tested for its effectiveness on increasing hiker compliance with minimum impact hiking recommendations.

Previous studies suggest that attitudes and behaviors of hikers at Mount Rainier were most influenced by interpretive messages emphasizing that the visitor's behavior has a direct impact on the vegetation (Johnson and Swearingen 1988). Anderson and

Manfredo (1985) suggest that land managers need to communicate clearly to visitors the reasons for a proposed action. Mercer (1984) recommends that education and information programs include not only minimum impact skills and techniques to avoid impacts, but also information about wilderness philosophies, values, history and policy, management techniques, and information about the ecosystem itself. Further, interpretive programs must be designed to reach people at all six levels of Kohlberg's moral development (Christensen and Dustin 1989). Messages should be designed to create some conflict or dissonance to encourage people to advance to the next stage of moral reasoning. The recommendations provided by these previous studies were incorporated into the message design tested during this study. Stage one of Kohlberg's moral development was eliminated from the message, since no formal sanction for off-trail hiking is enforced in the study area.

Methods

Subjects

The subjects involved in this experiment were day visitors to the Bench Lake/Snow Lake Trail at Mount Rainier National Park, Ashford, Washington. The Bench Lake/Snow Lake Trail receives intense use during the summer months. Between 90 and 120 visitors hike the trail on an average summer weekend day. The trail is 1.3 miles long and of moderate difficulty. It leads to one of the most scenic areas of the park. Subjects included day hikers on Fridays through Mondays during the second half of July, and the entire month of August, 1992.

Data Collection

Hiking parties approaching the trailhead were systematically assigned to the experimental or control group. On-site personal interviews were conducted at the trailhead prior to hike initiation. While subjects were completing the survey, the interviewer recorded the assigned group and individual numbers of the hikers, hiker descriptions, time of the interview, and experimental or control group status.

Following the interview, the interviewer, wearing a Student Conservation Association uniform, informally delivered the verbal interpretive message to hiking parties assigned to the experimental group. The opportunity for conversational interaction (comments and questions) between the hikers and interviewer existed. The message was as follows:

"On your hike today, please stay on designated trails. If you go to the lakeshores or beyond the waterfall, be sure to walk on the rocks, because the meadows and forests you are about to enter are unique and fragile. They are easily damaged by trampling. As few as 15 people walking off the trail in the same location can cause noticeable damage to the soils and vegetation. Revegetation efforts funded by tax dollars are only successful if people stay on the trails. If you enjoy the area from the trails, future generations will be able to enjoy its beauty as well."

Following the interview and message delivery, the interviewer communicated the assigned group number, the individual subject numbers, and hiker descriptions to the observers via a hand radio transceiver. This was done once the hikers were on the trail and out of sight and hearing range. Once the hikers approached the lake, hidden observers, dressed in casual clothing, observed and recorded the behaviors of the hikers and whether the hikers complied with the message. The observers utilized binoculars to observe the hikers at a distance whenever possible, in order to be unobtrusive. Hikers were observed for thirty minutes or until the hiking party was out of site, whichever occurred first.

Pilot Study

A pilot study of the procedures was conducted during the first two weekends of July, 1992. The boundaries of the study area and the length of the observation time were determined during the pilot study. Also, inter-rater reliability was established for the two observers employed in this study. The two observers independently recorded observations on 13 hiking parties to ascertain the consistency of their ratings. The observers came to the same conclusion regarding compliance levels ninety-two percent (92%) of the time. Thus, their findings were judged to be comparable and were used for further statistical calculations.

In addition, a manipulation check was performed to confirm that the experimental group and control groups perceived a difference in their treatments. This step was important in ascertaining the effectiveness of the verbal interpretive message. As subjects returned from their hikes, they were asked whether they had received a message on minimizing hiking impacts prior to their hike. The subjects' answers were recorded on the master sheet next to their previously logged information. For the twenty-three cases checked, the participants' perceptions were in complete (100%) agreement with their assigned treatment groups: experimental groups members perceived receiving a message, control group members had not. The manipulation check therefore confirmed the use of control and experimental groups.

Independent Variables

The independent variable pertaining to the main research question was exposure to a verbal interpretive message on minimum impact hiking techniques. Other independent variables measured during the interview were age, gender, education level, ethnicity, location of the subject's permanent residence, occupation, group make-up, hiking experience of the individual, membership in environmental organizations, visitation at visitor information centers, and exposure to park educational information sources. Other independent variables recorded through observations were the size of the hiking party, the number of other people present at the study area excluding other party members, and the number of non-compliant hikers present excluding other party members.

