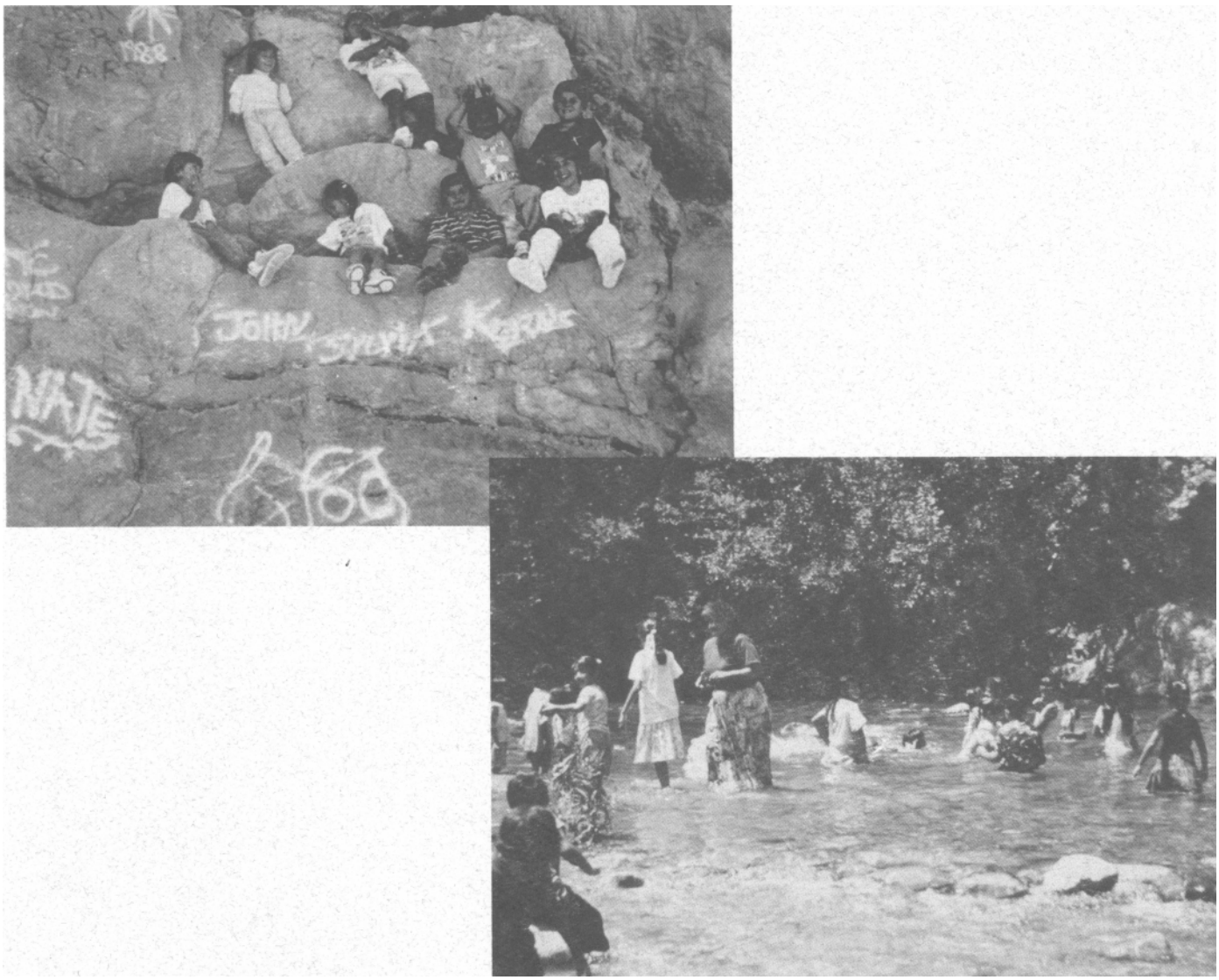
United States
Department of
Agriculture

**Pacific Southwest
Research Station**

General
Technical
Report
PSW-GTR-132

Proceedings of the Symposium on Social Aspects and Recreation Research

February 19-22, 1992, Ontario, California



Chavez, Deborah J., technical coordinator. 1992. **Proceedings of the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.** Gen**.** Tech. Rep. PSW-GTR-132. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 96 p.

The growing demand for recreation at the wildland-urban interface throughout the United States poses new challenges for natural resource managers. To enable resource managers and researchers to exchange information and ideas, the first Symposium on Social Aspects and Recreation Research was held. The format of the symposium offered various opportunities for interactive communication among attendees. The proceedings contain a keynote address, abbreviated versions of 27 oral presentations, and summaries of sessions covering poster presentations, simulated field trips, and round table discussions. Issues addressed include these: access, land stewardship and ethics, cultural diversity of recreationists, service delivery strategies, agency-visitor interaction, conflict, partnerships, and data collection techniques.

Retrieval Terms: conflict, cultural diversity, land ethics, land stewardship, service delivery strategies

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Publisher:

Pacific Southwest Research Station
Albany, California

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June 1992

Proceedings of the Symposium on Social Aspects and Recreation Research

February 19-22,1992, Ontario, California

Deborah J. Chavez, Technical Coordinator

Contents

Preface

The first Social Aspects and Recreation Research (SARR) Symposium was held February 19-22, 1992, in Ontario, California. The theme was the social aspects of the wildland-urban interface. Sponsors were the Pacific Southwest Research Station and the Pacific Southwest Region of the Forest Service, U.S. Department of Agriculture; the Social Aspects of Resource Management Institute at California State Polytechnic University at Pomona; the California State Office, Bureau of Land Management, U.S. Department of the Interior; the Consortium for the Social Values of Natural Resources; and the Society of American Foresters.

The idea for the symposium was first proposed in a meeting of the Wildland Recreation and Urban Culture Research Work Unit of the USDA Forest Service's Pacific Southwest Research Station in late 1990. In several meetings we refined what we wanted to get out of the symposium and what we wanted others to get from it.

Our vision for the SARR Symposium was interaction. We viewed this symposium as a golden opportunity for communication between and among resource managers and researchers. -We expected participants to gather social and recreational information and share their thoughts about that information. We offered many ways for this communication to take place, including these: (1) keynote addresses on wildland-urban interface issues with time allotted for questions and responses; (2) concurrent sessions of extended length allowing for questions and responses; (3) an educational poster session; (4) round table sessions where up to 10 participants could discuss a topic of mutual interest; (5) simulated field trips where resource managers could describe their resource area to participants and answer questions about that area; and (6) an actual field trip where participants could visit one of two dispersed recreation sites on urban National Forests to learn about it directly from the site resource managers.

Keynote addresses were given by John Twiss, USDA Forest Service; John J. Moeller, USDI Bureau of Land Management; and Jack Kelly, University of Illinois. There were 46 concurrent session speakers and session topics included these: access initiatives; agency and visitor interactions and communications; conflicts in the wildland-urban interface; data collection techniques for multicultural environments; education; fire safety; land stewardship; land use ethics and communication with multicultural groups; managing the research function for human and natural environment interaction; partners in the wildland-urban interface; service delivery strategies for multicultural environments; valuing cultural diversity; and wilderness issues for urban proximate areas. In these Proceedings you will find copies of the presentations made available to us by the keynote and concurrent session presenters.

Summaries of presentations at the educational poster, round table, and simulated field trip sessions are also included. Educational posters were presented by 14 people, 12 people presided over round table discussions, and 6 people gave simulated field trips.

The volume of abstracts including all of the symposium sessions are available from the Wildland Recreation and Urban Culture Research Work Unit, Pacific Southwest Research Station, 4955 Canyon Crest Drive, Riverside, CA 92507.

Two groups were responsible for planning and running the symposium. From the Wildland Recreation and Urban Culture Research Work Unit of the Pacific Southwest Research Station, Project Leader Deborah J. Chavez served as Program Chair; Social Science Technician Lisa Caro served as Symposium Coordinator; and unit staff members John Baas, Victor Caro, Sung Cho, Arthur Magill, and Hahn Tran provided valuable support. Special thanks go to Editorial Assistant Lola Thomas, Technical Publications Editor Roberta Burzynski, and Forestry Technician Timothy Knorr of the Pacific Southwest Research Station for their time and effort. From the Department of Health, Physical Education and Recreation, California State Polytechnic University at Pomona, Professor Robert Pfister served as Administration Chair. Special thanks also go to the staff and student volunteers of the Social Aspects of Resource Management Institute at California State Polytechnic University at Pomona for their assistance at the symposium.

Most importantly, thanks go to every presenter and attendee at the SARR Symposium. The 170 attendees represented the Forest Service, U.S. Department of Agriculture; the Bureau of Land Management and the National Park Service, U.S. Department of the Interior; the California Department of Forestry and Fire Protection, and Department of Fish and Game; the Canadian Park Service; and various regional parks and open spaces. The attendees also represented the following universities and colleges: Arizona State University; California State University at Northridge, Chico, Pomona, and San Luis Obispo; Houghton College; Indiana University; Northern Arizona University; Ohio State University; Oregon State University; Pennsylvania State University; San Francisco State University; Southwest Texas State University; State University of New York; Temple University; University of Alaska; University of Arizona; University of California at Berkeley, Riverside, and San Diego; University of Calgary; University of Illinois; University of Minnesota; University of Wisconsin; Utah State University; Virginia Polytechnic Institute and State University; and West Virginia University.

We hope to see you again in 1994, when the second SARR Symposium is planned.

Deborah J. Chavez
Technical Coordinator

Keynote Address[1]

John J. Moeller[2]

As land and resource managers and specialists, we contribute to or make critical decisions that affect not only current but future generations. Yet our scope and vision has often been limited to resource or environmental issues without regard for other influences or factors.

This foreword of the report "Our Common Future" from the World Commission on Environment and Development, states: "The environment does not exist as a sphere separate from human actions, ambitions, and needs, and attempts to defend it in isolation from human concerns have given the very word `environment' and connotation of naivety in some circles."

The report also states: "The environment is where we all live; and development is what we all do in attempting to improve our lot within that abode. The two are inseparable. Our actions in managing them should better reflect that relationship."

The Present and the Future

As we think about our role in contributing to present and future land and resource management I would like to highlight a few of the key realities and challenges we face.

Population Base

Worldwide

Projections predict an increase in global population from about 5 billion in 1992 to 6.1 billion in 2000 and 8.2 billion by 2025.

Ninety percent of the growth is expected in the poorer developing regions of the world.

Mobility changes are expected to be from countryside to city.

By the year 2000 about 45 percent of the world population will live in cities, with the more developed regions having about 75 percent of their population in urban areas.

Standards of living are rising in many areas, but both Latin America and Africa ended the 1980's with lower standards of living than they had at the beginning of the decade.

Within the United States

Population growth is predicted to be less than 1 percent annually—about 275 million by 2000.

Diversification of our population will continue with minorities and foreign-born populations growing.

Industrial restructuring will change job and workforce patterns with greatest growth most likely in both the highly skilled and unskilled job sectors and with greater gaps in income distribution.

Issues such as health care, crime, and substance abuse will occupy much of our agenda for social research, investigation and investment.

