Table of Contents

Keynote Address 1

Making research more relevant: Give it a try!
David W. Lime 3

Crowding Issues in Resource Management 13

Balancing tradeoffs in the Denali Wilderness: An expanded approach to normative research using stated choice analysis.
Steven R. Lawson and Robert Manning 15

Coping, crowding and satisfaction: A study of Adirondack wilderness hikers.
Andrew K. Johnson and Chad Dawson 25

Perceived crowding at Boston Harbor Islands National Park Area.
Megha Budruk, Robert E. Manning, William A. Valliere, and Benjamin Wang 32

Transportation planning and social carrying capacity in the National Parks.
William Valliere, Robert Manning, Megha Budruk, Steven Lawson, and Benjamin Wang 36

The Role of Information in Travel Planning Decisions 41

Assessing information needs and communication behaviors of National Forest summer visitors.
James D. Absher, Brijesh Thapa, and Alan R. Graefe 43

The commodification process of extreme sports: The diffusion of the X-Games by ESPN.
Chang Huh, Byoung Kwan Lee, and Euidong Yoo 49

Marketing National Parks: Oxymoron or opportunity?
Alan K. Hogenauer 53

Demographic Trends in Outdoor Recreation Participation & Travel 61

Wildlife-associated recreation in the North Central Region: Participation patterns and management implications.
Allan Marsinko and John Dwyer 63

The New England travel market: Generational travel patterns, 1979 to 1996.
Rod Warnick 69

Welcome center research: How valuable is secondary research?
Lousia Meyer, Tara Patterson, Lori Pennington-Gray, Andrew Holdnak, and Brijesh Thapa 76

Methodology in Outdoor Recreation Research I: Interventions 79

Unique programming: An examination of the benefits of a free choice program.
Dorothy L. Schmalz, Deborah L. Kerstetter, and Harry C. Zinn 81

Outdoor experiential-based training: Motivational and environmental influences affecting outcomes.
Teresa (Birdie) High and Alan R. Graefe 85

Use of experience sampling method to understand the wilderness experience.
Lynn Anderson 92

Encounters and the guided group trip: Going "on-the-scene" to examine the situational interpretation of encounters.
Erin K. Sharpe 98

Leisure Motivations of Outdoor Recreationists 105

Differences in SCUBA diver motivations based on level of development.
Sharon L. Todd, Alan R. Graefe, and Walter Mann 107

Skier motivations: Do they change over time?
Erin White and Lori Pennington-Gray 115

Sociocultural perspectives of trapping revisited: A comparative analysis of activities and motives 1994 and 2000.
Rodney R. Zwick, Ron Glass, Kim Royar, and Tom Decker 118

Resource Management & International Tourism Development 125

The impact of potential political security level on international tourism.
Young-Rae Kim, Chang Huh, and Seung Hyun Kim 127

Future of the Korea National Parks: A preliminary Delphi study of key experts.
Byung-kyu Lee and Wilbur F. LaPage 130

User Satisfaction in Outdoor Recreation 133

A preliminary analysis of Florida State Park satisfaction survey data.
Andrew Holdnak, Stephen Holland, and Erin Parks 135

Recreationists in the Columbia River Gorge National Scenic Area: A survey of user characteristics, behaviors, and attitudes.
Robert C. Burns and Alan R. Graefe 138

Visitor satisfactions: Backcountry and wilderness users in the White Mountain National Forest.
Chad P. Dawson, Rebecca Oreskes, Frederick Kacprzynski, and Tom More 144

Participants' perceptions of the 1997-1998 Missouri State Parks Passport Program.
Yi-Jin Ye and Jaclyn Card 153

Environmental Knowledge, Concern, Behavior & Education 161

An evaluation of Appalachian Trail hikers' knowledge of minimum impact skills and practices.
Peter Newman, Robert Manning, Jim Bacon, Alan Graefe, and Gerard Kyle 163

Who cares and who acts? Different types of outdoor recreationists exhibit different levels of environmental concern and behavior.
Mario F. Teisl and Kelly O'Brien 168

Visitor behavior and resource impacts at Cadillac Mountain, Acadia National Park.
Rex Turner and Wilbur LaPage 175

Leisure Constraints of Outdoor Recreationists 181

The effects of perceived leisure constraints among Korean university students.
Sae-Sook Oh, Sei-Yi Oh, and Linda L. Caldwell 183

Exploration of the influence of self-efficacy on recreation participation levels of individuals with visual impairments who use dog guides.
Laurlyn K. Harmon and Linda L. Caldwell 188

Urban Recreation & Development Issues 193

An integrative concept for visitor monitoring in a heavily used conservation area in the vicinity of a large city: The Danube Floodplains National Park, Vienna.
Arne Arnberger, Christiane Brandenburg, and Andreas Muhar 195

Linkages in the use of recreation environments across the urban to ex-urban spectrum by urban residents.
John F. Dwyer and Susan C. Barro 202

The role, use and benefits of natural recreation areas within and near residential subdivisions.
Christine A. Vogt and Robert W. Marans 208

Economic Impacts & Non-economic Benefits of Tourism 215

New York State's 1999 agritourism business study.
Diane Kuehn and Duncan Hilchey 217

Rail-trails and special events: Community and economic benefits.
Charles Nelson, Christine Vogt, Joel Lynch, and Daniel Stynes 220

Private business perceptions of transportation issues and the Island Explorer Bus system at Acadia National Park, Maine.
Rea Brennan, Marc Edwards, and John J. Daigle 225

Management Decision-making & Planning for Outdoor Recreation 231

Integrating resource, social and managerial indicators of quality into carrying capacity decision making.
Peter Newman, Robert Manning, and Bill Valliere 233

Redefining roles of science in planning and management: Ecology as a planning and management tool.
Greg Mason and Stephen Murphy 239

Impacts of Wildlife Viewing 247

Elk viewing in Pennsylvania: An evolving eco-tourism system.
Bruce E. Lord, Charles H. Strauss, and Michael J. Powell 249

Competing values: A case study of Pennsylvania's elk herd as a tourism attraction.
Jeffrey A. Walsh and Leonard K. Long 253

Impacts of wildlife viewing at Dixville Notch Wildlife Viewing Area.
Judith K. Silverberg, Peter J. Pekins, and Robert A. Robertson 260

Methodology in Outdoor Recreation Research II: Instruments & Methods 267

Effects of pretesting with the adventure recreation model instrument.
Anderson Young, Lynn Anderson, and Dale Anderson 269

Modeling nonlinear preferences.
Donald F. Dennis 275

Personal Relevance, Involvement & Loyalty in Outdoor Recreation 279

Psychological commitment as a mediator of the relationship between involvement and loyalty.
Joohyun Lee and Alan Graefe 281

Gender Issues in Outdoor Recreation & Resource Management 289

Older Chinese women immigrants and their leisure experiences: Before and after emigration to the United States.
Ching-Hua Ho and Jaclyn A. Card 291

Towards an understanding of gender differences with respect to whitewater rafting preferences.
Duarte B. Morais, Traci Zillifro, and Susanne Dubrouillet 298

Trails over Land & Water: Issues of Multiple Use & Conflict 305

Use and user patterns among Michigan licensed Off-Highway Vehicles ownership types.
Joel A. Lynch and Charles M. Nelson 307

Recreation conflict of riparian landowners with personal watercraft and motorboat use along the New York's Great Lakes.
Cheng-Ping Wang and Chad P. Dawson 314

User preferences for social conditions on the St. Croix International Waterway.
Jamie Hannon, John J. Daigle, and Cynthia Stacey 320

Security along the Appalachian Trail.
James J. Bacon, Robert E. Manning, Alan R. Graefe, Gerard Kyle, Robert D. Lee, Robert C. Burns, Rita Hennessy, and Robert Gray 326

Trails research: Where do we go from here?
Michael A. Schuett and Patricia Seiser 333

Attachments to Places & Activities in Outdoor Recreation 337

Visitor meanings of place: Using computer content analysis to examine visitor meanings at three National Capitol sites.
Wei-Li Jasmine Chen, Chad L. Pierskalla, Theresa L. Goldman, and David L. Larsen 339

The importance of visitors' knowledge of the cultural and natural history of the Adirondacks in influencing sense of place in the High Peaks Region.
Laura Fredrickson 346

Attachments to places and activities: The relationship of psychological constructs to customer satisfaction attributes.
Thomas D. Wickham and Alan R. Graefe 356

An exploration of human territoriality in forest recreation.
Harry C. Zinn, Laurlyn K. Harmon, Brijesh Thapa, Deborah L. Kerstetter, and Alan R. Graefe 365

Community attachment and resource harvesting in rural Denmark.
Rodney R. Zwick and David Solan 369

Poster Session 375

The political economy of wilderness designation in Nova Scotia.
Glyn Bissix, Leah Levac, and Peter Horvath 377

The Westfield River Watershed Interactive Atlas: Mapping recreation data on the Web.
Robert S. Bristow and Steven Riberdy 383

Park resources as an essential to urban societies.
Kristin Dion, Doug Stefancik, Serena Hawkins, and Robert Bristow 386

Parks and recreation employment status: Implications from a civil service perspective.
Joel Frater and Arthur Graham 390

Natural resources interpretation: The role of researchers – A new-old approach.
Mark Gleason 395

Mountain bike trail compaction relation to selected physical parameters.
Jeff Hale and Rodney R. Zwick 399

Internet & branding: A perfect match or a fatal attraction? Analysis of fifty states of the U.S. official tourism websites.
Gyehee Lee, Liping A. Cai, Everette Mills, and Joseph T. O'Leary 403

Job satisfaction among recreation practitioners.
Erin Parks and Andrew Holdnak 411

Extensity and intensity of grants usage in obtaining funding for recreation services and capital improvement projects among park and recreation agencies in the state of Michigan.
Jerry L. Ricciardo 415

Resident camp directors, spirituality, and wilderness.
Michael Rule and Edward Udd 418

Social groups preferences relation to motivations and ability levels of whitewater kayakers.
Seth Turner and Rod Zwick 421

Management Presentation 427

Human preferences for ecological units: Patterns of dispersed campsites within landtype associations on the Chippewa National Forest.
Lisa Whitcomb, Dennis Parker, Bob Carr, Paul Gobster, and Herb Schroeder 429

Roundtable Discussions 435

Creating recreation partnerships on private agricultural and forest land in the urban Northeast: A case study from the Great Meadows of the Connecticut River.
Robert L. Ryan and Juliet Hansel 437

Applied research opportunities in developed campgrounds.
Carl P. Wiedemann 443

Adapting the Recreation Opportunity Spectrum (ROS) for states lands planning.
Susan Bulmer, Linda Henzel, Ann Mates, Matt Moore, and Thomas A. More 447

It's time to put the C.A.R.T. before the H.O.R.S.E. or Putting Critical, Analytical, and Reflective Thinking before "Handyman" Oriented Recreation Student Education.
David L. Jewell 452

Index of Authors 457

Resource Management & International Tourism Development

THE IMPACT OF POTENTIAL POLITICAL SECURITY LEVEL ON INTERNATIONAL TOURISM

Young-Rae Kim

Chang Huh

Seung Hyun Kim

Ph.D. Candidates in Park, Recreation, and Tourism Resources, Michigan State University, 172 Natural Resources Building, East Lansing, MI 48824

Abstract: The purpose of this study was to investigate the impact of potential political security in an effort to fill in two foregoing research gaps in international tourism. To investigate the relationship between political security and international tourism, a simple regression model was employed. Secondary data were collected from a variety of sources, such as international tourist arrivals (130 countries) from Statistical Yearbook of Tourism by World Tourism Organization and their political security index from Euromoney aggregated by polling risk analysts, risk brokers and bank credit officers. The result found that the regression coefficient of political security turned out to be statistically insignificant (p=0.23). Only 9 % of total variance in international tourist arrivals is explained by the political security. However, according to the scatter plot, the outlier clusters of 18 underestimated countries and 5 overestimated countries revealed important patterns explained in terms of the political security.

Introduction

The impact of political security on international tourism has been the concern of some researchers (Lea, 1996; Wall, 1996; Bar-On, 1996; Mansfeld, 1999). It is commonly assumed that international tourists consider their personal safety along with travel costs and availability of information when they choose an international destination. The studies indicated that a nation's political insecurity led to a decrease in the number of international tourist arrivals. Two limitations were observed in these studies. First is that only small number of countries was used for the studies. Secondly, the meaning of political security was applied in a sense of the extreme case expressed by terrorism and international wars. The purpose of this paper, therefore, is to close two research gaps: applying global distribution of international tourists, and investigating the impact of potential political security, which is defined as political instability and perceived threat to tourist safety on international tourism.

Data and Model

Data were obtained from two sources. International tourist arrivals were obtained from the Statistical Yearbook of Tourism published by World Tourism Organization. Data for political security were obtained from Euromoney distributed by Euromoney. A political security index was made by polling risk analysts, risk brokers and bank credit officers. They were asked to give each country a score between 10 and zero. A score of 10 indicated no risk of non-payment, meaning no political risk; zero indicated that there was no chance of payments being made, meaning heavy political risk (Euromoney, 1997). A total of 150 countries, which were successful in reporting both number of international tourists arrivals and political security index, was used for the analysis. To investigate the relationship between political security and international tourism, a simple regression model was employed as follows:

$$1)\ Y = \alpha + \beta X_1$$

Where Y is growth rate of international tourist arrivals (94 – 97)

X is change rate of political security index (94 –97)

α is a constant

β is X_1 regression coefficient

Result

The results found that firstly, potential political security had no impact on the flow of international tourist arrivals. The regression coefficient of the political security turned out statistically insignificant (p=0.23). Secondly, the political security only accounts for 9% of variance of international tourists arrivals (R-Square = 0.09). However, the scatter plot shows the patterns of the cluster of underestimated countries and overestimated countries, which decrease the goodness of fit in the regression line.

To identify the outliers countries, the standardized residual of the regression coefficients were transformed into Z scores. Upper 10 percentile, which represents underestimated countries, and lower 10 percentile, which represents overestimated countries, were extracted. With exclusion of 6 outliers countries, the model increased the explanatory power by 15% (R-Square 1.49). Also political security turned out to be a statistically significant variable in explaining the flow of international tourists.

International Tourist Arrivals = 0.212 + 0.503 (Political Security Index)
(t=4.79)

However, some need for explanation remains. Since data used for the study are actual numbers reported from each country, we could not easily set aside these countries as outliers. On the assumption that countries report accurate number of international tourist arrivals to the WTO, these countries should be considered as a unique set or cluster, which reveals the complexity for the nature of international tourists' response to political security, rather than statistical outliers.