Membership in environmental organizations was used as an indicator of environmental concern. This measure was part of a reliable and valid environmental concern instrument developed by Schahn and Holzer (1990). Environmental action such as conservation organization membership is a stronger measure of environmental concern than positive environmental attitudes or verbal commitment to the environment (Van Liere and Dunlap 1981). Higher correlations existed between independent variables and responsible environmental behavior when the subjects had ties to an environmental organization (Hines 1984).

Dependent Variables

Level of compliance with the recommendation to stay on the trail or walk on rocks while off-trail was the dependent variable measured through observations of hiker behavior. Visitors were considered to be compliant with the minimum impact hiking recommendations if they stayed on the trails, or walked on rocks to avoid vegetation while traveling off-trail. Visitors were considered to be non-compliant if they intentionally stepped off the trail for a short distance to stand, sit or photograph; walked off-trail for longer distances or durations without walking on rocks; or created environmental impacts in addition to off-trail hiking such as littering, harassing wildlife, washing in the lake, picking flowers, cutting or carving vegetation, building a campfire, and disturbing or removing natural features.

Results

Description of the Sample

Eight hundred eighty-four individuals were included in this study. Four hundred nine were exposed to the verbal message, four hundred seventy-five were not exposed to the message, and four hundred thirty-four of these individuals were observed. Overall, the majority of hikers (54%) were non-compliant with the verbal message.

The average Bench Lake/Snow Lake Trail hiker ...

- ⊗ was Caucasian
- ⊗ was a college graduate
- ⊗ was employed in a managerial or professional occupation
- ⊗ resided in the Seattle-Tacoma area of Washington
- ⊗ was aged thirty-one to forty years
- ⊗ hiked in a family group of three to five persons
- ⊗ had no children in their hiking party
- ⊗ started their hike during mid-day between 11 a.m. and 1 p.m.
- ⊗ hiked one to five times during the previous year including trips to Mount Rainier
- ⊗ was not a member of an environmental organization
- ⊗ sought an easy trail with scenic beauty
- ⊗ sought participation in wildflower viewing, photography, and wildlife viewing
- ⊗ hiked for two to three hours.

Relationships between Independent Variables and Compliance

Exposure to message. Based on the results of a chi-square analysis, a significant relationship was found between exposure to a verbal interpretive appeal for minimum impact hiking and compliance [$C^2(1,4) = 44.87, p = .00000$]. The majority of the individuals who did not receive the message (64%) were non-compliers, compared to forty-two percent (42%) of the individuals who did receive the message. The majority of message recipients (58%) were compliant.

Age. Based on the results of a chi-square analysis, a significant relationship was found between age group and compliance [$C^2(4,4) = 47.99, p = .0001$]. The majority of hikers aged sixteen to twenty (69%), thirty-one to forty (53%), and forty-one to sixty-five (67%) were compliant with the minimum impact hiking recommendations. Ironically, all of the hikers who created environmental impacts in addition to hiking (e.g. harassing wildlife, littering) were aged sixteen to twenty. The majority of hikers aged twenty-one to thirty (57%) and over sixty-five (67%) were non-compliant.

Level of education. Based on the results of a chi-square analysis, no significant relationship was found between level of education and compliance [$C^2(6,4) = 17.50, p = .6803$].

Gender. Based on the results of a chi-square analysis, no significant relationship was found between gender and compliance [$C^2(1,4) = 4.741, p = .31492$].

Ethnicity. Based on the results of a chi-square analysis, a significant relationship was found between ethnicity and compliance [$C^2(5,4) = 114.45, p = .00000$]. The majority of African Americans/Blacks (73%) were compliant. The majority of Asian Americans/Oriental (78%) were non-compliant. Caucasians/Whites and "other" ethnic groups were equally split between compliers and non-compliers. Only one Hispanic and no Native Americans were observed.

Location of residence. Based on the results of a chi-square analysis, a significant relationship was found between location of residence and compliance [$C^2(61,4) = 267.61, p = .00001$]. The majority of hikers residing within King and Pierce Counties of Washington State (Seattle-Tacoma area) (59%) were non-compliers. The majority of hikers residing in other counties within Washington State (52%), residing out of state (60%), and in foreign countries (56%) were compliant with the minimum impact hiking recommendations. Only King and Pierce County residents were observed creating environmental impacts in addition to those from off-trail hiking.

Occupation. Based on the results of a chi-square analysis, no significant relationship was found between occupation and compliance [$C^2(9,4) = 28.412, p = .3899$].