Economic Base

The world economy of $13 trillion is anticipated to grow five to tenfold in the next 50 years.

World production of goods is seven times greater now than in 1950 and will continue to grow.

Antipollution technologies have proven cost-effective in terms of health, property and avoidance of environmental damage. Other new technologies have contributed to the consumption of raw materials, remaining steady or in some cases declining.

Resource Base

Each year approximately 14.5 million acres of productive dryland turn into desert.

Tropical moist forests cover about 6 percent (roughly 2.2 billion acres) of the Earth's land surface of over 36.7 billion total acres. An estimated 15-20 million acres of this resource are being eliminated or significantly altered each year.

The 1980 global energy consumption was about 10 billion kilowatts, with about 75 percent of the consumption by 25 percent of the population. Predictions of future needs vary greatly, but all show a marked increase. Ranges are from 14 to 55 billion kilowatts consumed worldwide by 2025.

The world produces more food per person today than ever before. However, with population growth and rising incomes it is anticipated that production will need to increase 3 to 4 percent per year.

The United States still retains a rich resource base much of which falls under management responsibility of the agencies that many of us in this room work for. Our task is to find ways of responding to today's issues and needs while still protecting our future.

Toward a New Perspective

Each of these three areas (population and social, economic, and resource and environmental) traditionally have been dealt with separately by policy and decision makers. Each has often had its own decision processes and has been looked at without much concern for the other. There is, however, a developing recognition of these relationships:

- Environmental stresses are linked to each other. Some examples: deforestation increases soil erosion; air pollution and acidification help kill forests and lakes.

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[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

[2]Deputy Assistant Director for Support Services in the USDI Bureau of Land Management, Washington, D.C.

- Environmental stresses and patterns of economic development are linked. Examples: agricultural policies contribute to land, water, and vegetation degradation; energy policies are linked to greenhouse issues and fuelwood deforestation.
- Environmental and economic issues are linked to many social and political factors. Examples: rapid population growth has a great effect on the environment; environmental stress and uneven development can cause social tension, such as with the thousands of "environmental refugees" in northern Ethiopia.
- All of these interconnected processes operate not only within but between nations: industrial nations' agricultural policies of subsidization can erode agricultural viability in developing countries; environmental systems are transboundary; there is a growing sense among many world leaders that a new era of cooperation is needed to deal with these common problems, particularly environmental concerns.

The focus of new approaches is to try to find ways of sustaining ecosystem productivity along with economic development capability that is linked to social development and the satisfaction of human needs.

The Research Base

To have the needed understanding and knowledge to move forward in effectively integrating social, environmental, and economic factors in making decisions we need to reassess our research base.

Much of the research of natural resource management organizations has been single-focused biological or physical sciences research—often oriented to a single species, single issue, or single use.

Little research, in comparison, has been conducted on human/environmental systems interaction. A recent National Research Council (NRC) Report on Global Change identified a major gap in research investigating the human-caused changes that affect global environmental change. The NRC Committee is preparing the report identified "environmental social science" as a complex and difficult challenge that needed to be addressed in understanding global change. The Committee also recommended a new research program on the human dimensions of global change.

A similar situation exists regarding other natural resource management issues. Research of exceptional quality has been conducted, but because of our prevailing management focus, has dealt only with a few program areas such as outdoor recreation and leisure activities.

Management change research dealing with natural resource management is very recent and is occurring only at a few sites. Initial results indicate promise but also the need for greater interaction between researchers and managers to focus social aspects research on the most pressing issues.

A Bureau of Land Management Research Focus

I would now like to shift focus to give a perspective on the directions envisioned for a new research focus for the Bureau of Land Management (BLM). Where is BLM going with research in the future?

BLM developed a draft strategic plan for Science and Technology which is now under final review and development.

BLM is an agency with a multiple use and sustained yield mission. In setting out where we are going, I can best say it by stating the research goal from the strategic plan:

> To carry out a land management ethic based upon balancing the use of lands and resources to meet the environmental, economic development, and social needs of the nation for present and future generations. Our goal is to strengthen research, science, and technical development efforts; to accommodate the growing emphasis on global environmental issues; to incorporate proven technological developments into program practices; and to support and encourage research designed to acquire and promote the use of scientific knowledge that will help us maintain healthy and sustainable ecosystems capable of producing diverse resources.

Science and technology program emphasis will be in the following areas:

1. Understanding ecosystem processes—such as climate, TandE species, and arid lands systems.
2. Ability of ecosystems to sustain production and use while retaining health, diversity, and variability.
3. Understanding geologic processes, mineral occurrence and conservation of mineral resources.
4. Developing technologies for management or rehabilitation of land or resources.
5. Understanding social, economic, and institutional relationships to land and resources management.
6. Cultural and historic uses of the public lands and implications for modern management.

In implementing this renewed focus, the BLM does not intend to launch major new initiatives in each area. Rather we believe that these are where we need to fit and direct our research projects as we enhance our program. Implementation will be directed towards the following:

- Interdisciplinary research in cooperation with others
- Conducting research in close collaboration with universities, Forest Service, Fish and Wildlife Service, National Park Service, and Agricultural Research Service facilities, etc.
- BLM research Center to guide research management and coordination— a core group of senior research scientists, natural resource specialists, administrative staff, and communication specialists located in a BLM center.

- Interpretation and communication of research results through a science communication system that is linked to management, in order to keep the research program geared to management needs and issues and to have managers involved in strategic planning as well as in sponsorship and approval of projects.

Federal Research Initiatives

In the fiscal year 93 budget $76 billion is proposed for research and development. Major areas proposed are these:

- $40 billion for defense
- $8 billion for space
- $5 billion protecting the public health
- $4 billion for biotechnology research

Department of Interior Research Initiatives

- Global Change Research Program
- National Water Quality Assessment Program
- Outer Continental Shelf Program
- Natural Resource Damage Assessment
- Science/math Education to implement the President's science, math and engineering initiative.

The research perspective at the top levels of the Federal Government are focused on defense and on enhancing long term economic growth by improving productivity. Little in the budget is obviously for social aspects research so you have your work cut out for you.

Challenges for Social Aspects Research

Most of our natural resource policy development and land-use planning decision making has been driven or dominated by a single culture focus and does not reflect the demands and use now occurring in many areas. There is a need for change, and our research must be oriented towards understanding, explaining and facilitating needed changes.

Within the Social Aspects component of natural resource research there are needs for research oriented towards these topics:

- Multicultural environments—we cannot assume homogeneity of land users and we must manage to meet the needs of a diverse population.
- Better understanding of how to incorporate social needs into the implementation of sustainable development land management ethics.
- Understanding cultural norms and values of different population groups and their influences on resource use and allocation. Ethnic differences mean a different pattern of social interaction as different cultures perceive activities differently.
- Human responses and consequences related to land and resource uses. We can now change global environmental systems through human actions, and we need to better understand this dimension.
- Understanding demographic changes that are occurring and their potential implication for management. Shifts are occurring and we must maintain our understanding of what they mean for future management.
- Understanding of how we can distinguish between general public attitudes and local user attitudes and strategies for communication with multicultural users so that we can provide better service to all public land users.

In Closing

The world around us is changing, and while the future is full of dangers it is also full of great prospects for being more prosperous, more just and more secure.

We can move information at fantastic speeds anywhere on the globe, products can be delivered across oceans in a day, we can produce more food and goods with less investment of resources than ever before, and technology and science give us the greatest potential we have ever had of understanding natural systems.

Understanding human activity is the ultimate key, and including of social aspects or human dimensions with environmental and economic considerations is crucial to ensuring that the needs of the present are met without compromising the ability of future generations to meet their own needs.

Our challenge is to balance and maintain ongoing research priorities while building a more complete research base on the human and social aspects of sustainability.

I cannot offer you an easy solution—management priorities, budgets, and our limited research capability are already stretched thin.

Still, there are things we can do such as these:

- Expand the dimension of planned or ongoing research where possible to meet broader objectives
- Reassess completed research to glean further understandings of implications for broader natural resource management and social and cultural issues
- Continue to build support networks and information sharing mechanisms to aid each other in our individual but interconnected missions.
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We each have a job to do, but as we look to the future we can see that what we do is more than just a job—rather it is a chance to contribute to solutions that are crucial to our collective well being.

It is great to see the topics addressed at this conference. I am pleased the BLM is actively participating and wish you all well in your efforts here and as you return to your home offices.

Papers from the First Concurrent Session, Thursday Morning

Access Initiatives

National Research, Technology and Training: Implementing Recreation Design Concepts[1]

Edward J. Hamilton[2]

Abstract: These are exciting times. The changes that have occurred and that will occur for people with disabilities are of a magnitude similar to those changes occurring in Eastern Europe. The removal of physical and social barriers for people with disabilities are analogous to the removal of the Berlin Wall. As with the revolutionary changes occurring in Eastern Europe, the changes being wrought in the lives of people with disabilities in the United States are moving at a frantic pace, producing misinformation, misdirected efforts, and fears of what those changes will mean to the economy. The purpose of this paper is to discuss the means by which technology, research, and education begin to address the changes occurring in recreation for people with disabilities.

Advances in rehabilitation engineering and other technology have increased remarkably in the past decade. The introduction of assistive listening devices, such as audio loops, infra red audio systems, and text telephones have increased program and communication opportunities for those who are deaf or hard of hearing. Voice activated computers and optic scanners have provided greater access and independence for people with visual impairments. Advances in wheelchair design and adaptive recreation equipment have provided independent access to backpacking, downhill skiing, fishing, and nearly every other type of recreational pursuit for people with mobility impairments. The eventual application of virtual reality computer technology may allow alternative access to remote outdoor areas and challenging outdoor experiences to people with the most severe disabilities.

Although advances in technology have been abundant, application of that technology has been deterred by our ability to keep track of the changes, inflated costs, liability concerns, and the presence of inferior quality products. Overcoming these difficulties will require the development of technical resource centers for technical assistance. These clearinghouses will need to provide information on a variety of assistive devices, provide testing of various products, and provide cost comparisons. The National Center on Accessibility, located at Indiana University, is establishing such a clearinghouse specific to recreation, parks, and tourism. In addition, the National Institute on Disability and Rehabilitation Research has established regional centers for technical assistance throughout the United States.

The research needs regarding accessible recreation are many. Although there are volumes of studies examining the recreation preferences, constraints, and behaviors of recreation users in the United States, there is a paucity of like research on people with disabilities. The research that does exist has often been plagued by small sample size, unrepresentative samples, inadequate methodology, and a lack of appreciation for the multi-dimensional nature of people with disabilities. There are, however, several exciting developments that are occurring in this area.

Last year, the National Council on Disability contracted with Wilderness Inquiry to conduct a study of wilderness use by persons with disabilities. The study consisted of four parts: the first component surveyed over 500 wilderness managers from the USDA Forest Service, the National Park Service, the U.S. Fish and Wildlife Service, and the Bureau of Land Management to determine managers' attitudes toward providing access to wilderness areas for people with disabilities. The second component of the study involved an analysis of the policies of those four agencies related to people with disabilities and the wilderness. The third component surveyed 200 individuals with disabilities who were known to use wilderness areas to determine the frequency and locations of wilderness areas they had used, the degree of access to those areas, and their satisfaction with the experiences. The fourth component surveyed outdoor programs and outfitters who dealt with people with disabilities to assess their experiences with providing access to wilderness areas. The final draft of that study has been forwarded to the National Council on Disability for their review. Public release of the report is expected in Spring, 1992.