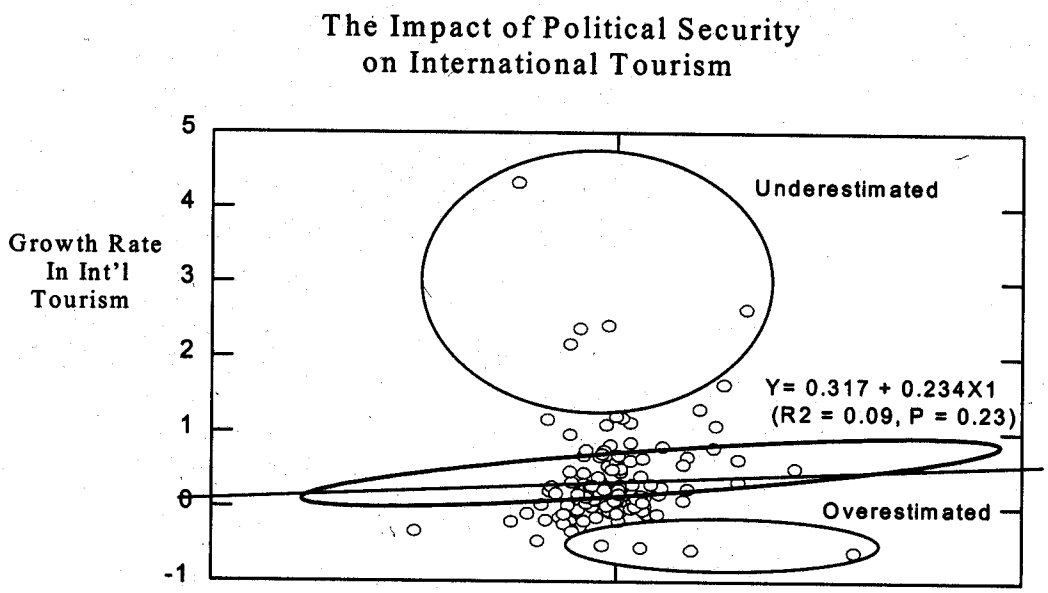


Figure 1. Change Rate in Political Security

Overestimated Countries	Underestimated Countries
Chad(-1.61), Sao Tome(-1.95),	Cuba (3.44), Mali(3.55), Nigeria(3.12), Sudan(6.75),

Note: Underestimated countries are those which have increases in the Number of International Tourist Arrivals in spite of decreases in Political Security Index. Overestimated countries are explained as countries which have decreases in the Number of International Tourist Arrivals but increase in Political Security Index.

Conclusion

Does political security really matter to international tourism? The potential political security of the countries has a positive function of international tourist arrivals among 144 countries, which were apparently significant number of the countries. However considering 6 countries are not properly estimated by political security, brought ambiguous response. Since the political security in the study refers to a degree of "potential political risk" existing in the countries, international tourists might have acceptable tolerance of political insecurity in a case where the attractiveness of the destination is greater than political insecurity. Second, the number of international tourist arrivals could have a different meaning in relation to the potential political risk. For example, pleasure travelers and business travelers would be different in their sensitivity to the political risk than business traveler does. Therefore, the specification of international tourist arrivals would help decrease the ambiguity. In spite of the partial interpretation, the discussion of Hall and O'Sullivan (1996) provides insight into this complicated phenomena: "The sheer scope of the implication of political violence for tourism requires a far more sophisticated understanding of the nature of the international traveler's response to political instability and perceived threats to tourist safety than has hitherto been the case" (Hall and O'Sullivan, 1996, p. 118). The potential political risk of the countries is not always a constraint of international tourists to overseas. It is well documented that the temporary impact of terrorism, international war, or civil war is significant factors that can dramatically decrease the number of international tourists (Lea, 1996; Ioannides, 1999; Wall, 1996; Bar-On, 1996; Mansfeld, 1999).

References

Bar-On, R. R. (1996.) Measuring the effects on tourism of violence and of promotion following violent acts. In P. Abraham & M. Yoel (Eds.), Tourism, crime and international security issues. New York: John Wiley & Sons.

Euromoney. (1994). Euromoney. Euromoney Publication.

Euromoney. (1997). Euromoney. Euromoney Publication.

Hall, M., & O'Sullivan, V. (1996). Tourism, political stability and violence. In P. Abraham & M. Yoel (Eds.), Tourism, crime and international security issues. New York: John Wiley & Sons.

Ioannides, D. (1999). Political instability, war and tourism in Cyprus: Effects, management, and prospects for recovery. Journal of Travel Research, 38(1), 51-56.

Lea, J. (1996). Tourism, realpolitik and development in the South Pacific. In P. Abraham & M. Yoel (Eds.), Tourism, crime and international security issues. New York: John Wiley & Sons.

Mansfeld, Y. (1999). Cycles of war, terror, and peace: Determinants and management of crisis and recovery of the Israeli tourism industry. Journal of Travel Research, 38, 30-36.

Smith, G. (1999). Toward a United States policy on traveler safety and security: 1980-2000. Journal of Travel Research, 38, 62-65.

Wall, G. (1996). Terrorism and tourism: An overview and an Irish example. In P. Abraham & M. Yoel (Eds.), Tourism, crime and international security issues. New York: John Wiley & Sons.

World Tourism Organization (WTO). (1994). Statistical Yearbook of Tourism. Author.

World Tourism Organization (WTO). (1997). Statistical Yearbook of Tourism. Author.

FUTURE OF THE KOREA NATIONAL PARKS: A PRELIMINARY DELPHI STUDY OF KEY EXPERTS

Byung-kyu Lee

Ph.D. Candidate in Parks, Recreation & Tourism, University of Maine, 5769 So. Annex B, Orono, ME 04469-5769

Wilbur F. LaPage

Assistant Professor of Parks, Recreation& Tourism, University of Maine, 215 Nutting, Orono, ME 04469-5755

Abstract: A preliminary Delphi survey of a panel of key experts who are very knowledgeable of Korean national parks was conducted between February and March in 2001. Park professionals, environmental NGO directors, interested citizens, and retirees identified issues facing the Korean park system (Wave1). Findings from wave 1 of the survey provided the baseline for a series of Delphi waves in order to assess the future roles of the Korean national park system in protecting biodiversity and promoting tourism.

Introduction

Stated as preservation and use, the relationship between the threats to national parks and the potential resolutions of these threats are intertwined. Thus, identifying what are the threats to national parks and what can be done about them are critical questions (Machlis and Tichnell, 1985). Every national park system faces the dilemma of managing for long-term preservation of its assets and the short-term economic benefits of park use and tourism. Both the long- and short-term needs are vital for the nation; yet park systems are expected to resolve these national priorities with severely limited staffs and budgets.

This paper reports on the first part of a Delphi survey, which will suggest a model to help park professionals carry out the objectives of the Korean National Parks Authority (KNPA). More than three decades ago, Ruhle (1968) suggested a future Korean national park system should have clear master plans stating the significance of each area and listing its outstanding features. Such plans should specify the policy to be followed, the objectives to be pursued, and an outline for orderly development. Each potential national park area should be considered and plotted as an individual unit, thus avoiding a monotonous repetition, which might threaten Koreans' feelings of uniqueness. However, his most critical recommendation was that the national parks should be administered on a national level. For instance, if a forestry bureau were to be charged with the administration of such areas, it might include the desire to harvest timber, regardless of the degree of care and skill. Therefore, the care of the national parks should be vested in a ministerial or other high government rank that would have the greatest understanding and sympathy for park standards and goals. The agency should have the authority and means for sound administration (Ruhle, 1968).

Currently, there are 20 national parks in Korean national park system. As in all park systems, insufficient money and time for park management reflect the major current threats, along with over-development to the system. The status of KNPA is a trustee organization under the auspices of Ministry of Environment, thus employees of the KNPA are non-governmental. The system suffers from an inconsistency of relevant laws. Another unique attribute of Korean parks is their landownership (43% of total park lands are owned by private owners or Buddhist temples that are located in major park areas).

Methodology

In order to develop a likely array of future directions for Korean national parks over the next decade, a panel of knowledgeable experts on the system was asked for their forecasts based on current and past trends in park management, philosophy, legislation, public attitudes, and funding. The Delphi technique offers a way to systematically combine expert knowledge and opinion to reach an informed group consensus about the likely occurrence of future events (Moeller & Shafer, 1989). The assumption of this method is that although the future is uncertain, individuals able to make informed judgments about future contingencies can approximate probabilities of the future. The method is intended to provide a general perspective on the future rather than a sharp picture. It replaces direct open debate with an iterative series of questionnaires, with each subsequent series of questionnaires containing information gathered from those preceding it. Borrowing from Moeller' and Shafer's explanation, the steps of the method consist of (1) identifying the relevant event -- in this study, problems of park management in Korea, (2) preparing clear and precise statements, (3) selecting panelists from the area of expertise suggested by the problem, and (4) mailing questionnaires in at least two waves. Other rounds may be necessary until a consensus begins to emerge.

In this preliminary phase, a panel of 36 Korean park professionals, retirees, interested citizens, and environmental NGO directors was requested to identify current major problems the Korean parks face. The panel members were selected by two different procedures: first 27 members were chosen through a literature review, a list consisting of 90 park professionals provided by Korea National Parks Authority (KNPA), an expert's recommendation on the KNPA list and supplementary list, a Ministry of Environment's recommended list, and two NGO groups' supplementary lists. In addition, 9 more members were added to the panel after the first 27 members recommended them as panelists.

Preliminary Findings

In the wave one, 18 out of 36 members responded. The mean familiarity score of this group is 3.94, on the 5 point Likert scale, where 5 is "extremely familiar" with the Korean park system (Figure 1).

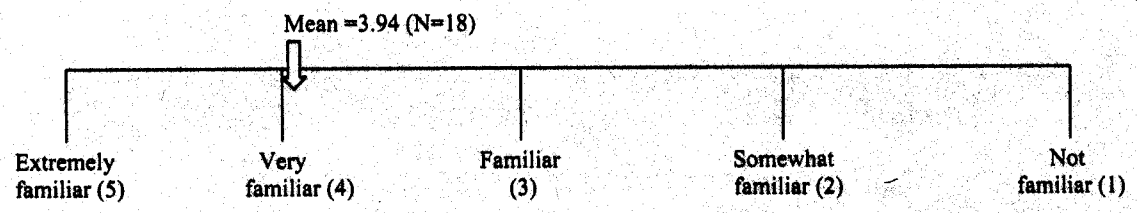


Figure 1. Respondents' Familiarity with the Korean Park System/Management/Policy

Table 1 shows the issues identified by the respondents. These 47 major issues are organized into 3 clusters: park philosophy/policy, park organization/management, and park visitation/visitor needs.

Further Study

In further waves, follow-ups on their converging and diverging opinions will be used in an attempt to develop consensus on what is likely to happen, what should happen, and what facilitating measures need to be taken to ensure a viable park system during the first decade of the new millennium. Finally, the panel's recommendations will be compared with the evolution of other national parks systems from selected nations in Asia and North and Central America.

Literature Cited

Machlis, G., & Tichnell, D. (1985). The state of the world's parks. Boulder, CO: Westview Press.

Moeller, G., & Schafer, E. (1987). The Delphi technique: A tool for long-range tourism and travel planning. In J. Ritchie & Goeldner (Eds.), Travel, tourism, and hospitality research (pp. 417 – 422). New York: John Wiley & Sons.

Ruhle, G. (1968). Advisory report on National Parks and Reserves for the Republic of Korea in 1966 (Special Pub. No. 20). New York: American Committee for International Wildlife Protection.

Table 1. Identified Issues by the Panel

PROBLEMS DESCRIBED
Park Philosophy/Policy
The Korea National Parks Authority and the central government's lack of national park idea
Conflict between preservation and use
Paradigm shift (need to consider national parks as preservation/educational places)
Land ownership (unlike the U.S. & Canadian park systems, 20% of Korean parks are private land)
Management control over parks (possibility of conflict between central and local governments)
In order to emphasize conservation, need of amending "natural parks law"
Inconsistent management system in KNPA (due to rapid turn-over of officials in Min. Of Environment)
Inconsistency/overwrap of relevant laws
Need to establish state-run "national park bureau"
Organizational inflexibility of KNPA
Need to reclassify national parks on the basis of preservation/ecosystem values involved
Lack of policy regarding cultural resources such as eco-villages and Buddhist temples
Development pressure/ attempts in park area
Attempt of building cable car system in park area
Lack of inventory (ecosystem, infrastructure, etc)
Increased degradation of resources in park area/visitor impacts on natural environment
Insufficient protection for ecosystem
Lack of central government active role on natural resources
Infringement on private property right in park area (which causes civil appeal)
Entrance fee including separate admission fee for cultural assets (buddhist temples)
Conflict with buddhist temples, which are located in major park areas
On-going construction/renovation in buddhist temples in park areas
Park Organization/Management
Under-budgeting
Lack of knpa control over its budget
Understaffing
Lack of expertise in knpa
Problem of political appointment of knpa chairman
Lack of standards in conservation
Inconsistent management of ecosystem
Knpa and central government's lack of understanding national park management
Lack of management direction/goals/objectives; lack of long-term view in management
Unlawful facilities in park area
Unplanned development and facility deterioration in "mass facility zone" in park area
Financial difficulty of business in "mass facility zone"
Problem of zoning
Poaching and illegal picking (due to lack of law enforcement)
Park Visitation/Visitor Needs
Lack of public relations/education on ecosystem
The general public's awareness/views of park purpose
Inappropriate/insufficient interpretation programs
General public's low awareness of national parks
Need to provide more environmental education programs
Lack of visitor management
Need to provide good quality of recreation experience
Need to guide visitors to non-disturbing behavior
Insufficient service/educational facilities for visitors
Lack of character distinction between parks
Lack of providing tourism opportunity (on-hand educational experiences in nature and culture)

User Satisfaction in Outdoor Recreation

A PRELIMINARY ANALYSIS OF FLORIDA STATE PARK SATISFACTION SURVEY DATA

Andrew Holdnak

Associate Professor, Western Illinois University, 400 Currens Hall, Macomb, IL 61455

Stephen Holland

Associate Professor, University of Florida, 325 Florida Gym, P.O. Box 118208, Gainesville, FL 32611

Erin Parks

Graduate Student, University of Florida, 325 Florida Gym, P.O. Box 118208, Gainesville, FL 32611

Abstract: This study is part of a five-year quality review process for Florida State Parks. It attempts to document the feelings visitors have about the parks they visit. The preliminary findings are very similar to results found in a similar study conducted in 1995 in which high levels of overall satisfaction were found. Despite high levels of overall satisfaction there were some significant differences found between some user groups.

Introduction

In 1994/95, the Florida Department of Environmental Protection, Division of Recreation and Parks undertook the first comprehensive study of visitors to Florida State Parks, State Recreation Areas and Special Feature Areas. The purpose of the project was to determine visitor satisfaction with Florida State Parks and evaluate the quality and effectiveness of the Florida State Park System. Research staff from the Leisure Services and Studies Program at Florida State University conducted the study.