Group make-up. Based on the results of a chi-square analysis, a significant relationship was found between group make-up and compliance [$C^2(7,4) = 106.465, p = .00000$]. The majority of hiking parties comprised of individuals (76%), and family groups (56%) were compliant. These family groups did not necessarily contain children. Many were married couples and other combinations of adults. The majority of groups comprised of family and friends (51%), friends (53%), and organized group tours (94%) were non-compliant. Specifically, organized group tours comprised of church groups (100%) and foreign travelers (100%) were non-compliers, while an organized group tour comprised of a hiking club (100%) complied.

Hiking party size. Based on the results of a one-way analysis of variance, a significant difference was found between compliers and non-compliers with regard to hiking party size [$F = 4.27, p = .002$]. Specifically, there were larger party sizes ($\bar{x} = 4.10$) with those who traveled off-trail without walking on rocks, compared to the party sizes ($\bar{x} = 3.58$) with those who either stayed on the trail or walked on rocks while off-trail. As hiking party size increased, compliance decreased.

Number of other people present. Based on the results of a one-way analysis of variance, a significant difference was found between compliers and non-compliers with regard to the number of others present (excluding other party members) [$F = 5.66, p = .000$]. Specifically, there was a greater number of others present ($\bar{x} = 1.34$) with those who traveled off-trail without walking on rocks, compared to the number of others present ($\bar{x} = .60$) with those who stayed on the trail. As the number of other people present at the site increased, compliance decreased. Individuals who created environmental impacts in addition to off-trail hiking were the exception. The few individuals observed throwing rocks at wildlife had no other people present.

Number of non-compliant hikers present. Based on the results of a one-way analysis of variance, a significant difference was found between compliers and non-compliers with regard to the number of non-compliant hikers [$F = 4.30, p = .002$]. Specifically, there were more non-compliant hikers present ($\bar{x} = .68$) with those who traveled off-trail without walking on rocks, than with those ($\bar{x} = .18$) who stayed on the trail. As the number of non-compliant hikers present at the site increased, compliance decreased. Individuals who created environmental impacts in addition to off-trail hiking were the exception. The few individuals observed throwing rocks at wildlife had no other people present.

Level of hiking experience. Based on the results of a one-way analysis of variance, no significant difference was found between compliers and non-compliers with regard to the level of hiking experience at Mount Rainier [$F = .27, p = .847$].

Degree of environmental concern. Degree of environmental concern was measured as the number of memberships in environmental organizations. Based on the results of a chi-square analysis, no significant relationship was found between the degree of environmental concern and compliance [$C^2(5,4) = 26.304, p = .1560$].

Visitor center visitation. Based on the results of a chi-square analysis, a significant relationship was found between visitation at visitor information centers and compliance [$C^2(1,4) = 17.623, p = .0015$]. The majority of both visitor center visitors (53%) and non-visitors (58%) were non-compliant. Further analyses show that visitation at some visitor centers exhibited a significant relationship with compliance, while others did not. Visitation at the Longmire Museum and the Paradise Visitor Center was related to minimum impact compliance. The relationship between visitation at the Longmire Hiker Information Center and compliance approaches statistical significance. Significant relationships were not found between visitation at other visitor information centers and compliance. It is uncertain what factors associated with these visitor information centers influenced

compliance. Visitor center visitors could have been exposed to a ranger, indoor exhibits, or a variety of other interpretive media.

Park educational information sources. Based on the results of a chi-square analysis, no significant relationship was found between overall exposure to educational information sources prior to the hike and compliance [$C^2(1,4) = 2.3116, p = .5103$]. Through further analyses, it was apparent that some educational information sources influenced level of compliance, while others did not.

There was a significant relationship between exposure to naturalist's walks/talks and compliance [$C^2(1,4) = 15.3905, p = .0015$]. The majority of individuals who were exposed to a naturalist's walk or talk (70%) were compliant with the minimum impact hiking recommendations. The majority of hikers who were not exposed to naturalist's programs (52%) were non-compliant. Naturalist's walks/talks were the most powerful educational information source in influencing compliance in this study.

Based on the results of a chi-square analysis, a significant relationship was found between exposure to indoor exhibits and compliance [$C^2(1,4) = 7.7248, p = .0521$]. The majority of individuals who were exposed to indoor exhibits (59%) were compliant with the minimum impact hiking recommendations. The majority of individuals who were not exposed to indoor exhibits (54%) were non-compliant.