The National Survey on Recreation and the Environment (NSRE) has been developed and is currently being piloted. The survey, which is sponsored by the several federal agencies, private organizations, and the National Center on Accessibility, seeks to examine the outdoor recreation pursuits, constraints, preferences, and concerns of the American public. The study is attempting to include a representative sample of people with disabilities. We will conduct 25,000 telephone surveys and follow-up mail surveys to those households identified as including a person with a disability. The study, which will be conducted during a 12 month period beginning in May, will provide valuable information to service providers.

The importance of studies such these cannot be denied, nevertheless, there is also need for research of a different nature—research that experimentally tests the standards, guidelines, and concepts that have been developed for accessibility. For example, one of the assumptions of universal design is that a universal design is more effective and satisfying for everyone, not just people with disabilities. One of the studies to be conducted by the National Center on Accessibility is a comparison of able-bodied and disabled user satisfaction of campsites and lodging accommodations that have been developed with universal design principles. The results of the study could have significant implications for how we design all of our areas.

Research is needed that will examine the relative effectiveness of various trail surfaces, in terms of usability by persons

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

[2]Assistant Professor and Director, National Center on Accessibility, Indiana University, Bloomington.

with mobility impairments, aesthetics, and maintenance. One of the most difficult problems in terms of access to outdoor recreation has centered on beach access. Which designs, materials, or assistive devices can most effectively provide access without negatively impacting on the environment. The recently completed Guidelines for the Design of Barrier-Free Recreational Boating and Fishing Facilities developed by the States Organization for Boating Access failed to adequately address this problem.

Obtaining the knowledge that both technology and research can provide is only useful if it is utilized by all levels of service providers. The manager who has the knowledge and does not share that knowledge with his/her co-workers will fail to positively effect his agency's customers. Similarly, the maintenance personnel who understand the retrofit needs for accessibility and yet are not in position to influence financial decisions may be stifled in making change. Consequently, a multi-tiered program of education and information dissemination is needed.

For the past 3 years, Indiana University, in cooperation with the National Park Service, has conducted such a multi-tiered education program. Thus far, four levels of education have been offered. The basic education program promotes understanding of the needs of people with disabilities, the legislation that protects their rights, and the minimal standards to assure physical access. A second level of education has been developed specifically for designers and architects to examine the design standards in more depth and to explore specific design issues. A third tier of education has been developed to examine the unique problems associated with retrofitting existing facilities and areas to make them accessible. This education is targeted to maintenance personnel. The fourth level of education has been designed for interpreters and programmers around the issues and problems associated with providing physical access to buildings and areas are much different than those associated with providing program access. Getting a blind person to the Statue of Liberty requires different skills than enabling a blind person to "see" the Statue of Liberty. A fifth level of education is being developed for implementation this summer. This program will be targeted to upper management.

Finally, we must address what can be done to enable further development of technology, research, and education to facilitate greater inclusion of people with disabilities. None of us needs to be reminded that we live in very difficult financial times. These difficult financial times require us to manage our financial resources more effectively by maximizing opportunities for cooperation and collaboration. Nowhere are those opportunities more apparent than in research and education. Two of the projects referred to earlier are excellent examples of this cooperation. The NSRE is a collaborative research project of federal agencies, private organizations, and state universities. Similarly, the education programs offered by the National Center on Accessibility have been a cooperative effort of federal agencies, state agencies and Indiana University. If we are to successfully include people with disabilities, we must form more and stronger partnerships.

Access to Public Recreation Facilities and Universal Design[1]

R. Brian Kermeen[2]

Abstract: This paper will establish the need for an integrated management approach that addresses the needs of all customers. The discussion will highlight but not be limited to the needs of persons with disabilities in outdoor recreation activities. Barriers to participation and legal requirements of the Americans with Disabilities Act and other laws will be discussed. The need for a range of activities and challenges for both programs and developed facilities will be established. "Universal design" is an ideal that enables all users to participate in recreation activities regardless of their ability level. The application of universal design to developed facilities and programs will be explained. The evolving USDA Forest Service Access Program will be used as a reference on how agencies may improve their situation.

Like most areas managed by the Forest Service, U.S. Department of Agriculture, the central Sierra Nevada has steep and mountainous terrain. Most of our facilities evolved over time or were designed 30 years ago with no consideration for the needs of persons with disabilities. This is also true of the nearby communities. I am frequently asked why we should bother to build special facilities for people with disabilities. "They never come here anyway." I wonder why! It's as if people think we are doing this for somebody who does not exist.

The main thrust of my presentation will relate to the needs of people with disabilities, but there are many aspects of access that go beyond them. The needs of people with mobility impairment, those in wheelchairs, come to mind first when thinking of disabilities. Like the spotted owl, these folks are the "indicator species" of the human race (fig. 1). If their needs are taken care of in our facilities and programs, the needs of many other users are also satisfied better. So that we may establish a common vocabulary here I offer the following definitions:

Access—The means by which an individual acquires information or an experience. Access management can be used to encourage or prevent access depending on our objectives.

Barrier—free access-An ideal that strives to eliminate situations that prevent access. Barriers can be attitudinal, physical, social, or communicative.

Isolated barrierfree access—Segregated facilities or programs that remove the individual from the mainstream of activity. This is what we did in the 1970's.

Integrated barrier-free access—Facilitates participation into the mainstream for all participants through careful consideration of their different physical, mental, and social needs. This is the "one size fits all" approach to serving the people, which we call universal design.

How many of you have an official disability? Who can't read without glasses or contacts? Do you have a hearing aid, bladder bag, AIDS, epilepsy, or any other medical condition? Are you pregnant? Have you ever been burdened with the care of a dependent? Are you under 5-feet tall? You are vertically impaired! Have you ever broken or sprained a foot, leg, or arm? Were you born? You spent the first several years of your life totally dependent on others, but you probably forgot what it was like. Congratulations ... you are all members of the club! Most of us are lucky enough to be temporarily able-bodied most of our lives. We must remember that we didn't start that way, and we may not finish that way. With improved health care and longer lives, most of us in this room will outlive our ability to get around and about in a normal way (fig. 2).

Universal Design Benefits Everyone

Access for all! If we are not accommodating these folks in our programs and facilities, we are ignoring most of our customers. **Customer satisfaction** has been discussed a lot in recent

Figure 1—Indicators of how well we are doing our jobs.

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

[2]Landscape Architect and Forest Access Coordinator, Stanislaus National Forest, USDA Forest Service, Stanislaus, California.

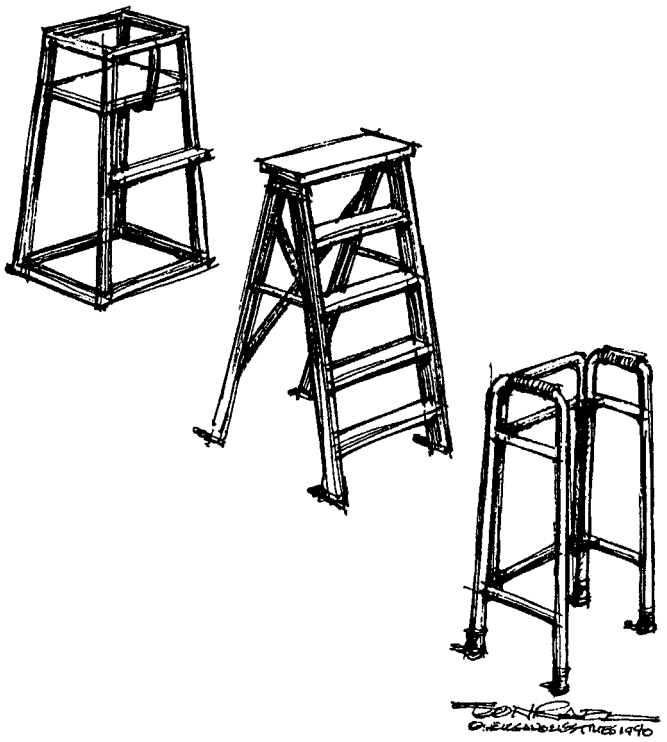

Figure 2—The three stages of a lifetime.

years. Effective access management is a vital prerequisite for success here. We cannot ignore 57 percent of our customers (fig. 3). **Universal design** is subtle when it is done correctly. Careful planning and good design prevent obtrusive "special" features. Are all of you familiar with the two biggest lies? "I'm from the Government and I'm here to help you," and "One size fits all." When it comes to universal design, these statements are truth, to the extent possible anyway. The "one size fits all" approach to design is quickly being recognized as the norm. The design guide soon to be published presents specific criteria that can be easily applied. Through the access program we will build on this base incorporating access concepts into many other programs.

Expanding to Include Cultural Considerations

Multiculturalism has replaced the melting pot social theories of the past. One way of looking at persons with severe disabilities is that they are members of a distinct culture. People born deaf think differently than the rest of us, for example. Universal design in combination with ROS (recreation opportunity spectrum) gives us a planning tool to incorporate the known needs of first generation emigrants who desire to recreate in larger groups. If our facilities are designed for the able-bodied nuclear family of the Ozzie and Harriet era, then we have a conflict. Once this is known and incorporated into the planning process, we may accommodate the need, enabling use by different cultures without conflict.

Universal design facilitates participation, freedom of choice, and **integration.** Much progress has been made in the use of **information.** International signing is helpful to non-English speaking customers. We are beginning to understand and research can help. Our President recently visited Australia and made a mistake. He flashed the "V" symbol to a crowd and they were shocked! In Australia that means something very different ... here we use only one finger! This illustrates the need to more fully understand the cultural context of our symbols, gestures, and words. When we have a relationship with our publics, this naturally occurs. At the field level, it is possible to have a rich and rewarding relationship with the public, not unlike a marriage. This is very different than a "public affair" a one-night stand where familiarity is shallow.

Integrated Administrative Approach

For an agency to most effectively develop an access program there must be collaboration and a holistic focus. In the Forest Service this means a team composed of recreation, civil rights, engineering, and information managers. The fragmented approach can not implement the vision shared here today. We can not ignore our own internal policies while we seek to implement a program for the public. If our own offices and employment policies contain barriers, how can we be effective with our partners and the public? When we advance both employment and public issues simultaneously, there is **synergy.** The President supported the Americans With Disabilities Act (ADA), and the Chief of the Forest Service wants the agency to be the employer of choice for persons with disabilities. When you consider that we lag far behind the private sector, this is a worthwhile goal. When it is understood that more money is spent on welfare for unemployed persons with disabilities than is spent on the National Defense, it makes both good economic and moral sense. Joe Meade in the Washington office chairs a committee that is structured in this way. Joe is also the national access coordinator.