In 2000, researchers from the University of Florida, Department of Recreation, Parks and Tourism, Center for Tourism Research and Development implemented a research project to continue the evaluation of visitor satisfaction at Florida State Park operations. This five-year review is part of an ongoing process to understand how users feel about the Florida State Parks. Modeled generally on the 1994/95 project, this study attempted to add a greater understanding of issues important to Florida State Park visitors and the Florida Park Service by adding questions to learn more about the visitation, dining and information gathering patterns of visitors to Florida State Parks. Questions were also asked to determine what roles visitors felt that parks should play as public resources.

In revisiting visitor satisfaction issues after five years, it is important to note a number of conditions that have changed:

1. The number of visitors and the number of facilities operated by the Division increased substantially.
2. Technology such as the World Wide Web emerged as a major method of communicating information.
3. The Division embarked on a major Eco-tourism initiative, as environmental tourism and heritage tourism became two of the fastest growing types of tourism worldwide.
4. The Division is developed new administrative rules to permit pets is some Florida State Park campgrounds.
5. Research models for visitor satisfaction are more sophisticated as issues of service quality, price/value and customer loyalty were further developed

Purpose

This study, modeled generally on the 1995 study, attempts to add a greater understanding of issues important to Florida State Park visitors and the Florida Park Service. Of particular interest are comparisons between the 1995 and 2000 study and comparisons of satisfaction scores between different user groups visiting the parks.

Methodology

In order to insure comparability with the previous study, the basic methods and survey instrument were the same. Twenty-five locations throughout the state were selected to take part in the study. A stratified random sample, stratified by type of operation (state park, state recreation area, and state special use area) and management regions was developed.

Selected parks were sampled 4 times during the year 2000 (January, April, July and October). The week prior to the beginning of each survey month, managers were shipped boxes containing 400 survey instruments (consisting of the questionnaire and a return envelope). Each park distributed a total of 1,600 questionnaires throughout the year with a total of 40,000 questionnaires distributed throughout the system during the yearlong period.

Park personnel were asked to distribute survey packets to visitors as they entered the park during each survey period. Staff members were asked to distribute a maximum of 40 studies per day from the initiation of the survey period until all survey forms were been distributed regardless of the number of days required.

Questionnaire

Similar to the previous study, the questionnaire was completed by the respondent and returned to the researchers using postage paid return envelopes. The questionnaire was developed with input from the Division of Recreation and Parks and was comparable to the previous study. Questions were also developed to learn more about the visitation, dining and information gathering patterns of visitors to Florida State Parks.

The questionnaires were printed on a computer scan able form. Questions were generally forced choice questions with respondents indicating their answers by darkening in ovals next to selected items. There were no open-ended questions on the survey though respondents were encouraged to add any additional comments on separate paper.

Results

Overall, 5,162 visitors to the Florida State Parks took time to return completed and usable surveys. This represents an estimated return rate of 12.9% if all questionnaires were actually disbursed. Under this methodology, no attempt was made to determine how many surveys each park actually passed out each quarter.

Respondents

As seen in Table 1, about 65% of the respondents were Florida residents though the largest group was from outside the county of the park. The most common age group reported was 45- 64 years of age with about reporting incomes between $30,000 and $60,000. Visitors were primarily Caucasian with only 6.1% of the respondents being minorities.

General Satisfaction Scores

Respondents were asked to rate their level of agreement with 12 general statements about their most recent visit to a Florida State Park. Response categories were: 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", 5 = "Strongly Disagree". Thus, in this section, the lower the number, the more strongly respondents agree with the statement.

As seen in Table 2, the General satisfaction Scores indicate a high level of agreement with the statements made about the parks. In this table, responses have been sorted in ascending order so that the items most strongly supported are listed on the top of the table and the items least strongly supported are listed toward the bottom of the table. It should be noted that all items averaged 1.85 or less which indicates that, on average, all items were ranked between "Strongly Agree" and "Agree". When comparing the 1995 scores to the 2000 scores, slight improvements were noticed in all areas except one: "The park is adequately staffed." In this case, scores dropped from 1.67 to 1.85.

Respondents feel most strongly that the natural and cultural features of the park are worth protecting (1.15), and that they would like to visit the park again (1.40) and they are satisfied with their visit (1.43). They feel least strongly that "The park is adequately staffed" (1.85), "The cultural and historical features are managed appropriately" (1.76) and "Overall, the park fees are fair" (1.70).

Table 1. Description of Respondents

Residence	Count	%
Fl County w/ Park	1164	23.4
Fl County w/o Park	2089	42.0
Other US State	1497	30.1
Canada	115	2.3
Intl Not Canada	108	2.2
Total	4973	100.0
Age	**Count**	**%**
18 - 24	167	3.4
25 - 44	1595	32.2
45 - 64	2148	43.4
65 Plus	1043	21.1
Total	4953	100.0
Ethnicity/Race	**Count**	**%**
Caucasian	4306	93.9
Hispanic	106	2.3
African American	20	.4
Asian	27	.6
Other	129	2.8
Total	4588	100.0
Income	**Count**	**%**
Less than $15,000	168	3.8
$15,001 to $30,000	664	15.1
$30,001 to $45,000	973	22.2
$45,001 to $60,000	996	22.7
$60,001 to $75,000	570	13.0
More than $75,000	1015	23.1
Total	4386	100.0

Table 2. General Satisfaction Scores

Comment	1995 Report	2000 Report
Natural and cultural features of the park are worth protecting	1.16	1.15
I would like to visit this park again	1.45	1.40
Overall, I am satisfied with my visit	1.51	1.43
Staff was courteous & friendly	1.48	1.46
I feel safe in this park	1.67	1.49
Visit was well worth the money I spent	N/A	1.50
Staff members were prompt and helpful	1.55	1.51
Natural features of the park are appropriately managed	1.67	1.59
The weather was good during my visit	1.83	1.59
Overall, the park fees are fair	N/A	1.70
Cultural and historical features are managed appropriately	N/A	1.76
Park is adequately staffed	1.67	1.85

Comparisons between Groups

When comparisons were made between different user groups, several interesting findings were discovered. When comparing residents and non-residents, there were significant differences between groups on every variable. In each case, residents were more satisfied than non-residents.

When comparisons were made between satisfaction scores by race/ethnicity several differences were found (Table 3). "African Americans" and "Others" were least likely to feel that the natural and cultural features of the park were worth protecting. "African Americans" and "Others" were least likely to feel that the natural features were being appropriately managed while Asians were least likely to feel that the cultural/historic features were being appropriately managed.

"African Americans" and "Others" were also least likely to feel that the park fees were fair, the park was adequately staffed, and the visitor was worth the money. African Americans and Hispanics were least likely to feel that the staff was courteous and friendly.

Discussion

Overall, the General Satisfaction Scores for the Florida State Parks are very good. There were high levels of agreement with all the positive statements made about the parks. People felt most strongly that the natural and cultural features of the parks were worth preserving and that they would like to visit the park again. When comparing the scores from this study to those from 1995, the general evaluation scores improved in every case except one.

The findings that respondents are less satisfied with staffing levels in 2000 is important to Florida State Park administrators. During the Summer of 1999, under the direction of Governor Jeb Bush, state administrators were requested to develop plans to reduce the size of all state agencies by 25% over a 5 year period. This plan is to include all state parks. Administrators are faced with a dilemma – on one hand, public satisfaction with staffing levels was already dropping before the mandate – on the other hand, there is strong pressure from the governor to make additional cuts.

Though state park visitors seemed quite pleased with the parks, there were some variations depending upon user group This points out that the Florida State Parks are attractive to several constituencies and management plans should consider all groups. However, there are some potential challenges for park management in meeting the needs of minorities, particularly African Americans.

Reference

Beeler, C., Fletcher, D., & Fletcher, H. (1995). Florida State Parks Visitor Study: Final Report (Unpublished Tech. Rep.). Florida Department of Environmental Protection, Division of Recreation and Parks.

Table 3. Differences in Satisfaction Scores by Race/Ethnicity

Comment	Caucasian	Hispanic	Afr. Amer	Asian	Other
Natural and cultural features of the park are worth protecting	1.13	1.20	**1.35**	1.04	**1.37**
Natural features of the park are appropriately managed	1.58	1.48	**1.75**	1.37	**1.78**
Cultural/historical features are managed appropriately	1.75	1.80	1.75	**1.46**	2.07
Overall, the park fees are fair	1.69	1.65	**1.85**	1.26	**1.98**
The park is adequately staffed	1.84	1.87	**2.16**	1.62	**2.01**
Visit was well worth the money I spent	1.49	1.48	**1.80**	1.15	**1.67**
Staff was courteous & friendly	1.45	**1.56**	**1.75**	1.19	1.49

Note: All variables mentioned are significant at the .05 level or greater

RECREATIONISTS IN THE COLUMBIA RIVER GORGE NATIONAL SCENIC AREA: A SURVEY OF USER CHARACTERISTICS, BEHAVIORS, AND ATTITUDES

Robert C. Burns

Assistant Professor, Recreation, Parks & Tourism, 300 Florida Gym, University of Florida, Gainesville, FL 32611

Alan R. Graefe

Associate Professor, Leisure Studies Program, School of Hotel, Restaurant & Recreation Management, 201 Mateer Building, The Pennsylvania State University, University Park, PA 16802.

Abstract: The U.S. Forest Service has begun a comprehensive recreation research effort designed to understand visitor use patterns, satisfaction levels, and economic expenditures of forest recreationists. This study examines four categories of variables (socio-demographic, recreation experience, economic expenditure, and customer satisfaction) across a set of five independent variables (type of site, stratum, survey period, state, and season) for the Columbia River Gorge National Scenic Area. The greatest differences were noted for the socio-demographic variables, place attachment variables, and motivations for visiting. Fewer differences were noted across the satisfaction, management preference, and economic expenditure variables.

Introduction

In 1999 the USDA Forest Service (USFS) initiated a national research effort designed to understand recreation use patterns in every national forest across the United States. The National Visitor Use Monitoring (NVUM) study will evaluate one-quarter of the national forests each year. The primary purpose of this study is to provide managers with the number of visitors using USFS facilities and lands. Initial indications are that the USFS will continue to rotate each of the forests through the NVUM study every four years, thus providing a longitudinal study that will facilitate managers' decision making abilities when integrated with new and existing management plans. The Columbia River Gorge National Scenic Area (CRGNSA) was one of the initial National Forest units to undergo the NVUM process. On-site sampling was conducted in the CRGNSA to examine recreational use patterns, satisfaction levels, economic expenditures, and visitors' perceptions of place attachment, motivations to visit, and management preferences.

Market segmentation as a method of managing different recreation users has been recommended by many recreation researchers (Graefe, 1981; Andereck & Caldwell, 1994). For example, users' gender and age have been shown to be valid predictors of perceived park safety (Westover, 1984). Absher and Lee (1981) noted that visitor characteristics and prior experience had an effect on perceptions of crowding in a National Park. Absher, Howat, Crilley, and Milne (1996) measured visitor use characteristics at sporting events and leisure centers in Australia and New Zealand, demonstrating that customer characteristics such as gender, age, and disability status impacted overall satisfaction levels of users. This study also revealed visit characteristics that showed specific market segments of visitors with significantly different levels of satisfaction.

Description of Study Site

The Columbia River Gorge National Scenic Area is located along the Columbia River, straddling the borders of Oregon and Washington. The CRGNSA encompasses an 80-mile length of land and water along the Columbia River, running from Reed Island, just east of Troutdale, Oregon and Washougal, Washington to Miller Island, near The Dalles, Oregon. The CRGNSA is made up of the natural gorge of the Columbia River, and is one of the Pacific Northwest's most unique outdoor recreation areas, with a plethora of outdoor recreation activities offered in many different settings. The CRGNSA is the only sea level east-west break in the Cascade Mountain Range, providing very strong winds that facilitate superb sail boarding opportunities. The CRGNSA is host to over 120 scenic waterfalls and hiking trails, and includes one of the nation's first scenic highways.

Survey and Analysis Methods

The survey instruments used in this study were designed by the USDA Forest Service's Southeast Research Station for nationwide application. Three different survey versions were used to query visitors about their visitor use patterns, demographics and trip characteristics, satisfaction levels, and economic expenditures. The three instruments included a *basic version* (visitor use patterns, demographics, and trip characteristics); *satisfaction version* (basic version plus importance/satisfaction and crowding indicators); and an *economic version* (basic version plus trip expenditure measures). A short on-site *experience addition* was added for the CRGNSA study. The experience version queried visitors about their sense of place, motivations for recreating in the CRGNSA, management preferences, and so forth.

Data collection followed the protocol for the national (NVUM) study. An onsite face-to-face interview was used to obtain feedback from a sample of recreationists in the CRGNSA. The onsite survey took approximately 5-10 minutes to complete, depending on the version of the instrument that was used in the interview. Approximately one-half of the visitors were interviewed with the basic version/experience addition, while one-quarter received the satisfaction version and one-quarter received the economic version. Sampling was conducted according to a random sampling plan developed by the NVUM national office, and included approximately 200 days of interviewing during the period January 1 to December 31, 2000. A total of 1282 onsite surveys were completed, resulting in a participation rate of 95.5%.

For the purposes of this paper, we compared socio-demographic information, satisfaction levels, economic

expenditures, and experience perceptions across several independent variables. These variables included the *type of survey site* (general forest area versus developed area), *use stratum* (high, medium, or low use as determined by area resource managers), *survey period* (morning or evening), *state* the respondent was interviewed in (Oregon or Washington), and *season* (data were broken down into the four established seasons).

Visitor Demographics and Trip Characteristics Results and Discussion

The majority of visitors interviewed for this study (60.4%) were married, and almost two-thirds (62.9%) were males. The mean age of study respondents was 43 years old, and almost half (47.1%) reported an income of between $40,000-70,000 for the 1999 tax year. This group of respondents was highly educated, with almost one-third (32.4%) reporting education beyond a bachelor's degree, and 35.5% reporting that they completed a bachelor's degree. Only 13.5% of the respondents indicated that they had a high school degree or less.

About half of the interviews (52.8%) took place during an 8:00 am--2:00 pm shift, with the remainder during the 2:00 pm--8:00 pm shift. Interestingly, the majority of the respondents reported that the Columbia River Gorge was their primary destination, and only 14.5% indicated that they were visiting the area for the first time. Columbia River Gorge National Scenic Area visitors were most likely to be interviewed in family groups (40.7%), in groups consisting of friends (25.8%), or family and friends (14.5%).