There was a significant relationship between exposure to personal contact with a park ranger and compliance [$C^2(1,4) = 8.3912, p = .0386$]. The majority of individuals who were exposed to personal contact with a park ranger (60%) were compliant with the minimum impact hiking recommendations. The majority of individuals who were not exposed to contact with a ranger (53%) were non-compliant.

Presence of children. Based on the results of a chi-square analysis, a significant relationship was found between the presence of children in the hiking party and compliance [$C^2(1,4) = 27.0396, p = .00002$]. The majority of both individuals hiking with children (59%) and without children (51%) were non-compliant. Fewer individuals with children complied with walking on rocks while off-trail, compared to individuals without children. Further, there was a significant relationship between the ages of the children in the hiking party and compliance [$C^2(1,4) = 12.9952, p = .04311$]. Although the majority of hiking parties with children of any age were non-compliant, a larger proportion of individuals with children aged five to then (72%) were non-compliant than those with children aged eleven to fifteen (60%) or under five (56%).

In summary, individuals who complied with the minimum impact hiking recommendations can be described as follows. The majority of the following groups *complied* (all relationships shown were statistically significant):

⊕ message recipients		(58%)
⊕ persons aged	16 - 20	(69%)
	31 - 40	(60%)
	41 - 65	(60%)
⊕ African Americans	(73%)	
⊕ residents of	Washington State (excluding King and Pierce Counties)	(52%)
	other states	(60%)
	foreign countries	(56%)
⊕ those hiking	alone	(76%)
	with family	(56%)
⊕ those who had fewer other people present ($\bar{x} = .60$)		
⊕ those who had fewer non-compliant people present ($\bar{x} = .18$)		
⊕ those with smaller party sizes ($\bar{x} = 3.58$)		
⊕ those who visited the	Longmire Museum	(66%)
	Paradise Visitor Center	(59%)
⊕ those exposed to	naturalist's programs	(70%)
	contact with a park ranger	(60%)
	indoor exhibits	(59%)

Individuals who did not comply with the minimum impact hiking recommendations can be described as follows. The majority of the following groups were *non-compliers* (all relationships shown were statistically significant):

⊕ message non-recipients		(64%)
⊕ persons aged	21 - 30	(57%)
	65+	(67%)
⊕ Asian Americans		(78%)
⊕ residents of King and Pierce Counties, Washington		(59%)
⊕ those hiking with	family and friends	(51%)
	friends	(53%)
	organized group tours	(94%)
⊕ those who had more other people present ($\bar{x} = 1.34$)		
⊕ those who had more non-compliant people present ($\bar{x} = .68$)		
⊕ those with larger party sizes ($\bar{x} = 4.10$)		
⊕ hiking parties with children	aged five to ten	(72%)
	aged eleven to fifteen	(60%)
	aged under five	(56%)

Conclusions and Implications

Management Implications

The intent of this study was to test the effectiveness of a verbal interpretive message in deterring off-trail hiking at Mount Rainier National Park. The most important implication of this study is that a verbal interpretive message about minimizing hiking impacts, designed to challenge individuals at various stages of moral development, is related to hiker behavior. The results of this study confirm findings of previous research that personal contact with the message deliverer is the most effective interpretive method to induce behavioral changes (Wagstaff and Wilson 1988).

Interpretation can be successfully employed to reduce off-trail hiking impacts at Snow lake. Practical interpretive methods that affect hiker behavior need to be developed and implemented. Ideally, a ranger or volunteer would be stationed at the most

heavily used trailheads to provide a message similar to the one used in this study. The appeal of personal contact and the temporal proximity of the message delivery and hike initiation should produce substantive effects on behavior.

A substitute for trailhead interpretation is the delivery of minimum impact appeals by interpreters in the visitor centers. The findings of this study show that personal contact with a park ranger influenced hikers to be more compliant. Findings suggest that visitors to some visitor centers are more likely than the entire population to be compliant. Although the exact media to which visitor center visitors were exposed is unknown, it is possible that messages provided by interpretive rangers at information desks persuaded hikers to stay on the trails. The personal contact provided by rangers delivering messages to visitors who request trail information should be effective in deterring off-trail hiking.

Other interpretive techniques, although not tested for their effectiveness during this study, should be implemented to reach those visitors who do not go to visitor centers. One such option would be to inform visitors through trailhead bulletin boards. The bulletin boards would serve as a reinforcement for individuals who received the verbal message, and the boards could provide site specific information. Trailhead bulletin boards should be visually attractive and interpretive, not mere lists of rules and regulations. The temporal proximity of this message exposure technique to hike initiation should prove to be successful. Not all hikers however will read bulletin boards, especially those who have familiarity with or have previously visited the area. Methods by which to reach local residents presents a concern.