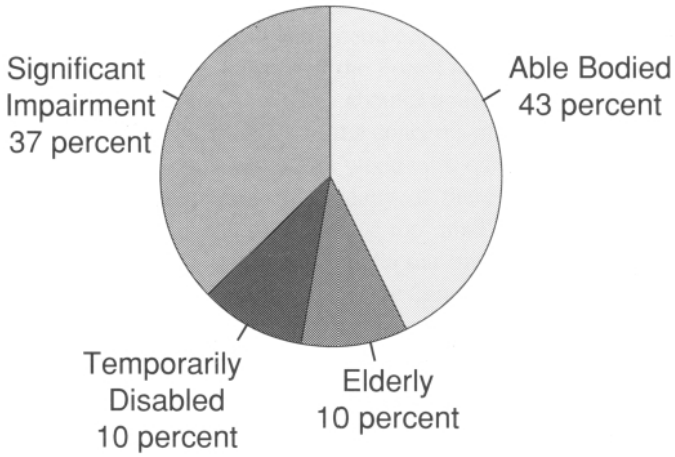

Figure 3—Segments of U.S. population benefiting from accessible programs, services and facilities.

The Access Program

The Access Program evolved out of the Chief's "Recreation Strategy" initiative of the late 1980's. It has been incorporated into the President's AGO (America's Great Outdoors) program as a major theme for the 1990's. This program will provide funding to improve existing facilities and build new facilities consistent with the universal design approach that you will hear about in this session. In addition to facilities, interpretive programs will be designed to work for everyone. Diverse recreation opportunities will be managed in such a way that they are accessible to new segments of the public. New tools are going to change the way information is communicated. The Access Program will act as a catalyst to bring about a new awareness and excellence in both public service and recreation management.

The Law

Just in case I have not yet convinced you that we must use universal design because it's the right thing to do ... by the way, it's the law. We have no choice. For 24 years we have had laws directing us to make our facilities accessible, but progress has been slow. This is especially true in the outdoor environment since regulations have focused on urban situations. The ADA extends the law to all privately owned public facilities. The design guide will for the first time spell out what must be done **and how** to do it in outdoor recreation settings. These are exciting times!

Conclusions

I believe this approach has depth—three dimensions.

Development and planning with the needs of all customers in mind.
Design using universal concepts.
Delivery of desired recreation experiences enabling freedom of choice.

This "3-D" approach results in dignity and satisfaction for the recreationist. Is that not the best we can do?

Winston Churchill said "First we shape our houses and then they shape us." I will broaden this concept. We shape our programs and facilities, and they in turn define our life experiences. These experiences collectively define American mass culture. Are freedom of choice, dignity, and the ideals of integration to be fulfilled? If so, then each of us has a role to play. Remember, we are all members of the disabled community. Either we manage access or it manages us!

Improving Access to America's Great Outdoors Through Partnerships and Volunteers: A Call for Involvement[1]

Kenneth J. Kunert[2]

Abstract: Significant improvements can be achieved with a minimal amount of funding. The holistic approach used by the Los Padres National Forest to improve the opportunities of persons with disabilities is described. Participation by management and employees in a diverse program of attitudinal training, employment practices, public service, and construction projects has been very effective. The enthusiasm generated by "internal" partnerships has made it easier to find "external" partners to help accomplish projects. Support is available in the form of grants and volunteers to assist public agencies that may not have the budget to make desired changes. Examples from various parts of the country will demonstrate that once there is a will, there is a way to get the job done.

America's Great Outdoors, Americans with Disabilities Act, Universal Design, Partnerships, Accessible Recreation and many other labels have been heard frequently by managers, all in an attempt to focus attention on how we provide recreation experiences in today's urban and nonurban settings. Now that I have gotten most of those labels out of the way let me say that what I share with you is not unique to access programs, but could apply to any or all aspects of how we do business.

What I value most from my experiences on the Los Padres National Forest is the relationships that have been established. I will share how an access program is evolving on Los Padres, some information on partnerships, the importance of communications, and pass on my thoughts on what remains to be accomplished.

Los Padres' "A" Team

The formation of a new Access Team, soon to be called "The 'A' Team," began in early 1990. We began with lots of questions. Why had similar groups failed? What makes groups work? What is it that we are being asked to accomplish? With answers to these there was then the "how to" questions to follow. We began the search by approaching employees that had participated in volunteer employee programs in the past but had dropped out after only short periods of time. The bottom line is that participants had entered these programs with expectations, both for themselves and for the program, that were not being met. What if we could learn about these expectations and promise that they could be met? The courtship began with all employees that had expressed even the slightest interest in addressing the issue of accessibility. We began a conversation to become organized with only one topic on our agenda, how can we help you get what you want? Our first get together was with eight people, representing all Districts of the Forest. Currently, about 20-24 people regularly participate, and others drop in when a particular topic meets their needs. Most of the team are looking for ways to enhance their careers, gain satisfaction from their accomplishments, and make a difference in the forest environment. The "A" Team can do all of this together.

The vision of the group was the next step. In short this vision is that Los Padres is accessible to all, and people set their own limitations. Accessible to all includes everything, employment as well as facilities. The program of work is an easy step after identifying a vision; find the most effective ways to make that vision a reality. The outcry from the group was that we can't do it alone, we need the whole forest and the help of many others. One additional challenge was placed in front of each team member. We are all expected to be active in reaching accomplishments and must bring something to the party. No one turned down this request.

The process of establishing a relationship with management, representing the entire Forest, began the same way, how can we help you. From a list of possibilities, we helped management identify real opportunities that support our vision. Now it was time to enroll management in the vision and the same vision was adopted as part of the culture statement for the Forest. The communication with management has continued ever since; it is their program and any accomplishments are theirs. The idea of not being separate from the forest program is important if any real changes are to be made. Access must be the way of doing business not a special program or temporary emphasis. With management seeing an opportunity by adopting a program of work that includes access and by making it their program the "A" Team was better able to focus on being advocates and influence an established forest program rather than being advocates for incorporation of access.

Enthusiasm mushroomed as visibility increased and management began to consult with members of the team. A report of activities from each District of the Forest took about 5 minutes when we started and now takes about 2 hours to complete. Not only are people more aware of the concerns of the disabled, but ideas started to come out of the woodwork on what and how to make Los Padres accessible. Many of these ideas led us to realize that we were still playing too small and needed the support of an even larger group. Enter our first steps outside into the community. Guess what, the same thing works. How can we help you? A conversation that once again begins with relationships being established, followed by identification of possibilities, zeroing in on opportunities, got us rolling. All of this takes place prior to making any requests.

With the enthusiastic support of new players we were in better touch with the disabled community and equipped as a forest to take on projects that were out of reach earlier. The

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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construction of a new interpretative trail, the development of fishing facilities, and a comprehensive look at how to improve existing facilities, in our developed recreation sites would not have been possible without the thousands of hours of donated efforts. We have also noticed, or maybe only been more aware, of the number of forest recreationists with disabilities. The project work and the relationships formed in accomplishing them has brought about the satisfaction many of the team members seek.

The team of forest employees and all the wonderful people and relationships that have been formed is still evolving, at times it appears that we are more disorganized than organized, but we are producing results, and all of us are enjoying playing the same job together. I declare that success.

Partners, Friends, Volunteers, Relationships That Work

If the idea of partners, volunteers, etc., is how to get a specific task accomplished or for donations of some kind, you may find it works once. Success in partnerships is based on relatedness with people. Ever wonder why it is so easy for a parent to grant a request to their children? A relationship must exist. A system that works is to establish friendships, making the friendship the most valuable reason for the partnership. This is time well spent, and we seem to forget about it so often. As communication develops around this friendship, possibilities, opportunities, common interests and yes, common goals surface that might lead to helping each other out on one or more projects. The partnership will not last if relationships have not been established and both parties don't see an opportunity out of the project.

Once a partnership is established there are no assigned roles, it is no longer an agency and other people, it is just people doing a job that needs to be done. One of the biggest adjustments to make is that we will find ourselves working on common projects that were not part of our (agency) original thinking. We may find ourselves working on a project for a city agency or a neighborhood or even on our own Forest because it fits as part of a common vision and helps to maintain a valuable relationship. The leaders for projects like this may come as volunteers or as volunteers from within the agency.

Payoffs for these partnerships are great. Understanding increases with participation, imagination finds solutions to problems that seemed too difficult to deal with earlier, coordination comes from devotion, and satisfaction develops mutually. Partnership creates an ever expanding pool of resources, the most valuable of which is the partnership itself. Your partners have such ownership in what they are creating that they spread the word much more effectively than we ever could.

Sometimes we do remember the need to find the payoff for our partners but often forget to even notice the payoff for ourselves. I am not talking about a new facility or the accomplishment of some goal on the job, but rather what we get as individuals for our participation. A payoff I get every time I see a facility I helped establish being used by recreationists is a great feeling of warmth and giving to know I was part of making it happen. What does the development of partnerships have to do with employees? Look towards morale, the eagerness to go to work each day, and the overall work environment. What a difference it is going to work with partners rather than employees.

Conversation

As I began to gather my thoughts for what to share about partnerships and the team spirit that exists on Los Padres I noticed how similar the process is to successful conversation—seven parts that lead to success. Each of these parts require completion prior to moving on to the next one. First, establish a *relationship*. Don't proceed without relationship. Second, explore within this relationship the *possibilities* that might be developed together. This may come from questions and informal discussions as you get to know your potential partner. At some point in this discussion one or more of the possibilities will appear as mutual interests with the commitment to become *opportunities*, the third part of conversation. When opportunities have been agreed upon we can begin to make *requests*. This fourth step is where we often want to start, and is actually closer to the end of the process than a place to start. We might make requests for anything that fits within the scope of the opportunities we mutually agree upon. The request can be canceled anytime from here on. Questions and answers could appear at anytime in the conversation.

After a request has been made the *promise* follows, the fifth step. Other options include declining the request, or committing to commit later, or a counteroffer. When a promise is made there is agreement and the sixth step of a conversation appears, *conditions of satisfaction*. These are the nuts and bolts of who does what and by when that often go into action plans. As the conditions are completed, a conversation has one final step, *declaration of completion*. This step, often left out, is important because it allows a new conversation or opportunity to begin.

As managers for all people we need to develop further information about the things that recreationists find interesting, interesting enough to have all people become partners in providing recreation for everyone. Just as importantly, we must identify what captures the imagination of our employees and make that our way of doing business.

The Camping Experience Among Families Who Have a Child with a Disability[1]

Laura McLachlin[2]

Abstract: The purposes of this study were to investigate how families who have a child with Down's syndrome spend their vacations and to explore families perceived barriers to family vacations. Interviews were conducted with families who had at least three children, one of whom had Down's syndrome. Using qualitative methods, data were collected in an exploratory study (n=25). An analysis of the results explores family vacation preferences and factors affecting family camping experiences.

The purposes of this qualitative exploratory study were twofold: (a) to investigate how families who have a child with Down's syndrome spend their vacations and (b) to explore families perceived barriers to family vacations.