Numerous significant differences emerged when the socio-demographic and trip variables were compared across the five independent variables (Table 1). The season variable showed the greatest number of differences across the trip characteristics and socio-demographics, with seven of the 10 dependent variables showing significant differences. Five of the variables differed by state, and four differed by type of site at which the respondent was surveyed. No variables showed significant differences across all five independent variables; several variables varied by two or three of the independent variables.

Visitors who were contacted during the fall season were more likely than those in other seasons to be male and employed outside of their home. Fall respondents were also less likely to agree to participate in the interview. Winter visitors tended to be in smaller groups. Summer visitors were more likely to have children under 16 in their group and more likely to have graduate degrees. Females and retired individuals were more common during winter and spring.

The state in which users were surveyed showed some notable differences as well, with Oregon users much more likely to be married and somewhat older than Washington users. Additionally, Oregon respondents tended to have more people in their cars than Washington users. Washington visitors were more likely than those in Oregon to be white, single, and to hold a graduate degree.

Type of survey site also accounted for some differences between visitors. People interviewed in developed areas were generally younger and more diverse ethnically than those sampled at general forest areas. The developed area users also showed a higher proportion of females and individuals in the middle income brackets.

Some slight differences were noted across the two survey periods (morning or afternoon), with afternoon users being older and more likely to be employed outside the home than morning respondents. Lastly, only two differences were noted across the use level strata. People interviewed at high use sites tended to be more diverse ethnically and in larger groups than those at either high or low use sites.

Table 1. Summary of Significant Differences in Demographics and Trip Characteristics by Five Independent Variables (Chi square or F-values; non-significant values not shown)

Demographics and Trip Characteristics	Survey Period	State	Stratum	Season	Site Type
Willing to participate				44.6	
Number in car		26.6	6.2	2.7	
Number under 16				6.2	
Gender				19.0	6.8
Ethnicity		7.5	7.4		8.6
Education		9.8		22.7	
Employment	9.9			42.4	
Marital status		4.9			
Age	15.5	14.9			13.3
Income				36.9	14.9

Recreation Experience Version Results and Discussion

There were numerous significant differences across three categories of experiential variables (place attachment, motivations for recreating, and management preferences). The management preference items showed the fewest differences across the independent variables (Table 2). Of the nine motivation variables, use stratum accounted for the greatest number of differences (5 of 9 significant), while three of the nine motivations differed by state and season. The place attachment items showed the most significant differences when compared across states and use strata (Table 2).

A series of five statements queried visitors about their attachment to the place they were visiting. Differences were noted across three of the five independent variables, with survey period and user type showing no significant differences. Four of the five variables were significantly different across the state variable. Oregon visitors were much more likely to report that the main reason for their visit was "because it is the Columbia River Gorge," while Washington users were much more focused on the Gorge as a place to do their chosen activity. Those visitors interviewed in Washington generally were more attached to the place they visited within the Columbia River Gorge.

The stratum category showed differences in the place attachment items as well. Users interviewed at the low use sites were more likely to agree with the site-specific place attachment indicators. Recreationists at high use sites felt that companionship was more important, and tended to agree more closely with the statement indicating that the Columbia River Gorge itself was their main reason for visiting. One of the five place attachment items differed significantly across the four seasons. Winter users were more likely to agree that "this place means a lot to me."

Nine statements examined visitors' motivations for recreating in the Columbia River Gorge. The stratum variable showed the most differences in the motivation scales, with five of the motivations differing across use level strata. Three of the nine variables showed significant differences for both the state and season categories. No differences were noted with regards to the survey period, and only one difference was noted for the type of site visited.

Table 2. Summary of Significant Differences in Experience Variables by Five Independent Variables (F-values; non-significant values not shown)

Experience Variables	Survey Period	State	Stratum	Season	Site Type
Place attachment					
Most important reason for visiting (because it is the Gorge, activity, place, companions)		12.8	10.9		
This place means a lot to me				3.1	
I enjoy recreating at this place more than any other place		6.4	3.6		
I am very attached to this place		5.6	4.7		
I get more satisfaction out of visiting this place than from visiting any other place		6.9	4.9		
Motivations to visit					
To be outdoors			5.0		
For relaxation			3.5		3.3
To get away from the regular routine					
For the challenge or sport		5.2	6.9	3.0	
For family recreation		9.7		3.3	
For physical exercise		4.7	6.5		
To be with my friends				2.9	
To experience natural surroundings					
To develop my skills			8.6		
Management preferences					
More wildlife viewing areas or opportunities				4.9	
More picnic areas					
More parking spaces					
Better signs directing me to recreation areas				5.3	
More interpretive rangers at recreation areas	5.1	7.2		4.2	

With regards to use stratum, visitors interviewed at medium use sites generally attached more importance to the motivation items. Visitors at the medium use sites especially emphasized challenge and physical effort. Visitors at the high use sites showed the lowest level of importance associated with physical exercise and developing their skills.

Washington visitors attached more importance to challenge and physical exercise, while visitors sampled at Oregon sites gave higher scores for the importance of family recreation. The seasonality variable also accounted for three significant differences among the nine motivation variables. Winter users attached the most importance to being with friends, while spring visitors rated family recreation as more important. Spring visitors attached less importance to challenge than visitors during the other three seasons.

Three of the five management preference items showed significant differences across the four seasons, while few differences were noted for the other independent variables. Better signs directing visitors to recreation areas and additional rangers were generally supported across all seasons, but were most important for winter visitors. Additional parking was a less popular management option, with the exception of respondents interviewed during the winter. Winter visitors also showed more support for additional interpretive rangers at recreation areas compared to visitors during the other three seasons. Interest in more interpretive rangers also varied by state and survey period. Visitors interviewed at Oregon sites and during the morning survey period expressed stronger support for more interpretive rangers at recreation areas.

Customer Satisfaction Version Results and Discussion

Regarding customer satisfaction, fourteen specific satisfaction attributes were examined through the use of a five-point Likert scale (Table 3). Performance and importance were measured for each of the items. A 10-point overall satisfaction scale was used to measure the respondents' overall trip quality. In addition, visitors were asked to report the degree of crowding that they perceived at the recreation site on a 10-point scale.

Significant differences were noted across four of the five independent variables. The season variable showed the greatest differences, with 11 of the 16 satisfaction indicators differing significantly across seasons. There was a large drop-off of significant differences in the other independent variables. Differences were noted across four satisfaction indicators for the state variable, three for the stratum variable, and only one significant difference was noted for the type of survey variable. No significant differences were noted for the survey period. Interestingly, few patterns could be identified across the independent or dependent variables. With the exception of the crowding indicator, which showed significant differences across three of the independent variables (stratum, state, and season), no more than two differences were noted across the independent variables.

Considering differences between the two states, visitors in Oregon gave higher satisfaction scores than Washington visitors for three specific attributes (scenery, signage, attractiveness of forest landscape). However, there was no difference between Oregon and Washington visitors in overall satisfaction, and Oregon visitors rated the sites as more crowded than their counterparts in Washington.

Table 3. Summary of Significant Differences in Satisfaction Variables by Five Independent Variables (F-values; non-significant values not shown)

Satisfaction Attributes	Survey Period	State	Stratum	Season	Site Type
Scenery		5.0			
Parking availability				6.0	
Parking lot condition				6.8	
Restroom cleanliness				7.1	8.8
Condition of natural environment			11.6	8.9	
Condition of developed facilities			7.1	10.8	
Condition of forest roads					
Condition of forest trails					
Availability of recreation information				6.2	
Feeling of safety				2.6	
Adequacy of signage		4.8			
Employee helpfulness				3.9	
Attractiveness of forest landscape		13.5		4.8	
Value for fee paid					
Overall satisfaction				6.8	
Crowding		17.6	12.8	2.7	

Visitors sampled at low use sites rated the condition of both the natural environment and developed facilities lower than those interviewed at medium and high use sites. Not surprisingly, perceived crowding was higher at high use sites than at medium or low use sites.

A closer examination of the season variable showed no clear pattern of satisfaction scores across seasons. Recreationists interviewed during the winter season reported especially low levels of satisfaction for parking availability, parking lot condition, restroom cleanliness and availability of information. They also showed the lowest levels of overall satisfaction. Fall interviewees showed the highest satisfaction scores for availability of parking, availability of information, and feeling of safety. The fall group, however, showed the lowest satisfaction scores for condition of the natural environment, condition of developed facilities, and staff helpfulness. Summer users reported the highest satisfaction scores for parking lot condition, restroom cleanliness, and overall satisfaction. Spring users showed the highest satisfaction scores for condition of the environment and the forest landscape, but showed the lowest ratings for feelings about safety and crowding.

Economic Expenditure Version Results and Discussion

A series of questions focused on how much money respondents spent on recreation-related items and services. Very few differences were noted across the five independent variables for the economic expenditure variables (Table 4). Of particular note is the lack of differences between the two states and the four seasons, while these two variables accounted for many of the differences within the satisfaction and experience variables.

The type of site at which the respondent was interviewed showed significant differences for purchases of fuel and other transportation costs. Visitors interviewed at general forest areas spent significantly more money on gasoline and oil, while those interviewed at developed use sites spent more money on other types of transportation. Both of these findings were expected, since dispersed users may drive further or may have been driving larger, less fuel-efficient vehicles. Developed site users may have been part of a bus tour, or even on a day trip away from a cruise ship on the Columbia River. The only other significant differences associated with recreation economic expenditures were noted for season. Respondents who were interviewed during spring or summer spent significantly less money on private lodging, while fall visitors were most likely to have spent money for other transportation costs.

Conclusions and Implications

The preceding results show numerous differences across the independent variables examined. The socio-demographic and trip characteristics show us that these users are indeed different people when examined by other than ethnic make-up. Significant differences were noted in respondents' ages and party size for three of the five independent variables. Most differences, however, were noted across the four seasons during which this survey was conducted in 2000.

Few differences were noted across the economic expenditure variables, and no distinct patterns were noted for these variables. Perhaps this is attributable to the relatively close distances between the sites (most sites are located within minutes of a highway) and the relatively small size of the CRGNSA in comparison to most other National Forests. It was interesting to note that no expenditure differences were noted across the two states of Oregon and Washington, given the differences found between these two states in other areas.

The satisfaction indicators showed great differences across the four seasons. Although no distinct patterns emerged, it was clear that those visitors interviewed during the summer season were most satisfied, followed by spring users. Winter respondents were least satisfied, followed closely by those respondents who were contacted during the fall season. Statewide comparisons showed that satisfaction ratings were always higher for the Oregon side of the Columbia River. This coincides with more high-use areas, which in turn may receive more attention from maintenance

Table 4. Summary of Significant Differences in Economic Variables by Five Independent Variables (F-values; non-significant values not shown)

Economic Version	Survey Period	State	Stratum	Season	Site Type
Government lodging					
Private lodging				3.1	
Restaurants/bars					
Other food/drinks					
Fuel/oil, etc.					3.2
Other transportation costs				5.5	3.0
Recreation activities					
Entry/parking fees					
Souvenirs					
Other expenses					
Total spent annually					

personnel. It was interesting to note that Oregon users rated crowding as worse than Washington respondents. This may be a function of the type of activities that are offered in each state. Oregon offers more social-oriented opportunities (a scenic highway, waterfalls near the roadway, developed picnic areas, etc.), while Washington users tend to participate in activities that involve a degree of solitude, such as hiking, biking, flower viewing, etc.

The category that showed the most significant differences was the visitor experience variables. Oregon and Washington visitors are clearly different in their feelings of place attachment toward the CRGNSA. Washington respondents, while attached to the place where they do their outdoor recreation activity, are more focused on the activity itself. Conversely, Oregon respondents seem more likely to feel that the special designation of the Columbia River Gorge as a National Scenic Area is important to them. It is clear that the different strata attract people for different reasons. Visitors to the high use areas do tend to care that it is "the Gorge," and not just another place to participate in their chosen outdoor recreation activity. Respondents who were interviewed in the winter season placed the most agreement on one place attachment item, indicating that the place they visited means a lot to them.

Motivations to visit the recreation areas varied greatly across the stratum variable, once again demonstrating the different types of recreationists who visit the vast array of outdoor recreation sites that the CRGNSA has to offer. The recreation sites within the medium use category showed considerably higher degrees of importance for most of the motivation variables. An interesting finding is that few differences were noted across the types of survey sites (general forest versus developed sites). Seasonal differences were noted for motivations to visit as well, with winter respondents placing the highest levels of importance on being with friends. Spring users expressed the lowest importance for challenge and the highest importance for family recreation. A similar trend was noted across the two states, with Oregon visitors placing greater importance on social reasons, and Washington respondents more oriented toward physical activities.

Few differences were noted across the management preferences outlined in the instrument, and most of those were noted across the four seasons. Respondents who were interviewed in the winter season showed greater support for additional rangers at the recreation sites and for additional parking areas. Winter respondents also indicated no opposition to adding more directional signs to the recreation sites, while recreationists surveyed during the other seasons showed some opposition to additional signs.

This paper demonstrates the need to understand visitors' motivations, needs, satisfaction levels, and use patterns across several variables. The socio-demographic make-up of CRG visitors is diverse in many ways; however these variables accounted for relatively few differences among the satisfaction and economic expenditure variables. The differences observed were particularly strong for variables related to the experience of the recreationists. Recreation managers may wish to focus on the experience variables outlined in this paper in order to better meet visitors' needs in an increasingly diverse outdoor recreation setting. Future analysis of these data will focus specifically on the influence of the recreation site and the activity pursued on satisfaction, economic expenditures and the recreation experience.

References

Absher, J. D., Howat, G., Crilley, G., & Milne, I. (1996). Toward customer service: Market segment differences for sports and leisure centres. Australian Leisure, 7(1), 25-28.

Absher, J. D., & Lee, R. G. (1981). Density as an incomplete cause of crowding in backcountry settings. Leisure Sciences, 4, 231-247.

Andereck, K. L., & Caldwell, L L. (1994). Motive-based segmentation of a public zoological park market. Journal of Park and Recreation Administration, 12(2), 19-31.

Graefe, A. R. (1981). Understanding diverse fishing groups: The case of drum fishermen. In Marine Recreational Fisheries VI (pp. 69-79). Washington, DC: The Sport Fishing Institute.

Westover, T. N. (1984). Perceptions of crime and conflict in urban parks and forests. Unpublished doctoral dissertation, Michigan State University.