Interpretation using brochures is another method by which to deliver minimum impact appeals. Brochures can be used to reach visitors who request trail information by mail. Communication via mail may be the only means of direct correspondence for some visitors who do not visit visitor centers. Fazio and Ratcliffe (1989) emphasize that responses to mail inquiries from the public are not being fully utilized for dissemination of resource protection information. Exposure to brochures was not related to compliance in this study. This finding is not surprising, because most visitors receive the official park map/brochure upon entering the park. The park map/brochure does not contain minimum impact hiking information. In addition, no other brochures were being utilized for minimum impact hiking information dissemination. Lucas (1981) warns that brochures may fail if the focus is too narrow, if they do not contain information about enjoying the park, or if the readers are already familiar with the topic. He also explains that visitors may not read the brochure before embarking on their hike, if the brochures are distributed at the park. Stolarz (1984) has found that brochures are less effective than other interpretive methods in some situations in encouraging desired behavior changes.

Compliance with minimum impact messages may be increased through several other strategies. Christensen and Clark (1983) explain that single solutions are rarely effective in producing minor rule compliance. Comments made by several hikers suggest that improved trail design may increase compliance. Several hikers suggested that off-trail hiking would be reduced if trails were built to good photography spots, lakeshores, overlooks, and points of interest where visitors are tempted to go. Places for hikers to stop and rest should also be incorporated into trail design. Others suggested providing a designated trail around the lake and placing boardwalks over sensitive areas. Perhaps some of the social trails could be upgraded and designated as official trails.

Additionally, improving trail markings and camouflaging social trails should encourage compliance. The existing social trail network is extensive, and creates a confusing scenario for hikers who intend to comply with minimum impact hiking recommendations. Many of these trails access the lakeshore or are trail links encircling the lake. Some social trails lead to nowhere, while others are intermittent. Hikers may experience difficulty in distinguishing between developing social trails, well established social trails, and National Park Service designated trails. A well intentioned hiker may easily be lead off-trail by following a social trail. A standardized system for designated trail marking could prevent this problem, if undesirable social trails are blocked off or masked.

Existing trail signage is problematic. A sign exists along the National park Service designated trail which reads "END OF THE MAINTAINED TRAIL - Travel Safely Causing Minimum Impact Beyond Here." The trail continues unchanged for quite a distance beyond the sign before fading. These directions are confusing to the hikers. Individuals instructed to walk on rocks when they leave the trail may believe that they should commence these minimum impact hiking practices immediately after passing the sign. This sign placement may have confused some hikers and consequently lowered compliance rates. Perhaps this sign should be moved to the actual end of the trail, and the text should remind

hikers to disperse their impacts, walk on rocks, and avoid trampling vegetation.

Recommendations for Further Research

It is desirable that the effects of interpretive messages are lasting. Further research should be conducted to determine if hikers retain minimum impact knowledge after their visit and whether the effect of the interpretive message on hiker behavior continues during other hiking trips at the park.

This study needs to be replicated in distinctly different areas of Mount Rainier National Park. Since Mount Rainier is a relatively large park, different park areas are considerably isolated from each other and may draw visitors from separate local populations. Other highly impacted day use sites deserve further investigation. The findings of this study are site specific and can not be generalized to all locations, conditions, behaviors or situations.

In addition to replicating this study at a variety of hiking sites, the study should be replicated using a variety of interpretive media. Various interpretive media need to be tested for their relative effectiveness in influencing minimum impact hiking behavior. The results of this study indicate that verbal messages are in some way related to hiker behavior; however, for logistical reasons interpreters are unlikely to be stationed at each trailhead to deliver minimum impact messages. Practical interpretive methods such as trail signage, trailhead bulletin boards, brochures informing visitors of conforming trail behavior, messages provided by hiker information center rangers, automated slide programs, indoor exhibits, and naturalist's programs should be evaluated separately and in combination to identify useful strategies to minimize recreational impacts.

Finally, naturalist's programs were identified as interpretive media which have a powerful influence on hiker behavior. It would be beneficial to evaluate why certain visitors choose to attend naturalist's programs while others do not. Park managers can learn ways of adapting current programs to better meet the needs of park visitors. Such information would be useful in marketing park programs to attract greater attendance. Increased attendance can only produce a greater proportion of informed constituents who are likely to become resource stewards -- advocates of park protection. Park naturalist's programs need to sensitively address important threats to the park's environmental quality, while providing positive solutions and practical means for the visitor to make a difference.

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