A review of literature exploring family leisure research and more specifically, family vacations among families who have a child with a disability was conducted. Research has been extensive in the areas of leisure and family as separate entities, however few studies have been conducted on the role of leisure within the family. Some of the research reviewed for this study was found in the disciplines of family systems, leisure, and sociology (e.g., Holman and Epperson 1984; Murphy 1982; Rosenblatt and Russell 1975; Lucca and Settles 1981; Lyons 1987; Orthner and Mancini 1980, 1990). The literature dealing directly with vacationing for the disabled and their families was found to be scarce.

Methodology

To investigate family vacation patterns and perceived barriers to vacations, a multiple case study was conducted. This study was of an exploratory nature, and was intended for heuristic rather than prescriptive purposes.

Subjects for this study included 25 families who met the following criteria: (a) each family had a child with Down's syndrome, (b) each family had at least three children, (c) each family resided in a rural setting within 200 miles of Chico, California, (d) the parents were married and lived together, (e) at least one parent was employed full-time, and (f) both parents had earned a high school diploma. A purposive sample was used. The selection process was not necessarily intended to produce a representative sample of families who had a child with Down's syndrome living in California. However, the sampling process did assure that the families who were interviewed met the study criteria.

Because a wide variety of behavioral patterns are associated with Down's syndrome, a behavioral profile for the children with Down's syndrome was developed to further limit variance among the families.

A triangulated approach was used in the collection of data: (a) in-depth interviews were conducted and audio-taped, (b) field notes were taken during each interview, and (c) the responses and notes were reviewed by the subjects to verify accuracy and validity.

In the spring of 1990 all special education directors of rural counties within the study area (Northern California north of Stockton) were contacted and the purpose of the study was described. Of the 24 county special education directors contacted, 18 agreed to participate in the study. The investigator sent letters of invitation to the directors who in turn routed them to teachers of children with Down's syndrome. The teachers distributed the letters to families who met the characteristics for inclusion in this study. The families in turn contacted the investigator.

Interviews were scheduled with the entire family present and were conducted in the homes of the families. The data collection period lasted 1 week per two families for a total of 10 weeks.

Results and Discussion

Camping was identified as the favorite family vacation among most families. Camping vacations were viewed positively by family members and described as opportunities to build family cohesion, enhance communication, and relieve stress. Nearly all of the families who camped spent their camping vacations in California. All of the responding family members stated that they would like to camp more. Factors affecting the family camping experience included time constraints, location of family vacations, lack of recreational opportunities at camp grounds, and physical and/or behavioral problems experienced by the child with Down's syndrome. In most cases (72 pct of families) the presence of a child with Down's syndrome did not significantly alter family camping experiences. Seven of the families, however, exhibited extreme adjustments based primarily on the severity of physical complications and behavioral problems associated with Down's syndrome. The data suggest that those families who had a child with Down's syndrome who experienced physical and/or behavioral problems limit themselves to the home environment as their primary location of family leisure and vacations.

Several implications, based on the data and on the investigator's observations, are offered to enhance the camping experience for families who have a child with a disability. Every

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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effort should be made to make campgrounds as accessible as possible. This means that all common facilities and an appropriate percentage of campsites should be accessible (Americans with Disabilities Act, 1990). This allows for more individuals and their families to access federal, state, and local park systems. Accessible restrooms, drinking fountains, telephones, gradual slopes, and appropriate signage denoting facilities and trails should be a consideration when planning campgrounds.

Respite care is a service which provides parents a temporary cessation of childcare. Families who have a child with a disability would be much more likely to camp if opportunities for respite care were available. Although it is probably beyond the scope of campgrounds to provide this service, park personnel can encourage the private sector to offer respite care during peak seasons. In addition, lists of care providers can be made available to those families with special childcare needs. Staff should be trained to accommodate children with special needs. Such training would not need to be extensive but would include in-service workshops designed to train employees how to recognize and meet the unique needs of individuals with disabilities.

Some children with disabilities lack sufficient judgement in environments which may have possible hazards. When environments which pose minimal threats to personal safety are fostered, parents can feel relaxed about their children playing in safe areas. Elements of a safe environment that were commonly requested by parents were proper supervision, trained staff, and accessible programs.

These are some suggestions for enhancing the camping experience of families who have a child with a disability. It is clear from the data that park service professionals and other natural resource managers face challenging opportunities in providing for this under-served user group.

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Fire Safety, Education, Multicultural Environments, and Land Stewardship in the Wildland-Urban Interface

A Qualitative Study of Factors Influencing Racial Diversity in Environmental Education: Preliminary Results[1]

Kathy James Leo H. McAvoy[2]

Abstract: This study presents preliminary result interviews with people of color working in environmental education and interpretation throughout the United States. The three primary questions asked were these? (1) What path led each individual to a career in environmental education; (2) How does each individual define environmentalism? and (3) What are the primary issues this field must address? Identifying the common life experiences that pulled these individuals toward environmentalism may assist in attracting more people of color to the environmental professions, and may facilitate drawing support for environmental issues from a more diverse cross section of the population. The results describe three primary routes leading to interest in environmental concerns: an interest in science; positive outdoor experience; and a response to environmental degradation in one's community. Variations in definitions of environmentalism and in the goals for environmental education emerged in the interviews.

Environmental educators often address the need for biological diversity, yet the environmental professions have been criticized for a lack of human diversity. Racial diversity is missing in environmental education facility staffing, and—on a larger scale—environmental conservation and preservation organization membership (Berle 1987). Barriers to diversity in environmental education can be divided into the following seven categories: historical, communicative, attitudinal, programmatic, encouragement, companionship (Gibson 1989, Gibson and Moriah 1989), and definition of the issue (James 1991). This study was designed to determine ways to eliminate those barriers.

Study Description

This qualitative study utilized in-depth, semi-structured interviews with over 50 people of color working in environmental education throughout the United States (including both formal environmental education and informal community education addressing environmental issues). Subjects were recruited by posting a call for subjects at several professional conferences, including the 1990 Association of Experiential Education Conference (St. Paul, Minnesota), the 1991 National Association for Interpretation Conference (Charleston, North Carolina), a 1991 Midwest Regional Conference on Diversity for Success in Natural Resources (Stevens Point, Wisconsin), the 1991 North American Association of Environmental Education Conference (St. Paul, Minnesota), and the 1991 National People of Color Environmental Leadership Summit (Washington, DC). Respondents to these notices either volunteered to be subjects or suggested individuals they knew who might be willing to be subjects for the study.

From the pool of individuals volunteering to be interviewed, a stratified sample was selected to insure diversity in race (African American, Asian American, Latino/Hispanic, and Native American), geographic region (East, West, Midwest), and formal or informal education. Within each group, preference was given to individuals who could be interviewed in person. When this was not possible, scheduled phone interviews were conducted. The three primary questions asked were these: (1) What path led each individual to a career in environmental education? (2) How does each individual define environmentalism? and (3) What are the primary issues this field must address? All interviews were tape recorded, transcribed, and analyzed using qualitative data analysis procedures.

Paths to Environmental Education

Preliminary analysis of the interview indicates three primary paths for persons of color to work in environmental education. One path begins with an interest in science, often beginning with "pure" or abstract science. Pursuing this interest led to exploring applied, environmental science. Environmental education allows these individuals to share their interest in environmental science with students.

A second path to environmental education begins with positive experiences in the outdoors. This can include wilderness backpacking trips, visiting relatives' farms or simply playing in neighborhood parks. Environmental education is both a way to share this enjoyment of outdoors and a means of working to insure that there will continue to be opportunities for this type of recreation.

The third path to working in environmental education stems from recognizing the effects of environmental degradation upon a particular community, typically one's own. Environmental education becomes a way of combating community environmental degradation, and can lead to an interest in science as a tool in working to address environmental degradation. These three paths are not mutually exclusive, and there were some individuals who did not follow any of these paths to environmental education.

Definitions of Environmentalism

There were distinct variations in the study participants' definitions of environmentalism. These ranged from: "concern for the environment... [defined as] where life exists" to "issues having to do with ... the integrity of the natural resources ... also access to energy" to "a consciousness of fighting against health hazards that originate from an environment that is unhealthy, as a result of what is placed in that environment... environmentalism

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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is also effected by economics. It becomes an issue of social justice." Many participants explicitly stated that their definition included urban environments. Regardless of which definition was used, the overall goal of environmental stewardship remained constant.

One issue common to several participants is the connection between environmental issues and social justice. One component of social justice is acknowledging and recognizing various groups of people and their cultures. In environmental education we recognize the importance of biodiversity, but we don't necessarily acknowledge this for human populations (Forbes 1991). We are more likely to view humans as a single unit. In doing this, we can overlook the economic and cultural differences, which so often follow racial lines in our country, that affect how individuals can respond to environmental issues.

Issues to Address

Preliminary analysis of the interviews points to three primary issues requiring attention. First, definitions of the field can create barriers to participation. Many perceive environmentalism as only addressing issues of wilderness preservation and endangered species. This perception will persist unless environmentalism is defined as also addressing urban issues and social justice. We must incorporate inclusive definitions while maintaining our overall goals of land stewardship.

Second, when recruiting new staff we need to distinguish between required job qualifications versus supplementary skills and recognize the variety of supplementary skills that might be an asset to this field. For example, basic knowledge of natural science is a prerequisite for environmental educators while extensive wilderness outdoor experience and proficiency in a second language are both supplementary skills that would enhance programs in different ways. The value of an applicant's supplementary skills will depend upon whether those skills are already available within the existing staff.

Third, recruiting for staff and participants in environmental programs needs to incorporate outreach directed at specific individuals, populations or established organizations. Simple general advertising of available positions or programs will not overcome the established barriers when it comes to the environmental field.

Acknowledgment

This study was funded by a National Wildlife Federation Conservation Fellowship.

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Fire Risk and Residential Development: A GIS Analysis[1]

Jennifer L. Rechel James B. Davis Ted K. Bradshaw[2]

Abstract: Population growth is rapid in rural areas in California. This growth into the wildland-urban interface makes fire protection and suppression more difficult. Fire managers have opportunities to reduce fire danger by improving housing development patterns; however, the overall density and placement of houses is usually set by criteria other than fire danger. By identifying and mapping historical and current housing development patterns, managers can begin to examine difficulties of fire protection, such as road access and crew response time, and to identify fire hazard zones. Proposed development patterns can then be examined for potential fire risks, and recommendations made based on these estimated risks. The effects of various factors assumed to correlate with rapid residential construction in Nevada County, California, were described. Geographic Information Systems (GIS) methods were used to analyze overall housing location patterns and to determine improved methods to reduce fire risks in the wildland-urban interface. Preliminary results indicate that populations are densest in chaparral vegetation types with very high and moderate fire risk.

Rapid population growth into the wildland-urban interface causes difficulty for fire protection and suppression, such as inadequate road access, distance to water and roads, and slow fire crew response time. By identifying the current arrangement of houses on the landscape, fire managers can estimate potential fire risks to housing developments. The use of Geographic Information Systems (GIS) in mapping wildland fire risk and population growth is promising (Chou and others 1990, Salazar and others 1990). A GIS processes spatial information and is designed for data management, mapping, and spatial and nonspatial analysis (Berry 1987).