VISITOR SATISFACTIONS: BACKCOUNTRY AND WILDERNESS USERS IN THE WHITE MOUNTAIN NATIONAL FOREST

Chad P. Dawson

SUNY College of Environmental Science and Forestry, 211 Marshall Hall, One Forestry Drive, Syracuse, NY 13210-2787

Rebecca Oreskes

US Forest Service, White Mountain National Forest, 300 Glenn Road, Gorham, NH 03581

Frederick Kacprzynski

US Forest Service, White Mountain National Forest, 719 Main St., Laconia, NH 03246

Tom More

US Forest Service, Northeastern Research Station, P.O. Box 968, Burlington, VT 05402-0968

Abstract: The opportunities and conditions sought by visitors in national forest backcountry and wilderness areas can affect the satisfaction they have with the experience. This study measured the recreation satisfaction ratings of hikers and backpackers during their trips to backcountry and wilderness areas in the White Mountain National Forest. Field interviews were conducted with 385 visitors to seven backcountry and wilderness areas during July 1, through September 4, 2000. An importance/satisfaction analysis compared satisfaction ratings with the important opportunities and conditions that were sought by visitors. Information about recreation resource management problems encountered by visitors was analyzed to provide comparisons with visitor satisfaction ratings. The study results indicate that: (1) hikers and backpackers rate similar opportunities and conditions as important across primitive and semi-primitive non-motorized Recreation Opportunity Spectrum areas; (2) hikers and backpackers achieve similar types and amounts of satisfaction across primitive and semi-primitive non-motorized Recreation Opportunity Spectrum areas; and (3) some differences in hiker and backpacker ratings of importance and satisfaction, plus problems perceived by users suggest the need for some additional indirect visitor management (e.g., information for visitors).

Introduction

Increasing recreational use in some backcountry and wilderness areas are a concern for managers, since crowding and more user-user encounters can negatively influence recreation visitor experiences and satisfactions. Furthermore, as a result of increased visitor use, some environmental and social conditions in backcountry and wilderness areas may be below the standards necessary to maintain Recreation Opportunity Spectrum (ROS) criteria for primitive and semi-primitive non-motorized classification.

The ROS was designed as a regional, recreation planning tool to help planners and managers to conduct inventories, design target management standards, decide among alternative management actions, and provide a larger framework and context for multiple use recreation resource planning (Brown et al., 1978; Driver & Brown, 1978; Clark & Stankey, 1979a; Driver et al., 1987). These developments in the ROS concept lead to the adoption of the ROS by the USFS and subsequent publication of the planning concept in U.S. Forest Service planning and management documents, such as the "ROS Users Guide." The use of the ROS planning approach can help planners and managers to design management standards, decide among alternative management actions, and provide a larger planning framework and context for developing a continuum of backcountry and wilderness-related outdoor recreation opportunities. However, some would argue that use of the ROS has been superficial due to lack of understanding about its interaction with management actions and visitor experiences.

While the ROS has gained some use as a recreation planning and management tool among federal land managing agencies, visitor information related to ROS classifications is very limited. For example, the impacts of recreation activities and the acceptability of those impacts within the ROS classified areas have been studied (Clark & Stankey, 1979b) as well as the interactions of the ROS setting attributes and recreational activities in relation to user experiences (Virden & Knopf, 1989). A few other studies have investigated how campers' experiences affected their preferences for different ROS classes (Yuan & McEwen, 1989) and visitor preferences for ROS setting components (Heywood, 1991). Wallace and Smith (1997) conducted a study that measured the motivations, setting preferences, and preferred management actions of visitors to protected areas in Costa Rica; the study included "primitive", "semi-primitive motorized", and "roaded natural" areas and offers some insight into measuring related to the present study.

The objectives of this study are to measure: (1) the opportunities and conditions sought by hikers and backpackers in national forest backcountry and wilderness areas; (2) the satisfaction ratings of hikers and backpackers during their trips to backcountry and wilderness areas; and (3) the recreation resource management problems as perceived by hikers and backpackers during their trips to backcountry and wilderness areas.

Research Methods

The study design relied upon brief, on-site interviews of hikers and backpackers during their trips in seven wilderness and non-motorized, backcountry areas of the White Mountain National Forest (WMNF) in New Hampshire and Maine. This data collection technique ensured that visitor responses to survey questions reflected their actual on-site recreation experience. A survey

instrument was designed to gather most of the data in this study during a 15-minute interview in the field by a trained interviewer.

The interview sites and sampling schedule for the summer months were stratified based on the level of recreational use within each of the seven backcountry and wilderness areas of the WMNF. Some of the most important criteria used in selecting the study areas were: (1) estimated summer recreation use levels; (2) location of hiking trails and trailheads for day use or overnight use; (3) existing ROS classes and WMNF management units; and (4) whether recreation conflicts or overuse were reported and where management actions may be most needed to mitigate or prevent such problems. Seven study areas were selected (see figure 1) and categorized based on ROS classifications for the area: (1) *Primitive* areas included the Pemigewasset Wilderness and Wild River Backcountry; (2) the mixed *Primitive* and *Semi-primitive non-motorized* areas included the Presidential Range-Dry River Wilderness, Kilkenny Backcountry, and Sandwich Range Wilderness; and (3) *Semi-primitive non-motorized* areas included the Great Gulf Wilderness and Caribou Speckled Mountain Wilderness.

A total of 51 interview sites was selected in the seven areas (see Figure 1) with the number in each area ranging from six to 12 depending on the size of the area, number of public access points, and estimated visitor use. Each site was visited systematically three times during the 10-week sampling time from July 1 to September 4, 2000. However, some interview sites were dropped from the study after the first sampling session because a variety of factors that seriously limited the amount of use at that site (e.g., road access or parking lot limitations) during those weeks of sampling. Subsequently the remaining sites were sampled up to four times each.

Each day interview sessions were held for three hours at three different sampling locations: (1) a morning session starting at about 9 a.m. and ending about 12 noon, (2) an afternoon session starting about 1-2 p.m and ending about 4-5 p.m., and (3) an evening session starting about 5-6 p.m. and ending about 8-9 p.m. The variability in starting and ending times related directly to the driving time necessary to move from one sampling location to the next between the three-hour interview blocks of time. Complete records were kept on the three-hour interview process to know the location, date, number of interviews, refusals to cooperate in the study, the number of visitors seen, and other factors during the three-hour period.

The on-site interview survey determined: (1) size and type of visitor group; (2) day or overnight type user; (3) recreation activities participated in by visitors while in that area during that trip; (4) visitor's perception of the importance of and satisfaction with 12 wilderness and back country recreation experience and setting attributes; (5) visitor preferences for 16 potential management actions that could be used in the WMNF to reduce recreation user impacts and/or conflicts; and (6) previous recreation experience in the WMNF by the visitor.

The survey instrument was based on previous research on the satisfactions of wilderness visitors (Dawson et al., 1998; Newman & Dawson, 1999; Dawson & Watson, 2001). The visitor's perception of the importance of and satisfaction with wilderness and back country recreation *opportunities* were measured with eight items:

1. Natural Environment -- enjoy the view from a mountain top; experience the scenic quality of nature; observe and hear wildlife; the tranquility & peacefulness of a remote area.
2. Physical Activity -- physical exercise and health; physical challenge.
3. Personal and Social Experiences -- get away from daily routines; develop a sense of self confidence; chance to think and solve problems; simplify daily needs.
4. Exploration and Remoteness -- an area free of man-made noises; remoteness from cities & people; an adventure & sense of discovery; feel like I was one of the first to experience this area.
5. Solitude -- a small, intimate group experience; isolated from other groups; privacy.
6. Connections with Nature -- get in touch with my true self; opportunity for self-discovery; develop a sense of oneness with nature.
7. Connection with Other Wilderness Users and Inspiration -- feel connected to a natural place that is important to me; celebrate wilderness as a symbol of naturalness; feel a sense of an earlier and rugged time in history.
8. Wilderness Skills -- improve wilderness travel skills; learn to travel to a remote destination and return successfully; a sense of self-sufficiency; recreation in a primitive environment.

The visitor's perception of the importance of and satisfaction with wilderness and back country recreation *conditions* were measured with four items:

1. No Litter and Waste -- amount of litter along the trails and at campsites; campfire rings.
2. Management Conditions -- condition of the trail system; publicized rules and regulations; the number of visible places where others have hiked and camped.
3. Information on Backcountry and Wilderness Area -- finding safe drinking water; information on where other users are likely to be; find an unoccupied campsite.
4. Numbers of users -- number of hikers you saw on trails; number of large groups you saw on trails; number of groups that camped near you.

Results

The 335 hours of interviewing resulted in 385 completed interviews (Table 1) with hikers and backpackers, and only 18 visitors refused to participate for a variety of reasons (e.g., too tired, rainy weather). Of the total, 228 interviews (59%) were held in the Primitive areas, 95 interviews (25%) were held in the mixed Primitive and Semi-primitive non-motorized areas, and 62 interviews (16%) were held in the Semi-primitive non-motorized areas (Table 1).

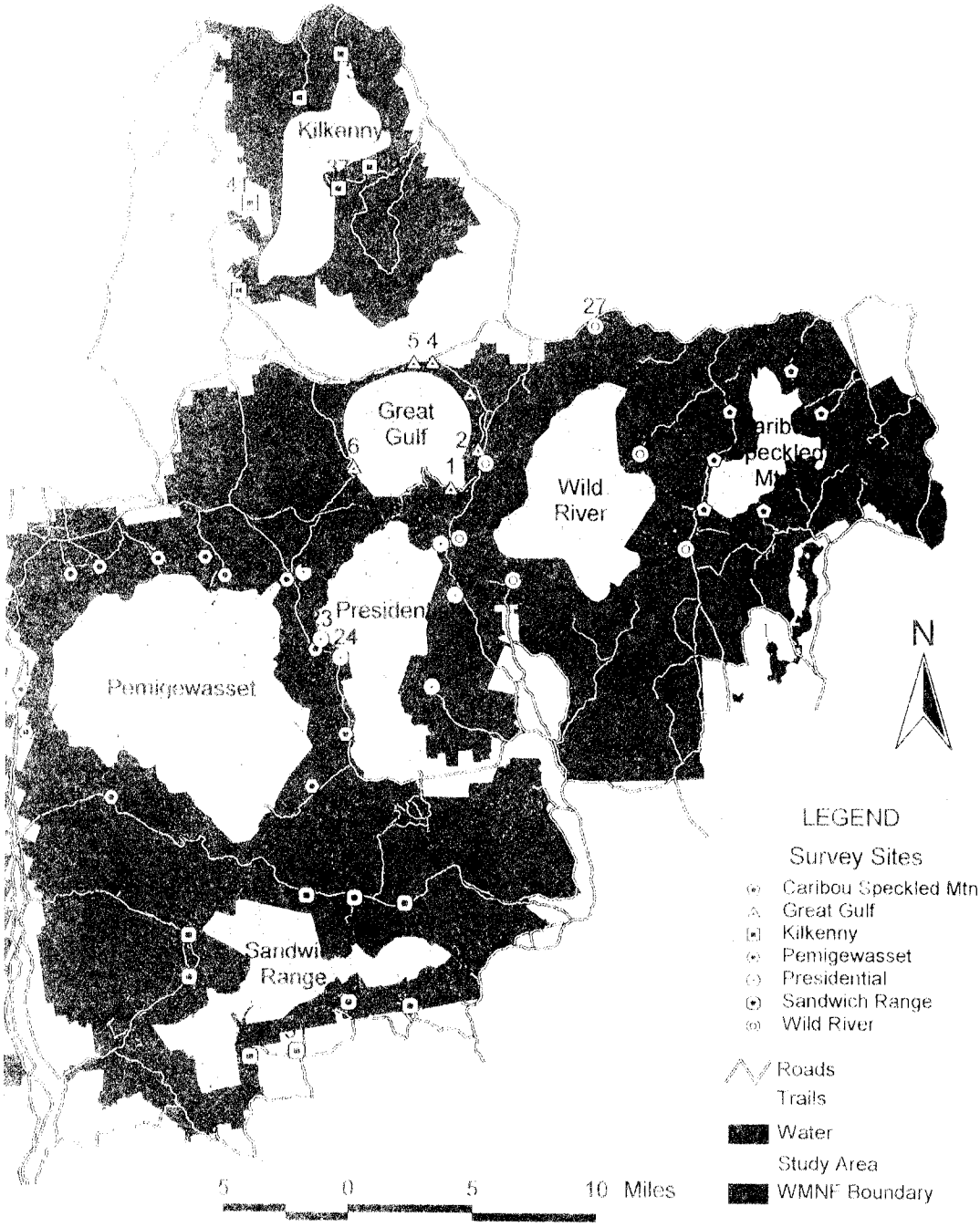


Figure 1. Location of Study Areas and Interview Sites in the White Mountain National Forest in the Summer of 2000

Table 1. White Mountain National Forest Backcountry and Wilderness Recreation Study Areas and Interviews in the Summer of 2000

ROS Category for Backcountry and Wilderness Areas	Number of Sampling Sites	Interview Hours	Number of Interviews	Number of Interview Refusals
Primitive areas				
Pemigewasset Wilderness	12	90	171	6
Wild River Backcountry	6	51.3	57	2
subtotal	18	141.3	228	8
Primitive and Semi-Primitive non-motorized areas				
Presidential Range-Dry River Wilderness	6	45.1	60	0
Kilkenny Backcountry	6	19.6	3	0
Sandwich Range Wilderness	9	49.3	32	3
subtotal	15	112	95	3
Semi-Primitive non-motorized areas				
Great Gulf Wilderness	6	46.7	42	7
Caribou Speckled Mt. Wilderness	6	33.6	20	0
subtotal	12	80.3	62	7
TOTAL	51	335.6	385	18

The backcountry and wilderness visitors were day hikers in 62% of the cases and overnight backpackers in 38% of the cases (Table 2); somewhat greater percent were day hikers in the semi-primitive non-motorized areas and overnight backpackers in the primitive areas. The average overnight stay was 2.1 nights for those who stayed out on a backpack trip. Groups were most often made up of friends (41%) and family (43%) and averaged 3.2 adults and 0.7 children per group (table 2). Only 14% of those interviewed were on their first trip to the WMNF; one-third had made 1-5 previous trips and 23% had made 21 or more trips to the WMNF (table 2). Day hikers were more somewhat experienced on average than backpackers (Chi-square=22.8, 4 df, p=0.001) with 56% of day hikers taking 6 or more previous trips compared to 41% of backpackers.

Backcountry and wilderness hikers and backpackers reported engaging in many other recreational activities while on their trip to the WMNF (Table 3). The top recreational activity was viewing scenery, an activity reported by 78% of those interviewed. Other common activities in the WMNF were: photography, backpack camping, Appalachian Trail hiking, and picnicking.