Fire risk maps were produced with a GIS by combining basic environmental factors such as vegetation type and slope. A GIS was used to categorize fire risk within Nevada County, California. Using geographic mapping tools and demographic information, a GIS executed scenarios describing estimated population density in each fire risk area and predicted future developments at risk in very high and high fire danger areas. This paper addresses the use of GIS technology to describe and assess housing locations at risk to fire in rural and wildland-urban interface areas, in Nevada County, California.

GIS and Fire Risk Analysis

Nevada County in the north central Sierra Nevada was California's fifth most rapidly growing county between 1980 and 1990, with most of the population growth in wildland areas (California Department of Forestry and Fire Protection 1988a). This growth is highly dispersed, with 85 percent of the population living in unincorporated areas, and with extensive commuting to jobs outside the county (Bradshaw 1987). Many of the residents live in areas where vegetation type and slope contribute to high fire risks. Due to incomplete and complex environmental and demographic information, the extent of the risk is not understood.

A GIS was used to map the approximate location of residential structures based on parcel information in the County Assessor's files. These data include the size of each parcel, whether buildings are on the parcel, and the dominant use and the assessed value of the buildings. Within the county, the data on individual parcels are aggregated into about 50 books, most with 30-70 pages. Mapped locations of the pages from the assessor's files were overlaid on geographical features of the county within the GIS, to provide detailed information on the extent of development in remote areas. As well, within the rural areas we described the extent to which parcels have been developed, the acreage involved, and the proximity of developed parcels to major highways.

The state fire risk maps are inadequate for developing a concept of reduced fire risk for development because they are based on elevation only. We generated a fire risk map, using a GIS, based on vegetation types and slope. The major vegetation types in Nevada County are conifers, hardwoods, shrubs, and chaparral. The majority of the population is in the south central area of the county, therefore, this is the area of greatest importance for fire planning.

Vegetation in south central Nevada County consists of chaparral and hardwoods, both types susceptible to very high and high fire risks. For purposes of modeling fire risk, particularly when referring to structures, the fire risks are grouped into the following four broad categories: very high, high, moderate, and low (table 1). (California Department of Forestry and Fire Protection 1988b, p. 15-55).

Results

The GIS was queried to select rural, nonrural and wildland-urban interface categories that fall into the previously designated very high, high, moderate, and low fire categories derived from the GIS data layers.

Preliminary results from the queries indicate that populations are densest in the chaparral vegetation type at slopes between 20 and 40 percent, where the fire risk is very high. Additional populated areas are in hardwood vegetation type at slopes less than 20 percent, where fire risk is moderate. Therefore, in relation to fire risk, housing developments are best located in low to moderate fire risk areas in the hardwood and

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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shrub vegetation types at slopes between 10 and 20 percent, in central and north central locations in the county. Additional fire suppression planning in areas of increased road access, proximity to water, and additional fire crews, must be implemented if developments occur in other areas where fire risk is very high and high.

Summary

GIS applications are useful to policymakers and fire managers who desire improved understanding of the difficulties of managing growth in the wildland-urban interface. While it is not possible to prohibit all growth in very high fire risk areas, it is possible for both land owners and public officials to know and understand the hazards associated with extensive low density housing development in hardwood and chaparral areas.

Within the very high fire risk areas, additional fire safety, fire zoning, and fire suppression measures can be taken to assure that people can safely evacuate areas during fires and suppression efforts can be better planned. In addition, information and prevention campaigns can be more effectively targeted to areas of very high fire risk. If the extent of development in these areas is better understood, loss of life and property can be reduced.

Table 1—*Fire risk associated with slope and vegetation types*

Slope (pct)	Conifers	Hardwoods	Shrubs	Chaparral
>40	High	Moderate	High	Very high
>20-<40	Moderate	Moderate	High	Very high
>10-<20	Moderate	Low	Moderate	Moderate
<10	Low	Low	Low	Moderate

Source: Chase 1992

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Valuing Cultural Diversity: Research and Policy Questions

Fostering Cultural Diversity: Problems of Access and Ethnic Boundary Maintenance[1]

Maria T. Allison[2]

Abstract: This presentation explores theoretical reasons for the underutilization of services, discusses types and problems of access which may be both inadvertent and institutionalized, and discusses policy implications of this work. Data suggest that individuals from distinct ethnic populations, particularly Hispanic, African-American, and Native American, tend to underutilize social and human service programs available to them.

A basic premise of this paper is that one of our shared hopes as service and recreational opportunity providers is that we hope and struggle to find ways to make our programs and our services more accessible and open to underrepresented ethnic populations such as Hispanics, African Americans, and Native Americans. What most providers to date have found is that making programs more accessible is much more complex than previously believed. To simply provide the opportunity and the program is not enough. Very specific strategies have to be developed to ensure that programs are available and relevant to the diverse populations we wish to serve. This paper outlines some of the reasons previously identified for underutilization of programs by ethnic populations and discusses several problems regarding the issues of access. In addition, it is suggested that what is needed is a true culture change within our organizations; that is, there needs to be a major shift in the ways we think about diversity and the ways in which we attempt to understand the needs of those we serve.

Underutilization

Current data suggests that ethnic groups, and here I refer specifically to Hispanics, African-Americans, and Native Americans, tend to underutilize most social service programs available to them. From essential services, including health care, family services, and economic programs, a general pattern of underutilization occurs. One of the most often cited predictive models utilized in the social service research area which provides one approach to understanding underutilization patterns is that suggested by Anderson and Newman (1973). Anderson and Newman (1973) suggest that the use of social services, which here we might define as programs available for public consumption, can be predicted from an analysis of predisposing factors, enabling factors, and the need factor. The model is based on the premise that individuals will vary in their "propensity" to use social services and that this propensity is the result of a very complex set of interrelationships between these sets of factors. The predisposing factor includes such variables as sex, age, ethnicity, education, marital status, and attitudes including, for example, level of perceived discrimination. The enabling factor refers to "the conditions and situations which make services more or less accessible to persons predisposed to use them" (Starret, Wright, Mindel, and van Tran 1989). Thus, variables such as transportation, service availability and accessibility, knowledge of program availability, and income are important variables in predicting use. Finally, the individual must recognize and/or perceive a need for the services available; the service must be seen as relevant and meaningful. They (Starrett and Decker 1984) found the following patterns: (1) that utilization patterns were very low among the diverse Hispanic populations studied (i.e., Cuban, Mexican-American, Puerto Rican), (2) heterogeneity of pattern by group was prevalent, (3) the best direct predictors of service utilization were need and knowledge of program availability, and (4) of the 19 predisposing factors analyzed, only ethnicity proved to have a direct effect on utilization. The model suggested by Anderson and Newman (1973) is a heuristic conceptualization of how we might discuss the issues related to utilization. Their model may serve as a starting point to discuss the complexity and the multiple dimensionality of the relationship between ethnicity, accessibility, need, and "discretionary service utilization" (Starret and Decker 1984).

Ethnicity

Perhaps the most striking, yet absolutely logical aspect of the Anderson/Newman model, is that they move us beyond the simple descriptive relationships between ethnicity and, for our purposes, recreational activity patterns. Their model's strength is that it includes important dimensions of program accessibility and need. But with any such model, we must ask ourselves what is meant by ethnicity. On the one hand, we can reduce it, as is frequently done, to a single descriptive variable—such as the infamous—"please check one box below." Thus, we might attempt to identify patterned differences between Blacks, Hispanics, and other ethnic populations. But, as many writers have pointed out, this approach ignores the tremendous amount of variability within groups. The term Hispanic, as one example, may include Puerto Ricans, Cubans, and Mexican-Americans. And, each group can be characterized by differences in history, family structure, social, and political developments. To assume that each of these rather generic labels captures any essence of culture is indeed dangerous. Moreover, embedded within "ethnicity" are a host of other variables which often remain implicit, including different emphases on family networks, social groups, values, attitudes, meanings, and behaviors. And, yet, it is only on rare occasions in our research that we ask relevant questions about such topics. Instead, we link recreational activ-

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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ity behaviors and preferences with ethnic labels and assume that we have captured an understanding of ethnicity. I offer these points as potential springboards for further discussion:

1. Single indicators of "ethnicity" oversimplify the very complex essence of culture which we may be trying to capture.
2. Similarity in form or type of activity shared by several groups does not mean similarity in content, meaning, and function.
3. Variability between ethnic groups may be as large as variability within a group. For example, the Navajo system of values and meanings may be quite distinct from Apache, Zuni, and a multitude of other "Native American" populations.
4. Relatedly, variability within a particular ethnic group may be as much a function of age, gender, income, and education as a function of culture.
5. And, studies which identify differences between the activity patterns between groups are, at best, descriptive of that and nothing more. They explain nothing of culture.

With regard to ethnicity, there is one other major point which I would like to raise, one that is not addressed in the Anderson and Newman (1973) model. We know from the work of many anthropologists (Barth 1969, Eidheim 1969) that ethnicity, and issues of ethnic identity, are heightened when members of different groups come into contact with one another. As Barth (1969) indicates in his work on ethnic boundary maintenance, one's ethnic identity is not really an issue within a group. It really only becomes an issue when groups come into contact with one another; when there are points of intercultural contact, some of which may become problematic. Ethnicity and ethnic boundary maintenance is, therefore, a social construction that is constantly negotiated and renegotiated as groups come into contact with one another. This point is driven home quite poignantly in recent research in the area of cultural or "ethnic" tourism and its impact on the Native American culture. In 1989, Evans-Pritchard published a piece entitled, "How 'They' See 'Us,' " and more recently, Laxson (1991) published a piece entitled, "How 'We' See 'Them' " The essence of both of these pieces was to study the nature of images and stereotypes developed by particular Native Americans of White tourists, and the same images which White tourists have of Native American groups. What both found, using triangulated qualitative methods, was that each group developed strategies and conceptual maps to help them "deal" with the other. Images of the romanticized "Noble Savage," "the primitive," the "object of culture," "the social problem" were just as prevalent among the White tourists as were the images of the "greedy," "pushy," "camera-carrying" Anglo among the Indians who had to deal with the tourist. The most troubling aspect of what both researchers found was that the types of superficial intercultural contacts which result from such industry, more often than not, reinforce ethnic stereotypes rather than reduce them. It is very possible that those very things which we feel might help foster intercultural understanding may, in fact, serve to reinforce the stereotypes which we wish to eradicate.

Accessibility

One of the central components of the Anderson and Newman model is the enabling factor, that is, to what extent are programs available and accessible to those we serve? At one level we can talk about enabling factors that relate to the potential participants' life situation. Do they have transportation? Do they have the resources necessary to use the programs? Do they live near our resources and facilities? But, at a second level, and Anderson and Newman do not really go into this, is to what extent are our programs really accessible to those we hope to serve; to what extent are we really part of the enabling process? Here the focus shifts from what "they are like," to what opportunities "we really provide." Work on the dimensionality of access is described in work by Penchansky and Thomas (1981). These researchers suggest that there are five distinct dimensions to access including: (1) availability or the relationship between the nature and volume of existing resources and services available to meet the user's needs, (2) accessibility or the "relationship between the location of supply and the location of clients," (3) accommodation or the degree to which "the supply of resources are organized to accept clients," (4) affordability or the real and perceived cost and worth to the client, and (5) acceptability or "the relationship of clients' attitudes about personal and practice characteristics of providers to the actual characteristics of actual providers, as well as to the providers' attitudes about acceptable personal characteristics of clients" (p. 128-129). This latter dimension is pertinent, that is, what messages do we send through our programs and policies about our willingness to serve culturally diverse populations. And, what are the perceptions of those we hope to serve about "us"?

This means that at one level, we have to focus not only on those we serve, but on those we do not serve as well. We must identify the attitudes and needs, both perceived and real, of those who underutilize our programs and resources and talk to them about how we might better serve their needs. And more importantly, we have to shift our focus at some point in the equation to ourselves. That is, we have to ask ourselves, what are the potential boundaries and barriers which we, from an institutional perspective, put up, both consciously and unconsciously, that keep our programs from being truly accessible? To what extent do our personnel, our policies, and our programs really value diversity, or to what extent do we foster intercultural boundary maintenance? To what extent do we foster institutional "shared stereotypes"? To answer these questions will take a great deal of institutional introspection. And, we begin to ask ourselves where the system we have created has faltered in the process of reaching out. If our goal is to make our programs truly accessible to a more diverse audience, we cannot continue to focus only on the nature of our constituents, but must focus carefully on our organizational culture and how we can build bridges and break down boundaries (Allison 1988).

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Leisure Service Delivery Systems: Are They Adequate?[1]

Rene Fukuhara Dahl[2]

Abstract: This presentation explores a model of service delivery ranging from direct service provision to advocacy and reports findings on the delivery mode most prevalent in park and recreation departments that serve Asian groups in their community. The implications of the role of the professional, the range of service delivery, and the manner in which ethnic groups are excluded are discussed.

The ability of leisure service agencies to respond to all constituents in their communities becomes increasingly important as these communities become more ethnically diverse. Leisure service agencies will be challenged to develop more flexible and responsive client-oriented delivery systems if they are to respond to this challenge. To accomplish these changes, leisure service professionals must reconceptualize their image of the individual and broaden their notions of leisure service delivery. First, I will discuss briefly the conditions which necessitate the reconceptualization of the individual and then will follow with an explanation of an expanded service delivery model. Finally, I will discuss findings gathered from interviews with leisure service providers to determine the leisure service delivery roles which they use.

By now, most people are familiar with the significant changes in the ethnic composition of this country. According to the 1990 census data, the rate of increase of "minority" populations was almost twice as fast as in the 1970s. Much of this increase took place among people of Hispanic ancestry—an increase of 7.7 million people, or a 53 percent increase from 1980. In 1990, the resident population of this country looked as follows: 30 million African Americans, an increase of 13.2 percent since 1980; 7.3 million Asians, or an increase of 107.8 percent in the last 10 years; 2-million American Indians, up 37.9 percent; and 22.4 Hispanics, or an increase of 53 percent since 1980 (Barringer 1991). By the turn of the century, collectively, people of color will be the majority in California. Irrespective of one's reaction to this fact, these significant changes signify that a new reality has emerged, with implications for all park, recreation, and leisure service professionals.

To provide relevant and meaningful services to all members of the community, park, recreation, and leisure service professionals must reconceptualize their image of the individual. "Historically, recreation and leisure service agencies have tended to function from a Newtonian, reductionist perspective in which individuals were thought to be composed of discrete, separate, and identifiable parts rather than as holistic entities" (Murphy and Dahl 1991, p. 107). In accordance with this mechanistic image of the person, park, recreation, and leisure service agencies have operated primarily from the traditional role of direct service, where the professional has been the primary service provider. In this role, the professional is viewed as an "external" agent who determines for individuals what is best for them. The individual client has been expected either to fit into this dominant model of service delivery, irrespective of the relevance and meaning of those services, or not receive services at all.

Murphy and others (1991) offer an alternative perspective. They argue that the individual must be seen as a total organism with more than leisure needs. "The person who participates in a leisure service program may also have concerns about housing, child or elder care, security, employment, health, and transportation. Thus, individuals will respond to leisure programs and opportunities in many ways, partly because of their varying life circumstances" (Murphy and Dahl 1991, p. 109). When the individual is reconceptualized from a holistic perspective and life circumstances are acknowledged as contributing to one's interest and awareness in leisure expression and experience, professionals are more likely to reach a broader range of constituents.

Additionally, once the individual has been reconceptualized, the repertoire of roles the professional can utilize broadens to include more than direct service provision (table 1). Added to the professional's repertoire of roles are information-referral, enabler, and advocate. The information-referral role is widely used and incorporates coordination, referral, and technical assistance. "This approach extends the leisure service agency's structure and necessarily results in working with other organizations within the wider community system" (Murphy and Dahl 1991, p. 109). This role is essential to working with ethnic individuals and groups because it makes available many services that perhaps would be unavailable to groups that are often excluded from mainstream opportunities.

In the enabler role, the professional is engaged in a facilitative process in which individuals are assisted in making self-directed choices. The goal of this role is to transfer gradually the responsibility for leisure planning to the individual and away from the external agent, the professional. By emphasizing self-directed choice, the professional helps to foster personal freedom and internal locus of control, two critical components of the leisure experience. As an advocate, the professional assumes that individuals have a right to personal fulfillment. "Thus, the professional's role includes support, facilitating participants' identification of and ability to access their own internal resources, and encouraging each individual to make choices (Murphy and Dahl 1991, p. 109).

To determine what professional roles were being utilized by public park and recreation agencies to serve Asian constituents,

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Table 1—*Service roles*

Service Roles	Direct Service	Information Referral	Enabling Facilitation	Advocacy
Existing Service Roles	• Conduct of fee classes for ethnic/cultural groups • Provision for facility rental by ethnic/cultural groups • Provision of ethnic/cultural older adult social service programs	• Contracting private vendors • Contracting/hiring staff from ethnic/cultural groups • Cooperative/consultative interagency arrangements		
Emerging Service Roles		• Appointing ethnic/cultural persons to boards/commissions • Providing community-wide "Leisure Resource" information at every operation site	• Conduct of ethnic/cultural awareness programs on regular basis for "whole" community • Conduct community Leisure Resource/Opportunity Awareness Programs for Immigrant Groups • Encourage Self-Help programs by neighborhood/community ethnic/cultural groups • Ensure leisure participation as option for everyone by meeting with indigenous community ethnic/cultural groups to learn about needs/wants on provider bases	• Ensure participation by all ethnic/cultural groups by involving members in agency decision making • Ensure accessibility for ethnic/cultural groups by intervening in housing, transportation, and recreation concerns through proactive participation at City Hall, Housing/Transportation authorities, etc. • Publication of brochures, catalogs, newsletters, flyers, etc., in multiple languages which reflect constituency
Client/Participant Dependence on Leisure Service Agency for Leisure Expression/Participation	←			→ Client Independence from Leisure Service Agency for Leisure Expression/Participation

staff from 11 agencies in California were interviewed in person or by telephone. Directors or superintendents were the primary sources of information, although in some instances, department managers referred the researcher to their staff person (s) who was working directly with Asian constituents.

All of the departments provided direct service to their communities in general, particularly fees and charges classes at community centers and programs for older adults at senior centers. None of the departments provided direct services to Asian constituents in particular; and, in one instance, this was because the city had a Title VI regulation, Compliance Against Discrimination, by which to abide. Two large departments with decentralized structures provided services at community centers where programs were specifically designed to meet local constituent needs. In these instances, Asian populations were primarily served because they represented the neighborhood populations.

All of the departments provided information and referral services to Asian constituents. Most of these services consisted of contracting staff from various ethnic groups to work on special programs and projects for the department, such as organizing an art gallery exhibition. Other information and referral roles used included contracting private vendors to provide services such as a reading enrichment program in the schools; and engaging in cooperative interagency arrangements with other agencies, particularly for gang prevention programs.

One of the departments in this study utilized the enabler role extensively. This department co-sponsored a program with the police department which was designed to increase community action and pride. Its original intent was to keep neighborhoods free from drugs and related crimes. Another project, a city-community partnership, included neighborhood clean-up, after school recreation and tutoring programs, and mini-fairs in which citizens were informed about city services and full-time city staff worked with community groups to develop neighborhood action plans. Two departments used the advocacy role, albeit, in a limited fashion. In the first instance, one department printed its city-wide brochure in two languages as a way to reach its large ethnic community, while the second department printed individual program flyers in several languages.

This study is ongoing and more departments will be included in the sample over time. Several conclusions are drawn, however, from the existing sample. The two roles most frequently utilized by public parks and recreation departments are direct service and information and referral. To a large degree, use of those roles presumes existing contact with one's clientele, particulary with the direct service role. The information and referral role is more inclusive in that its services and outreach attempts expand organizational boundaries. The enabler role has been a highly effective role for one large department in working with other city agencies to combat serious community

problems. It seems there will be increasing need for this role, with limited resources and the plethora of problems with which communities are faced. The advocate role remains the most underutilized professional role, yet it has the potential to be the most influential role the professional can enact. Because the advocate focuses on removing barriers and working with and on behalf of constituents, the professional has the potential to ensure accessibility to services for diverse groups and increase participation by involving members in agency decision making. Through this role, the professional has the ability to maximize client independence in both leisure experience and expression.

Utilizing all of the roles in the leisure service delivery continuum to respond more effectively to increasingly diverse populations is crucial to delivery of services that are relevant to these populations. "By developing an awareness and understanding about cultural value systems, from which leisure values, beliefs, and behaviors arise, the leisure service professional can develop a range of programs which include all constituencies rather than excluding those who do not fit traditional service approaches" (Murphy and Dahl 1991, p. 109).

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Papers From Second Concurrent Session, Thursday Afternoon

Land Use Ethics and Communication With Multicultural Groups

Social Structural Characteristics of Hispanic Recreationists on the Angeles and San Bernardino National Forests[1]

Deborah S. Carr Daniel R. Williams[2]

Abstract: Much of the early work done within the realm of ethnic group participation in outdoor recreation has focused on understanding what was seen as underparticipation utilizing two possible explanations: marginality and ethnicity. Rather than characterizing these explanations as competing, it may be more fruitful to characterize them as being two parts of the larger social structural framework of which individuals are a part. This paper focuses on understanding the demographic characteristics of the Hispanic individuals (primarily of Mexican and Central American descent) recreating on the National Forests of Southern California utilizing on-site, self-administered surveys.

Outdoor recreation on the National Forests near large urban centers is changing and diversifying, as users of many ethnic and racial backgrounds increasingly choose urban-proximate forests as recreation sites. These changes are particularly evident on the National Forests of southern California where large numbers of individuals of Hispanic origins are utilizing dispersed, relatively undeveloped sites for day-use recreation activities including picnicking, barbecuing, and swimming.

This study has been designed with the primary goal of answering the question, "What is it about the relationship between people (meaning recreational users of the forests of southern California of Hispanic origins) and sites (meaning the dispersed, relatively undeveloped sites) that leads to the recreation use patterns occurring on the Angeles and San Bernardino National Forests (primarily picnicking, barbecuing, and socializing)?" At the most basic level this question can be broken down into seeking to understand who the recreationists are and how they use a given recreation site. Understanding who the recreationists are is the focus of this paper, while understanding recreationists' use of sites is further discussed elsewhere (Carr 1992).