Table 2. Characteristics of Backcountry and Wilderness Recreation Users Interviewed in the Summer of 2000 on the White Mountain National Forest

	ROS Categories			
	Primitive	Primitive and Semi-primitive	Semi-primitive non-motorized	Total
Type of User	**Percent**			
Day user	55	68	76	62
Overnight user	45	32	24	38
	Average Nights			
Overnight length of stay	2.1	2.0	2.1	2.1
Group Type	**Percent**			
Friends	44	31	42	41
Family	41	51	39	43
Organization	13	11	10	12
Group Size	**Average Number**			
Adults	3.2	3.4	2.7	3.2
Children	0.9	0.3	0.5	0.7
Previous Experience in WMNF	**Percent**			
None	16	12	13	14
1-5 trips	33	42	32	35
6-10 trips	17	14	8	15
11-20 trips	12	10	15	12
21 or more trips	22	23	32	23

Table 3. Percent of Backcountry and Wilderness Users Interviewed by Reported Recreation Activity in the Summer of 2000 on the WMNF

Typical Recreation Activities	ROS Categories			
	Primitive	Primitive and Semi-primitive	Semi-primitive non-motorized	Total
Viewing scenery	80	79	66	78
Photography	50	41	31	45
Backpack camping	32	33	32	32
Appalachian Trial hiking	30	20	13	25
Picnicking	22	24	15	21
Swimming	17	21	23	19
Camping in a campground	18	19	11	17
Nature study	13	6	13	11
Fishing	1	4	2	2
Boating/canoeing	0	4	5	2
Other activity	7	8	8	8

The hikers and backpackers interviewed rated the eight wilderness and backcountry opportunities and four conditions according to how *important* an influence they were on the quality of their trip. The response categories for trip importance were: 0 = not important, 1 = slightly, 2 = somewhat, 3 = moderately, 4 = very, and 5 = extremely important. Three opportunities were highly important on trips: natural environment, physical activity, and personal and social experiences (Table 4). One condition was highly rated: lack of litter and waste. Overall, the average ratings for all 12 opportunities and conditions were above the moderate importance category. While five of the 12 opportunities and conditions ratings for importance had a statistically significant difference (ANOVA statistical test with $p=0.05$) between the three ROS categories, the actual difference between means was too small (e.g., 0.3) as to lack significance for differentiating management by the three ROS categories (i.e., these differences in mean scores do not necessarily warrant differences in management approaches).

When considered separately, overnight backpackers were statistically more likely than day hikers to report somewhat higher importance for exploration and remoteness, wilderness skills, natural environment, and information on the wilderness area (T-test statistic, $p<0.05$). The only significant difference in importance between visitors with higher levels of experience (more than 6 previous trips) and less experience was those with more experience more often reported that physical activity was important.

Table 4. The Importance Ratings of Backcountry and Wilderness Recreation Users Interviewed in the Summer of 2000 on the WMNF

Wilderness and backcountry opportunities and conditions	Importance Ratings [b] by ROS Categories			
	Primitive	Primitive and Semi-primitive	Semi-primitive non-motorized	Total
Opportunities				
Natural environment	4.6	4.3	4.5	4.5 [a]
Physical activity	4.2	4.1	4.5	4.2 [a]
Personal and social experiences	4.1	4.0	4.2	4.1
Exploration and remoteness	4.0	3.7	3.9	3.9
Solitude	3.7	3.4	4.0	3.7 [a]
Connections with nature	3.7	3.7	3.7	3.7
Connection with other wilderness users & inspiration	3.3	3.2	3.3	3.3
Wilderness skills	3.3	3.2	3.5	3.3
Conditions				
No litter and waste	4.3	4.5	4.6	4.4 [a]
Management conditions	3.6	3.5	3.7	3.6
Information on backcountry & wilderness areas	3.2	3.2	3.1	3.2
Numbers of users	3.3	2.9	3.2	3.2 [a]

[a] Statistically significant difference between ROS categories using ANOVA test with $p<0.05$.
[b] Importance rating: 0 = not important, 1 = slightly, 2 = somewhat, 3 = moderately, 4 = very 5 = extremely important.

The hikers and backpackers interviewed rated the eight wilderness and backcountry opportunities and four conditions according to how *dissatisfied or satisfied* they were with these on their trip. The response categories for trip dissatisfaction or satisfaction were: -2 = very dissatisfied, -1 = dissatisfied, 0 = neutral, 1 = satisfied, and 2 = very satisfied. Respondents indicated that they were very satisfied with three opportunities: physical activity, natural environment, and personal and social experiences (Table 5). One condition was rated as very satisfying: lack of litter and waste. Overall, the average ratings for 10 opportunities and conditions were above the satisfied category, only information on the wilderness and backcountry areas was rated less than an average score of satisfied (1.0). Only three items had 5% or more of those interviewed reporting either being dissatisfied or very dissatisfied: solitude (5%), exploration and remoteness (6%), and number of other users (7%). While five of the 12 opportunities and conditions ratings for satisfaction had a statistically significant difference (ANOVA statistical test with $p<0.05$) between the three ROS categories, the actual difference between means was so small (e.g., 0.2) as to lack significance for differentiating management by the three ROS categories (i.e., these differences in mean scores do not necessarily warrant differences in management approaches).

Comparisons of respondent satisfaction ratings by whether they were interviewed at a high, moderate, or low use trailhead (level of use estimated by WMNF staff) revealed only a few statistically significant differences (ANOVA statistical test with $p<0.05$). Respondents at low use trailheads more highly rated their satisfaction with solitude, available trail information, and opportunities to use wilderness skills than did those at moderate or high use trails. Respondents at low and moderate use trailheads more highly rated their satisfaction with number of other users than did those at high use trails.

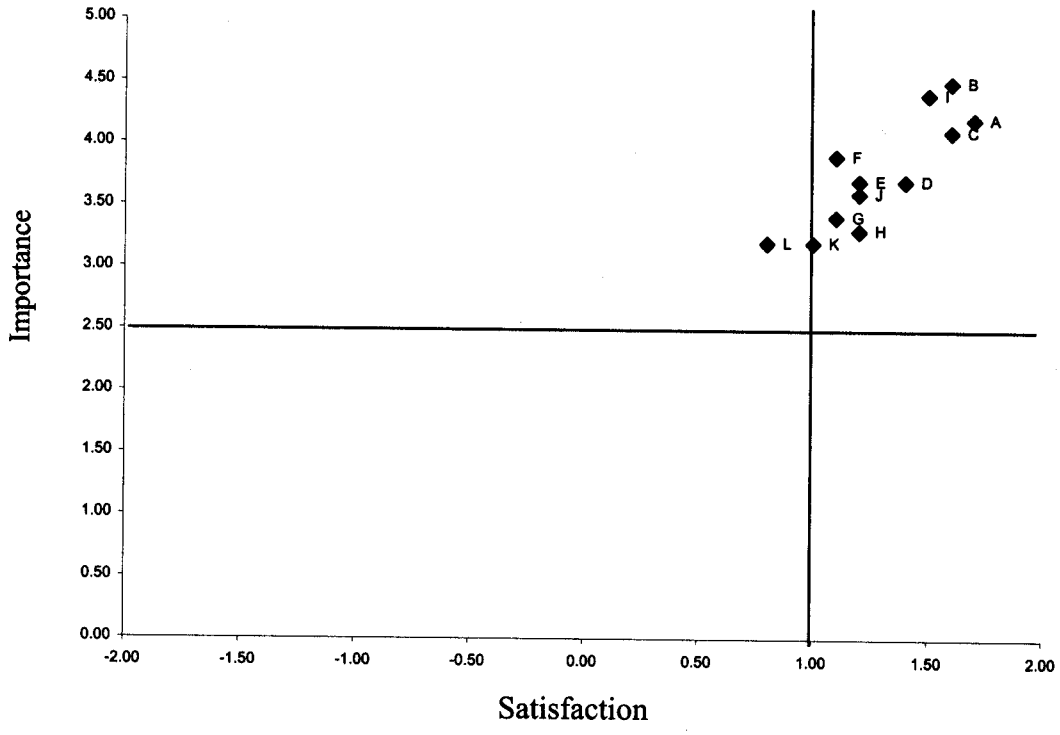
When considered separately, overnight backpackers were statistically more likely than day hikers to report somewhat higher satisfaction with information on the wilderness area (T-test statistic, $p<0.05$). No significant differences in satisfaction were found between visitors with higher levels of experience (more than 6 previous trips) than those with less experience.

The average importance and satisfaction scores were graphically displayed (Figure 2) to summarize the overall respondent differences and suggest the items that need management attention (these plots are similar to the importance-performance plots used in management evaluations). All 12 items were labeled as well above moderate importance and only two items were at or below the 1.0 average satisfaction level: number of users and information on wilderness and backcountry areas. Therefore, the ratings on the other ten items suggest that management is *generally* doing well from the perspective of the hikers and backpackers. However, some trailheads had lower satisfaction ratings, suggesting issues like crowding and litter needed management attention.

Table 5. The Satisfaction Ratings of Backcountry and Wilderness Recreation Users Interviewed in the Summer of 2000 on the WMNF

	Satisfaction Ratings [b] by ROS Categories			
Wilderness and backcountry opportunities and conditions	**Primitive**	**Primitive and Semi-primitive**	**Semi-primitive non-motorized**	**Total**
Opportunities				
Physical activity	1.6	1.7	1.9	1.7[a]
Natural environment	1.6	1.6	1.7	1.6
Personal and social experiences	1.5	1.7	1.7	1.6[a]
Connections with nature	1.4	1.4	1.4	1.4
Solitude	1.1	1.3	1.6	1.2[a]
Exploration and remoteness	1.1	1.0	1.4	1.1[a]
Connection with other wilderness users & inspiration	1.1	1.2	1.2	1.1
Wilderness skills	1.2	1.2	1.4	1.2
Conditions				
No litter and waste	1.5	1.5	1.6	1.5
Management conditions	1.2	1.2	1.2	1.2
Numbers of users	0.9	1.0	1.2	1.0[a]
Information on backcountry & wilderness area	0.9	0.9	0.7	0.8

[a] Statistically significant difference between ROS categories using ANOVA test with $p<0.05$.
[b] Satisfaction rating: -2 = very dissatisfied, -1 = dissatisfied, 0 = neutral, 1 = satisfied, 2 = very satisfied.



Opportunities	Conditions
A. Physical activity	I. No litter and waste
B. Natural environment	J. Management conditions
C. Personal and social experiences	K. Information
D. Connections with nature	L. Numbers of users
E. Solitude	
F. Exploration and remoteness	
G. Connection/inspiration	
H. Wilderness skills	

Figure 2. Importance-Satisfaction Analysis for the White Mountain National Forest Survey of Backcountry and Wilderness Recreation Users in 2000

The hikers and backpackers interviewed were asked to indicate how much they perceived 16 conditions were problems for them during their wilderness or backcountry trip in the WMNF. The response categories for perceived problems were: 0 = not a problem, 1 = slight problem, 2 = somewhat of a problem, 3 = moderate problem, 4 = very much a problem, and 5 = extreme problem. All 16 items averaged less than the 1.0 slight problem category (Table 6). The top four listed problem items by those interviewed were related to the two lowest rated satisfaction items: number of users and information on wilderness and backcountry areas. While six of the 16 perceived problem ratings had a statistically significant difference (ANOVA statistical test with $p<0.05$) between the three ROS categories, the actual difference between means was so small (e.g., 0.2) as to lack significance for differentiating management by the three ROS categories (i.e., these differences in mean scores do not necessarily warrant differences in management approaches). The perceived problem items did not appear to be important; they were rated either "very much a problem" or an "extreme problem" by less than 5% of the respondents. The highest percentage in these two combined response categories were: too many people on the trails (4%), too many people at campsites and shelters (4%), and too many large groups of users (3%). Overall, the low problem ratings indicate support for the relatively high satisfaction ratings reported by those interviewed. While these low problem scores suggest that overall users perceive problems as slight, there are some trailheads were higher levels of concern were indicated for some problems (e.g., too many people on trails, too many large groups).

Table 6. The Perceived Problem Ratings of Wilderness and Backcountry Opportunities and Conditions by Backcountry and Wilderness Recreation Users Interviewed in the Summer of 2000 on the White Mountain National Forest

	Problem Ratings [b] by ROS Categories			
Possible problems.	**Primitive**	**Primitive and Semi-primitive**	**Semi-primitive non-motorized**	**Total**
Too many people on the trails	0.9	0.4	0.4	0.7 [a]
Trails poorly marked	0.5	0.6	0.5	0.5
Too many people at campsites and shelters	0.6	0.4	0.3	0.5
Too many large groups of users	0.6	0.2	0.3	0.5 [a]
Litter along trails or at campsites	0.3	0.5	0.2	0.4 [a]
Not enough information on amount of use	0.3	0.3	0.2	0.3
Not enough information on campsites	0.2	0.6	0.4	0.3 [a]
Too many heavily impacted campsites	0.4	0.3	0.2	0.3
Rowdy or loud people	0.5	0.2	>0.1	0.3 [a]
Too much evidence of human waste	0.3	0.2	0.1	0.3
Dogs not under control or on a leash	0.4	0.1	>0.1	0.3 [a]
Too many restrictions and regulations	0.3	0.4	0.2	0.3
Not enough information to plan a trip	0.2	0.2	0.1	0.2
Too many fire rings from campfires	0.2	0.3	0.2	0.2
Too many cell phones and other electronic equipment used by other visitors	0.3	0.3	0.1	0.2
Too much Forest Service presence	>0.1	>0.1	0.0	>0.1

[a] Statistically significant difference between ROS categories using ANOVA test with p=0.05.

[b] Problem rating: 0 = not a problem, 1 = slight problem, 2 = somewhat of a problem, 3 = moderate problem, 4 = very much a problem, 5 = extreme problem.

Comparisons of respondent problem ratings by whether they were interviewed at a high, moderate, or low use trailhead (level of use estimated by WMNF staff) revealed only two statistically significant differences (ANOVA statistical test with $p<0.05$). Respondents at high use trailheads more highly rated too many people on trails as a problem than did those at moderate or low use trails. Respondents at low use trailheads more highly rated dogs not on a leash as a problem than did those at moderate and high use trails.

When considered separately, overnight backpackers were statistically more likely than day hikers to report somewhat higher ratings of problems with not enough information on campsites, trails poorly marked, too many firerings from campfires, too many people at campsites and shelters, and too many restrictions and regulations (T-test statistic, $p<0.05$). No significant differences in reported problems were found between visitors with higher levels of experience (more than 6 previous trips) and those with less experience.

Implications and Discussion

The study results indicate that hikers and backpackers rate similar opportunities and conditions as relatively highly important across primitive and semi-primitive non-motorized Recreation Opportunity Spectrum areas of the WMNF. The relatively homogeneous importance ratings across these ROS areas, suggest that the respondents did not measurably differentiate their use of these areas based on the important conditions they seek in backcountry and wilderness areas and on their past experiences in the WMNF. Simply put, these areas may appear generally very similar to the visitors. Similarly, hikers and backpackers achieve nearly the same types and amounts of satisfaction across primitive and semi-primitive non-motorized Recreation Opportunity Spectrum areas in the WMNF. This study was designed to characterize user responses across the WMNF and the ROS classes, but not to evaluate management of the areas.

Some of the results in hiker and backpacker ratings of importance and satisfaction, plus user perceived problems, suggest additional indirect visitor management actions (e.g., information to visitors about trail conditions and solitude) should be considered. Information before and during their trips appears to be a central visitor concern. Similarly, better management of crowding or high levels of user-user encounters in some areas and at some trailheads could facilitate visitor satisfactions; however, beyond suggesting that some locations are reportedly crowded, the number of interviews at any one site is not adequate to evaluate each site were interviews were conducted. At this time, direct management (e.g., limit visitor use) does not appear to be generally necessary across the seven WMNF areas studied based on this user self-reported information. However, this information must be evaluated in combination with other recreation management information that is being measured and monitored on the WMNF (e.g., user counts on trails, environmental impacts from recreational use) and in the context of the ROS standards and goals for the social, environmental, and management conditions established for these areas.

Elsewhere in this proceedings, Johnson and Dawson (2002) express concerns about the relatively high satisfaction ratings by hikers and backpackers and how to monitor these psychological and social indicators in the future. High hiker and backpacker satisfaction levels may be possible even while social and environmental conditions are degrading because visitors may use various physical and cognitive coping behaviors (e.g., physical displacement, temporal displacement, product shift, and rationalization) to maintain high satisfaction levels. Therefore, the information presented here should be used in planning and management decision-making only with other monitored information on the social, environmental, and management conditions in the WMNF.

Acknowledgements

This project was supported by the U.S. Forest Service and the White Mountain National Forest. The field interview work by Matt Annabel, from the SUNY College of Environmental Science and Forestry, is especially appreciated.

Literature Cited

Brown, P. J., Driver, B. L., & McConnell, C. (1978). The opportunity spectrum concept and behavioral information in outdoor recreation supply inventories: Background and application. In G. H. Lund et al. (Tech. Coords.), Integrated inventories of renewable resources: Proceedings of the workshop (Gen. Tech. Rep. RM-55, pp. 73-84). Fort Collins, CO: USDA, Forest Service, Rocky Mountain Forest and Exp. Station.

Clark, R. N., & Stankey, G. H. (1979a). The Recreation Opportunity Spectrum: A framework for planning, management, and research (Gen. Tech. Rep. PNW-GTR-98). Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station.

Clark, R. N., & Stankey, G. H. (1979b). Determining the acceptability of recreation impacts: An application of the Recreation Opportunity Spectrum. In J. Shaw (Ed.), Dispersed recreation and natural resource management: A focus on issues, opportunities and priorities (pp. 70-81). Logan: Utah Sate University.

Dawson, C. P., Newman, P., & Watson, A. (1998). Cognitive dimensions of recreational user experiences in wilderness: An exploratory study in Adirondack Wilderness Areas. In H. O. Vogelsong (Comp., Ed.), Proceedings of the 1997 Northeastern Recreation Research Symposium (Gen. Tech. Rep. NE-241, pp. 257-260). Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station.

Dawson, C. P., & Watson, A. (2001). Satisfaction scales for wilderness visitors. Unpublished manuscript, SUNY College of Environmental Science and Forestry.

Driver, B. L., Brown, P. J., Stankey, G. H., & Gregiore, T. G. (1987). The ROS planning system: Evolution, basic concepts, and research needed. Leisure Sciences, 9, 201-212.

Driver, B. L., & Brown, P. J. (1978). The opportunity spectrum concept and behavioral information in outdoor recreation supply inventories: A rationale. In G. H. Lund et al. (Tech. Coords.), Integrated inventories of renewable resources: Proceedings of the workshop (Gen. Tech. Rep. RM-55, pp. 24-31). Fort Collins, CO: USDA, Forest Service, Rocky Mountain Forest and Exp. Station.

Heywood, J. L. (1991). Visitor inputs to Recreation Opportunity Spectrum allocation and monitoring. Journal of Park and Recreation Administration, 9(4), 18-30.

Johnson, A., & Dawson, C. P. (in press). Coping, crowding and satisfaction: A study of Adirondack wilderness hikers. In S. L. Todd (Comp., Ed.), Proceedings of the 2001 Northeastern Recreation Research (Gen. Tech. Rep. NE-in press). Newton Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station.

Newman, P., & Dawson, C. P. (1999). The human dimensions of the wilderness experience in the High Peaks Wilderness Area. In H. G. Vogelsong (Comp., Ed.), Proceedings of the 1998 Northeastern Recreation Research Symposium (Gen. Tech. Rep. NE-255, pp. 122-129). Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station.

Virden, R. J., & Knopf, R. C. (1989). Activities, experiences, and environmental settings: A case study of Recreation Opportunity Spectrum relationships. Leisure Sciences, 11, 159-176.

Wallace, G. N., & Smith, M. D. (1997). A comparison of motivations, preferred management actions, and setting preferences among Costa Rican, North American, and European visitors to five protected areas in Costa Rica. Journal of Park and Recreation Administration, 15(1), 59-82.

Yuan, M. S., & McEwen, D. (1989). Test for campers' experience preference differences among three ROS setting classes. Leisure Sciences, 11, 177-186.

PARTICIPANTS' PERCEPTIONS OF THE 1997-1998 MISSOURI STATE PARKS PASSPORT PROGRAM

Yi-Jin Ye

Ph.D. Candidate in Leisure Studies, Pennsylvania State University, 201 Mateer Building, University Park, PA 16802-1307

Jaclyn Card

Associate Professor of Parks, Recreation, and Tourism, University of Missouri-Columbia, 105 Anheuser-Busch Building, Columbia, MO 65211-7230

Abstract: Service quality is increasingly important to park mangers. Recreation and park evaluation measures the implementation and outcome of programs for decision-making. Decisions based on evaluations are often concerned with improving the quality of the program for participants. The purpose of the study was to evaluate the Missouri State Parks Passport Program (MSPPP) by measuring the program's success in achieving the objectives and by ascertaining participants' perceptions Based on the results, the researcher concluded that MSPPP partially achieved the objectives of the MSPPP. Most of the participants felt satisfied with the prizes of the program.

Missouri State Parks Passport Program (MSPPP)

Missouri state parks and historic sites are considered the masterpieces of the state by Missouri Department of Natural Resources Division of State Parks (MDNR DSP). To help people realize and appreciate the value of Missouri state parks and historic sites, the employees of MDNR DSP lead many activities, such as nature walks and nature education programs. The Missouri State Parks Passport Program (MSPPP) is one of these programs (Missouri Masterpieces, 1997). MDNR DSP designed the MSPPP to attract new visitors to the state parks system, promote off-peak visitation, and encourage repeat visitors to explore less known state parks and historic sites (MDNR DSP, 1995). The program includes 78 sites, 76 state parks and historic sites in Missouri and the National Frontier Trails Center in Independence and the Bruce R. Watkins Cultural Heritage Center in Kansas City which are owned by the MDNR and leased to those cities. MDNR DSP promotes the MSPPP by sending direct mail to people who completed the Camper Award Program, using statewide news releases, and distributing booklets at sport and trade shows.

Participants must visit all sites in the MSPPP and have their passport booklet stamped to verify that they completed the program. Each participant who completes this incentive program receives prizes (six theme patches, a passport banner, a $25 gift certificate, a passport T-shirt, and five free camping coupons) from MDNR DSP (MDNR DSP, 1997a).

The Need for Recreation Program Evaluation

From September 5, 1995 to December 31, 1996, 461 participants completed the 1995-1996 MSPPP (MDNR DSP, 1997b). From April 1, 1997 to April 30, 1998, 108 participants completed the 1997-1998 MSPPP (MDNR DSP, 1998). However, no evaluation exists for the program. The purpose of the study was to evaluate the MSPPP by measuring the program's success in achieving its objectives (to attract new visitors to the state parks system, promote off-peak visitation, and encourage repeat visitors to explore less known state parks and historic sites), by ascertaining participants' perceptions of the MSPPP and how participants learned about the MSPPP.

Evaluation is the key to make program planning successful (Farrell & Lundegren, 1991). The goal of evaluation is to determine the value of something so that good decisions can be made (Henderson, 1995). Researchers determined classifications of evaluation in leisure services organizations. Edginton and Hanson (1992) suggested that there are customer orientation, program orientation and organizational orientation to evaluate the recreation programs. Farrell and Lundegren (1991) indicated four classifications of evaluating programs that were administration, leadership or personnel, program and areas and facilities. Henderson (1995) described five classifications (5Ps) in evaluation: program, personnel, participant, place, and policy/administration. This study concentrated on program and participants evaluation.

Many possibilities exist for developing program evaluations (Henderson, 1995). Bennett (1982) suggested seven program evaluation levels: input (time, cost, staff), activities (type, delivery of program), people involvement (number of people, characteristics of people), reactions (satisfaction, like or dislike for activities), KASA (knowledge, attitudes, skill and aspirations) objectives and changes, practice change (application of knowledge, skill), and long-term impact on quality of life (social, economic). Henderson (1995) mentioned that trying to access everything usually results in poor conceptualizations. One of the challenges of program evaluation is to make sure that a researcher does not evaluate too many criteria at once. The seven levels identified provide a framework for making decisions about what aspects of a program may be most important to evaluate (Henderson, 1995). In the MSPPP evaluation, the researcher focused on people involvement to ascertain the participants' demographics. Additionally, the researcher focused on reactions of satisfactions to determine the participants' perception of the satisfactions.

In Rossman's (1989) survey, four models for conducting recreation program evaluation were determined. The researcher used Satisfaction-Based Evaluation to conducting in this study. Data about participants' satisfaction with program services can be used to determine the worth of program services. Participant-reported satisfaction with leisure participation is an well-accepted measure of leisure outcome (Beard & Ragheb, 1980).

Many possibilities exist for developing program evaluations (Henderson, 1995). Bennett (1982) suggested seven program evaluation levels: input, activities, people's involvement, reactions, KASA objectives and change, practice change and long-term impact on quality of life. In the MSPPP evaluation, the researcher focused on people involvement and reactions.

Effective program planning needs program promotion. Programs will succeed only if visitors are aware of what the organization is offering (Compton et al., 1980). Compton et al. (1980) mentioned there were many promotion techniques that could be used, such as newspapers, brochures, televisions and radios. Televisions and radios were increasingly important because of high accessibility. Brochures were one of the most broadly used and effective methods. In Tew et al.'s (1999) study, the recreation agencies heavily relied on printed promotional material, such as seasonal program brochures, posters, and newspapers. In addition, understanding participants' reasons for participation helps leisure service managers understand participants' needs. Moreover, successful programs not only consider participants' needs but also provide satisfying opportunities (Farrell & Lundegren, 1991). Beard and Ragheb (1980) identified variables influencing leisure satisfaction: gender, knowledge of leisure, leisure value, leisure attitude, income and age. There was a strong relationship between participants' perceptions and satisfaction. Ragheb (1980) indicated that satisfaction gained from leisure activities greatly increased participation in activities.

Demographic variables are helpful to profile visitors and affect leisure activity choice and participation (Bammel & Burrus-Bammel, 1996). In Busser et al.'s (1996) study, males were more active than females and participated in more outdoor activities.

Methodology

The researcher collected data by a mailing survey and following by two fellow-up letters. The survey contained four parts and four pages. The first part of the questionnaire included eight questions to determine how participants learned about the MSPPP, to measure the MSPPP's success in achieving the MSPPP objectives and to ascertain participants' perceptions of the MSPPP. The participants rated the reasons from 4 (very important) to 1 (not at all important). The participants' satisfaction with the program's prizes, services and overall satisfaction with the program were 5-point scale ranging from 5 (very satisfied) to 1 (very dissatisfied). The researcher used 3-point scale for the ease of completing the program ranging from 1 (too short) to 3 (too long).

The second part of the questionnaire included participants' demographic profile. The questions included participant's sex, age, educational level, marital status, employment status, race/ethnicity and annual household income. The third part of the questionnaire was open-ended for participants' comments about the MSPPP. Participants wrote their opinions and suggestions for the MSPPP. The fourth part of the questionnaire was to determine participants who were new visitors or repeat visitors to the state parks and historic sites.

The subjects were participants who completed the MSPPP between April 1, 1997 and April 30, 1998, and who were 18 years and older. The total valid population of the study was 98. The total number of valid questionnaires for data analysis was 90. The response rate was 91.84 %.

Results

The first part of the questionnaire includes the question of the respondents' sources of learning about the program. In Table 1, only one respondent (1.1%) learned about the program from radio and 2 respondents (2.2%) learned from news releases. The majority of the respondents (52.8%) learned about the program from other sources. In these sources, 16 respondents (34%) learned about the MSPPP from the information in state parks followed by the Missouri Resources magazine and friends.

According to the results, MDNR DSP partially achieved the objectives of the MSPPP. First, the MSPPP did not attract many new visitors to the State Parks, State Historic Sites and the other facilities. All of the participants were repeat visitors to the State Parks (Table 2). Secondly, MDNR DSP promotes off-peak visitation to the state parks.

Table 1. Frequency and Percent of Respondents' Sources of Learning about the Program

Sources of Learning about the Program	Frequency	Percent
Direct mail	11	12.4
Exhibit at a sport and trade show	11	12.4
Family	6	6.7
Flyer	8	9.0
Friends	16	18.0
Missouri Resources magazine	19	21.3
Newspaper news release	2	2.2
Poster	6	6.7
Radio	1	1.1
Other	47	52.8

In Table 3, the participants visited the sites mostly on weekends (94.4%) and weekdays (88.9%). The months with most visits were from April through August (Table 4). Third, MSPPP encouraged repeat visitors to explore less known State Parks and Historic Sites (Table 2). The participants did not visit some of the less known State Parks and Historic Sites before participating in the program. The 1997-1998 MSPPP provided opportunities for participants to visit 78 sites. The MSPPP not only encouraged the participants to revisit sites they had already visited but also encouraged them to visit new sites.

Table 2. Frequency of Respondents' Visitation

	New Visitors		Repeat Visitors		Total	
Sites	N	%	N	%	N	%
State Historic Sites	12	13.6	76	86.4	88	100
State Parks	0	0.0	88	100.0	88	100
Other Facilities	13	14.6	76	85.4	89	100

Table 3. Frequency and Percent of Respondents' Time of Visit

Respondents' Time of Visit	Frequency	Percent
Weekdays	80	88.9
Weekends	85	94.4
Holidays	41	45.6

Table 4. Frequency and Percentage of Participants' Visiting Months

Participants' Visiting Months	Frequency	Percent
January	13	14.4
February	24	26.7
March	31	34.4
April	59	65.6
May	62	68.9
June	72	80.0
July	63	70.0
August	66	73.3
September	63	70.0
October	46	51.1
November	21	23.3
December	12	13.3

In Table 5, most of the participants determined "discover new places and things" and "increase my knowledge of Missouri State Parks" were very important reasons for them to participate in the program. "Develop friendships" and "use my physical abilities or skills" were the least important reasons. Most of the participants felt satisfied with the prizes and services (Tables 6 & 7). The participants (76.4%) felt very satisfied with the overall satisfaction toward MSPPP (Table 8) and thought the ease of completing the program (87.8%) was about right (Table 9).

Ninety participants responded and returned useable questionnaires. Eighty-nine participants indicated their sex, 43 males and 46 female, The average age was 55.3 years old. The largest group of participants' age was between 50 and 59. About one third of the participants had college (27%) or high school (34.8%) degrees. Most of the participants were married (87.6%) and more than half (53.9%) of them were retired. Almost all (96.6%) of the participants were White American. The largest percentage of participants' annual household income was between $20,000-$29,999 (28.6%) (see Table 10).

Table 5. Frequency and Percent of Importance of Respondents' Reasons for Participation

Reason	Perceptions: very important F	very important %	moderately important F	moderately important %	slightly important F	slightly important %	not at all important F	not at all important %	Total F	Total %	M	SD
1) avoid the hustle and bustle of daily life	32	37.6	22	25.9	18	21.2	13	15.3	85	100	2.86	1.09
2) attracted by prizes	17	19.8	38	44.2	27	31.4	4	4.7	86	100	2.80	.81
3) challenge my abilities	23	27.4	26	31.0	19	22.6	16	19.0	84	100	2.67	1.08
4) develop friendships	12	14.6	27	32.9	28	34.1	15	18.3	82	100	2.44	.96
5) discover new places and things	75	83.3	12	13.3	3	3.3	0	0.0	90	100	3.80	.49
6) increase my knowledge of Missouri State Parks	65	72.2	21	23.3	3	3.3	1	1.1	90	100	3.67	.60
7) relax	51	59.3	25	29.1	9	10.5	1	1.2	86	100	3.47	.73
8) use my physical abilities/skills	10	12.0	33	39.8	25	30.1	15	18.1	83	100	2.46	.93

Table 6. Frequency and Percent of Respondents' Satisfaction with the MSPPP Prizes

Prize	Perceptions: very satisfied F	very satisfied %	somewhat satisfied F	somewhat satisfied %	neither satisfied nor dissatisfied F	neither satisfied nor dissatisfied %	somewhat dissatisfied F	somewhat dissatisfied %	very dissatisfied F	very dissatisfied %	Total F	Total %	m	SD
1) six theme patches	76	85.4	9	10.1	4	4.5	0	0.0	0	0.0	89	100	4.81	.50
2) passport banner	55	63.2	20	23.0	9	10.3	2	2.3	1	1.1	87	100	4.45	.86
3) passport T-shirt	70	77.8	17	18.9	0	0.0	1	1.1	2	2.2	90	100	4.69	.74
4) $25 gift certificate	81	90.0	8	8.9	1	1.1	0	0.0	0	0.0	90	100	4.89	.35
5) five free camping coupons	79	90.8	6	6.9	2	2.3	0	0.0	0	0.0	87	100	4.89	.39

Table 7. Frequency and Percent of Respondents' Satisfaction with the MSPPP Services

Service	Perceptions: very satisfied F	very satisfied %	somewhat satisfied F	somewhat satisfied %	neither satisfied nor dissatisfied F	neither satisfied nor dissatisfied %	somewhat dissatisfied F	somewhat dissatisfied %	very dissatisfied F	very dissatisfied %	Total F	Total %	m	SD
1) facilities' operation hours	25	8.7	43	49.4	4	4.6	14	16.1	1	1.1	87	100	3.89	1.04
2) employees' helpfulness at state parks and historic sites	66	4.2	20	22.5	0	0.0	2	2.2	1	1.1	89	100	4.66	.71
3) locations of facilities to obtain stamps	30	4.5	33	37.9	3	3.4	19	21.8	2	2.3	87	100	3.80	1.20
4) procedure for obtaining prizes	71	0.7	13	14.8	3	3.4	1	1.1	0	0.0	88	100	4.75	.57
5) procedure for obtaining stamps	32	6.4	29	33.0	6	6.8	20	22.7	1	1.1	88	100	3.81	1.19

Table 8. Frequency and Percent of Respondents' Overall Satisfaction with the MSPPP

Overall Satisfaction with the MSPPP	Frequency	Percent
Very satisfied	68	76.4
Somewhat satisfied	18	20.2
Neither satisfied nor dissatisfied	1	1.1
Somewhat dissatisfied	0	0.0
Very dissatisfied	2	2.2
Total	89	100.0

m=4.69, SD=.717

Table 9. Frequency and Percent of Respondents' Satisfaction with the Ease of Completing MSPPP

Satisfaction with the ease of completing MSPPP	Frequency	Percent
Too short	2	2.2
About right	79	87.8
Too long	9	10.0
Total	90	100.0

Table 10. Frequency and Percent of Respondents' Demographics

Demographics	Frequency	Percent	Demographics	Frequency	Percent
Sex			Employment status		
Male	43	48.3	Employed full-time	30	33.7
Female	46	51.7	Employed part-time	4	4.5
			Full-time homemaker	4	4.5
Age			Retired	48	53.9
21-29	4	4.7	Student	0	0
30-39	5	5.9	Unemployed	3	3.4
40-49	8	9.4			
50-59	30	35.3			
60-69	28	32.9	Ethnicity		
70-79	10	11.8	African American	0	0
			Asian	0	0
Education			Latino	0	0
Less than 12th grade	8	9.0	Native American	3	3.4
High school graduate or equivalent	31	34.8	White American	84	96.6
Some college	24	27.0			
Associate degree	9	10.1	Household Income		
Bachelor's degree	7	7.9	Less than $9,999	3	4.3
Master's degree	7	7.9	$10,000-$19,999	10	14.3
Professional school degree	3	3.4	$20,000-$29,999	20	28.6
Doctoral degree	0	0	$30,000-$39,999	12	17.1
			$40,000-$49,999	7	10.0
			$50,000-$59,999	5	7.1
Marital status			$60,000-$69,999	5	7.1
Single	11	12.4	$70,000-$79,999	5	7.1
Married	78	87.6	$80,000 or more	3	4.3

Discussion and Implications

More than half of the participants learned about the program from the information in parks. Other sources were not very effective. That might be the reason why MSPPP attracted more repeat visitors than new visitors. The researcher suggests that MDNR DSP establish different promotion strategies based on the differences of the areas, demographics, and motivations. The researcher recommends that MDNR DSP use more brochures to promote the MSPPP. Tew et al. (1999) suggested that seasonal program brochures were the most widely used for promoting programs and the remaining efforts were devoted to non-printed sources, such as word of mouth, television and radio. The researcher recommends that MDNR DSP promote the program on the MDNR DSP web page.

Second, based on the importance score of the reasons for participating in the MSPPP, the participants felt that "discover new places and things" and "increase my knowledge of Missouri State Parks" were the most important reasons for participating in the program. MDNR DSP needs to promote "discover new places and things" and "increase my knowledge of Missouri State Parks". This might encourage more people to participate in the program.

Third, based on the conclusions of the prizes satisfaction score, most of the participants felt satisfied with camping coupons, the $25 certificate and patches. MDNR DSP should keep and promote these prizes. However, compared to other prizes, "passport banner" and "passport T-shirt" had lower scores. MDNR DSP should consider eliminating these prizes.

Fourth, in the MSPPP services, the participants were very satisfied with the "procedures for obtaining prizes" and "employees' helpfulness at state parks and historic sites". However, "locations of facilities to obtain stamps", "procedure for obtaining stamps" and "facilities' operation hours" had lower satisfaction scores than other services. MDNR DSP needs to provide accurate directions and clearer signs to each site. Some of the sites on the list that MDNR DSP provided are not correct. Some participants needed to seek assistance to find some sites and passport stamps. The researcher suggests that MDNR DSP check the direction list and make sure the list is accurate. The participants can only obtain the stamps during the operation hours. The researcher suggests that MDNR DSP find a way for the participants who do not visit the sites in the operation hours to get stamps.

Fifth, demographic variables affect leisure activity choice and participation (Bammel & Burrus-Bammel, 1996). Therefore, making a passport-tracking list is important. If MDNR DSP leaves the name, age, gender, whom did they participate with and address of the intended participants who requested the passport booklet, it would be more efficient for future researchers to study the program. It is also a benefit to MDNR DSP to track who completed the MSPPP and who did not complete the program. It is important to know the reasons why people did not complete the program.

Sixth, MSPPP attracted more White Americans, married, and less educated participants. There were very few minorities, single, younger, above some college degree, and higher income participants. Moreover, there were no students who completed the program. MDNR DSP should target these people for marketing.

Seventh, MDNR DSP may evaluate Missouri parks system by the participants who completed the program. All of the participants visited all the sites in Missouri. Their suggestions may be valuable to MDNR DSP for improving park facilities or settings. If MDNR DSP plans to continue MSPPP, the participants should evaluate the program annually.

Eighth, most of the participants felt satisfied with MSPPP. The participants described the program as a wonderful, educational, enjoyable, and fun program. Some participants also mentioned that it is also a good family activity and provides chances to know some nice parks they haven't known. They will bring family and friends to participant in the program in the future. The researcher and participants suggest that MDNR DSP should continue the program.

Based on the participants' comments, the participants suggested some recommendations for MSPPP. First, many participants mentioned that many stamp ink pads were dry or missing. Some of the participants also had problems getting the stamps after operation hours. The researcher suggests that MDNR DSP checks the ink pads and stamps often and also mentions to the participants where to get the stamps after operation hours.

Second, the passport signs were not very clear. Some participants had a hard time finding the MSPPP signs. The researcher suggests that MDNR DSP make the signs at each site clear.
Third, some participants preferred more free night stays in the parks. The researcher suggests that MDNR DSP give more free camping coupons to participants.

Based on the results of the study and the literature, the researcher made the recommendations for the future studies and future researchers. First, constraints are the factors that are perceived by individuals to inhibit or prohibit participation and enjoyment in leisure (Jackson, 1993). Constraints to leisure participation have captured leisure researchers' attention for several decades because of the role constraints play in leisure decision making. Crawford and Godbey (1987) initially termed leisure as factors that could deter leisure participation and create difficulties to realize the beneficial effects of this participation (Crawford & Godbey, 1987). Future studies about constraints may determine the reasons why people do not participant in the program.

Farrell and Lundegren (1991) indicated four classifications of evaluating programs (administration, leadership or personnel, program and areas and facilities). Henderson (1995) described five classifications (5Ps) in evaluation: program, personnel, participant, place, and policy/administration. Henderson (1995) mentioned that trying to access everything usually results in poor

conceptualizations. This study only concentrated on program and participants evaluation. Future researchers should evaluate the program in the other classifications.

Martilla and James (1979) and Guadagnolo (1985) stated that Importance-Performance Analysis (I-P) is a useful technique for measuring the desirability of product attributes. This I-P is based on research findings indicating that participants' satisfaction is a function of participants' expectations about attributes of a program they consider important and participants' judgments about agency performance on these attributes (Rossman, 1989). In I-P, participants are given a pretest before participating in a program to determine which program attributes are important to them. After participation, the participants are given a posttest with the same items. The process is to determine how well the agency performed in delivering the program attributes (Rossman, 1989). The results of the pre and post measurements are plotted on a two-dimensional matrix. The researcher recommends that I-P would be another evaluative model for evaluating the program. The model determines which item needs the most improvement based on how important the item is and how satisfied the participants feel. The results would help MDNR DSP in its decision-making.

References

Busser, J. A., Carruthers, C. P., & Hyams, A. L. (1996). Differences in adolescent activity participation by gender, grade and ethnicity. Journal of Park and Recreation Administration, 14(4), 1-20.

Bammel, G., & Burrus-Bammel, L. L. (1996). Leisure and human behavior (3rd ed.). Dubuque, IA: Brown & Benchmark.

Beard, J. G., & Ragheb, M. G. (1980). Leisure satisfaction: Concept, theory & measurement. In S. Iso-Ahola (Ed.), Social psychological perspectives on leisure and recreation. Springfield, IL: Charles C. Thomas.

Beard, J. G., & Ragheb, M. G. (1980). Measuring leisure satisfaction. Journal of Leisure Research, 12(1), 21-33.

Beard, J. G., & Ragheb, M. G. (1983). Measuring leisure motivation. Journal of Leisure Research, 15(1), 219-228.

Bennett, C. F. (1982). Reflective appraisal of program (RAP): An approach to studying clientele-perceived results of cooperative extension programs. Ithaca, NY: Cornell University Press.

Compton, D. M., Edginton, C. R., & Hanson, C. J. (1980). Recreation and leisure programming: A guide for the professional. Philadelphia, PA: Saunders College.

Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. Leisure Sciences, 9, 119-127.

Edginton, C. R., Edginton, S. R., & Hanson, C. J. (1992). Leisure programming: Concepts, trends, and professional practice (2nd ed.). Dubuque, IA: Wm. C. Brown Communications, Inc.

Farrell, P., & Lundegren, H. M. (1991). The process of recreation programming: Theory and technique. State College, PA: Venture Publishing.

Guadagnolo, F. B. (1985). The important-performance analysis: An evaluation and marking tool. Journal of Park and Recreation Administration 3(2), 13-22.

Henderson, K. A. (1995). Evaluation leisure services: Making enlightened decisions. State College, PA: Venture Publishing.

Martilla, J. A., & James, J. C. (1979). Important-performance analysis. Journal of Marking, 41(1), 77-79.

Missouri Department of Natural Resources Division of State Parks (MDNR DSP). (1995, Fall). Missouri State Parks Passport. [Brochure]. Jefferson City, MO: Author.

Missouri Department of Nature Resources Division of State Parks (MDNR DSP). (1997a Spring). Unpublished raw data.

Missouri Department of Nature Resources Division of State Parks (MDNR DSP). (1997b Spring). Unpublished raw data.

Missouri Department of Natural Resources (1997). Missouri's masterpieces. [Brochure]. Jefferson City, MO: Author.

Missouri Department of Natural Resources (1997). Missouri State Parks Passport Program. [Brochure]. Jefferson City, MO: Author.

Ragheb, M. (1980). Interrelationships among leisure participation, leisure satisfaction, and leisure attributes. Journal of Leisure Research, 12(3), 138-149.

Rossman, J. R. (1989). Recreation Programming: Designing leisure experiences. Champaign, IL: Sagamore Publishing.

Tew, C. F., Havitz, M. E., & McCarville, R. E. (1999). The role of marketing in municipal recreation programming decisions: A challenge to conventional wisdom. Journal of Park and Recreation Adnimistration, 17(1), 1-20.

Theobald, W. F. (1979). Evaluation of recreation and park programs. New York: John Wiley & Sons, Inc.