Much of the early work done within the realm of ethnic group participation in outdoor recreation has focused on understanding what was seen as underparticipation utilizing two possible explanations: marginality and ethnicity. The marginality explanation refers to factors such as low socioeconomic status (SES), lack of access to desired facilities, and discrimination for explaining ethnic recreation patterns. The ethnicity explanation holds that differences in minority recreation participation are the results of subcultural differences in the values and expectations related to outdoor recreation experiences. These explanations were frequently characterized as competing with each other, as if support for one invalidates the other. Another way to conceptualize ethnic groups' outdoor participation avoiding this explanatory dichotomy is to examine ethnicity and marginality within the larger framework of social structure and personality.

Early leisure research explored the utility of using social structural variables (primarily SES) in attempts to predict and explain leisure preferences and behaviors, but met with only moderate success. Subsequently, the usefulness of a social structural approach has been questioned by many recreation researchers (Hutchison 1988). When ethnicity has been investigated as a possible predictor of recreation choices, an individual's ancestral group membership has been operationalized as a unidimensional, categorical measure of an individual's ethnicity. A person is classified as black, Hispanic, Asian, etc., with little regard for how strongly one identifies with such a designation. Beyond the fact that ethnicity is a much more complex phenomenon than this, treating ethnicity in this way ignores the social structural framework of which people are a part. Ethnic group membership represents only one dimension of an individual's social background and identity.

To better understand ethnic variation in outdoor recreation, it is necessary to explore the combination of social structural variables that may have an impact on outdoor recreation patterns in addition to ancestral group membership. For the purposes of this study, five key social structural variables thought to impact outdoor recreation experiences were identified. Three variables characterize an individual's ethnicity—ancestral origins, generational status, and acculturation—and two measure an individual's SES—income and education. While income and education are fairly self-explanatory, the other four variables need a bit more description.

Focusing on individuals of Hispanic origin, their ancestry is characterized not by the generic term *Hispanic*, which encompasses as many as 20 different groups, but on their country of origin. From there, the individual's temporal relationship with the United States can be measured in terms of the number of generations removed they are from their ancestral country, or for those born outside the United States, how long they have lived here. Acculturation reflects the sociocultural changes that take place when an individual of a subculture comes into contact with mainstream society.

Characterizing individuals essentially as a package of social structural variables has two main advantages. First, we are able to avoid the dichotomy of competing explanations mentioned earlier. Second, we are able to focus our analysis on two different levels—by making inter-ethnic comparisons, as is the case between those of Anglo and Mexican origins, as well as intra-ethnic comparisons, examining, for example, variations within those of Mexican origins.

A final key to understanding the structural characteristics of the recreationists is to explore the patterns of characteristics

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across recreation sites. We hypothesize that patterns of structural characteristics will vary along with the social field of a given site. For the purposes of this paper a social field can be thought of as a summation of the social definitions of a site conveyed to current and potential users. It is the concept of a social field that Lee (1973) had in mind when he wrote, "Individuals seek outdoor areas where they may share a scheme of order (or social definitions) with others similar enough to themselves to be able to take for granted many of the everyday normative constraints. It is only in such situations that individuals feel at home or that they belong."

One of the most basic aspects of the social field is the ethnic composition of a site. We would expect to see certain patterns in structural characteristics of visitors to areas based on who are the dominant users of an area. We might expect that in areas where Anglo visitors are the majority, we would find later generation, more acculturated, higher SES individuals of Hispanic origin. In areas where Hispanics are the dominant group we might expect to find relatively unacculturated, lower SES individuals born outside the United States.

Study Design

Data from self-administered surveys were collected from four sites; two each on the Angeles and San Bernardino National Forests, on weekends and holidays during summer 1991. The study sites were chosen to span the continuum from areas used almost exclusively by Hispanics (the West and East Fork sites), to areas of diverse ethnic composition (Lytle Creek), to areas where Anglos are the majority (Forest Falls). Sites were sampled from 5 to 8 days yielding a total sample size of 732 respondents.

Results

Individuals of Hispanic descent (primarily of Mexican ancestry) are the majority at all sites except Forest Falls, ranging from 67 percent to 84 percent of the respondents. Individuals of Central American descent are present in measurable numbers (approximately 20 percent) only at the West and East Fork sites and are not present at all at Forest Falls.

Individuals born outside the United States were the majority of Hispanic individuals at all sites, ranging from 63 percent to 82 percent. Individuals of Central American descent are almost exclusively of immigrant status. There were no second generation Central Americans surveyed. Those of Mexican descent follow a pattern that might be expected given the relationship between social fields and structural characteristics we propose, particularly those of the second generation, where the percentages of these individuals increase from the West and East Fork sites to Forest Falls.

Individuals of Mexican descent are more acculturated than those of Central American descent. As with generational status, those of Central American descent are a fairly homogeneous group, with language skills somewhere between speaking only Spanish to speaking Spanish better than English, while those of Mexican descent are much closer to being bilingual. The acculturation scores for individuals of Mexican descent follow a pattern similar to that of generational status as well. Scores increase from the West and East Fork sites to Forest Falls.

Those of Anglo descent had the highest income levels at $33,500, followed by those of Mexican ($19,400) and Central American ($15,000) descent. Within ancestral groups, income levels are fairly homogeneous for those of Anglo and Central American descent. Again, income levels for those of Mexican descent follow a pattern that might be expected given the model we proposed. Income levels were lowest at the West Fork site and highest at Forest Falls.

Individuals of Anglo descent have the highest education level at 13.1 years. Those of Mexican and Central American descent have approximately equal education levels at 9.5 (Mexican) and 9.1 (Central American) years. Within ancestral groups, education levels are fairly homogeneous across all sites.

Conclusions

The results pertaining to the patterns of structural variables found across sites discussed above fit within the expectations of the study. Of particular interest is the distribution of those of Central American heritage across sites. While it is impossible to imply the causation, the fact that those of Central American descent are present in extremely small numbers at Lytle Creek and not at all at Forest Falls fits well with the expectations of the study. If it is accurate to expect that individuals seek to recreate in places that match their structural characteristics, it appears that there may not be a substantial component of the Central American population that has the longer generational tenures and higher acculturation scores and SES that seem to go with Lytle Creek and Forest Falls. However, the possibility that more acculturated individuals of Central American origins choose entirely different recreation activities and sites than those studied here cannot be excluded.

The results of the study show great promise from theoretical and managerial perspectives. From a theoretical perspective, a social structural framework apparently is a viable way of approaching research in the area of ethnic groups' outdoor recreation participation and experiences. From a managerial perspective, this framework provides a more detailed understanding of the recreationists at each site, providing deeper insight into the visitors of these areas.

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Land Ethics for Bureau of Land Management Employees[1]

Duane DePaepe[2]

Abstract: With increased public concern for public lands resource stewardship, the Bureau of Land Management is more and more expected to make what is perceived as "right decisions." The ethical dimensions of often highly complex decision making processes have become more and more apparent. The baseline research presented here is designed to promote a land ethic awareness among a wide spectrum of bureau employees who contribute to the daily management of the public domain. Throughout history philosophers have made more profound changes in civilization than all of the conquering armies. Ideas in ethical standards of governing our relationships to land use generally and public land use specifically will not be an exception. At this point in time there are few definitive answers, although there is myriad profound thought. What is known is that as resources and wild lands become scarcer, land ethics will evolve into sharper focus; but, a personal land ethic to a bureau employee cannot now be identified with certainty. Rather, it must be a personal quest integrated into the prediction of a personal value system and the rigors of objective scientific or other types of training.

Many ideas are presented in this research. Like vignettes, they are viewpoints from many perspectives. The sum of their combination is designed to be greater than the whole. The ultimate value of reflecting upon these viewpoints is a healthy awareness of the many possibilities guiding our professional relationships with public land, whether our tool is a pencil or a posthole digger.

Western philosophical thought has defined ethics as the science of conduct corresponding to logic. It is the quest to find the criteria for correct thinking. Ethics are based on judgments about what is good but usually not on self-evident and well-defined principles. Its conclusions, therefore, can never be definitive and certain. Ethical decision making involves critical reasoning skills necessary to make the right ethical choices. As caretakers of the public trust, Bureau of Land Management (BLM) employees must make ethical choices because the public does not expect or deserve anything less.

Environmental ethics had its origins in the natural history sciences and in the evolution of an aesthetic appreciation of nature beginning with the seventeenth century. Gifford Pinchot, one of the first leaders in the American conservation movement, once said that there are just two things on this material earth—people and natural resources. Conservation is a scientific movement with a historical role originating from science and technology in modern society. Environmental ethics binds humans in their relationships with each other as well as with all elements of the natural environment. Environmental thought has historically been holistic in outlook, thereby giving rise to the science of ecology. Ecology is defined as the study of the relationships of organisms to one another and to the elemental environment. These relationships bind elements of land, animals, soils and water into a seamless fabric.

More than anyone else in recent times, Aldo Leopold in *A Sand County Almanac* (1970) has attempted to grapple with land use issues that are germane to contemporary public land management. Leopold's work has become the modern classic of environmental philosophy and land ethics theory. He reasoned that conservation is a state of harmony between humans and the land. It is a harmony that recognizes that people depend on the wealth of a healthy land-community, and that they have an ethical obligation to be wise stewards of that natural wealth. Leopold considered people as members of the land-community rather than as masters or conquerors of nature.

The concept of a land-community was a central idea of Leopold's. Out of this land-community concept developed a modern proactive land ethic that says that natural systems should not be disturbed beyond thresholds of stability, losing resilience and the ability to return to equilibrium. However, a land ethic only limited to ecological thresholds would be management by crisis, rather than management by planning. In summary, a proactive land ethic is good management under the concepts of sustained yield and multiple use.

A balanced land ethic accommodates both human and non-human members of the biotic community as well as the community as a whole. A land ethic should not complete with more familiar social ethics, but should be an integrated part of the social fabric. Land-community ethics are a new evolutionary interpretation of moral development of how land should be used. But earlier concepts still remain operative. An ideal land ethic, based on community, should not be regarded as unwelcome or a threat of a barely practical goal. It should instead be a realistic, eminently livable goal. The highest form of land ethics practiced by BLM employees is when a synergistic (win/win) situation occurs between public land users, the general public, and the affected public lands.

One of the most exciting new dimensions in land ethics is the concept of biodiversity. Biodiversity considers public lands resources from a regional and integrated management perspective. It is a good example showing that a personal land ethic should not be static but should be evolutionary as new paradigms in applied science appear. Land ethics are a holistic paradigmatic challenge that requires the ability to look outward from one's own disciplinary perspective toward contiguous fields of study. One of the major advantages that a multiple-use BLM enjoys under the mandates of the National Environmental Policy Act (NEPA) is that management decisions are made in a systems approach rather than a single-line, linear approach. This means that we usually understand the interrelatedness of environmental elements and the consequences of BLM's actions.

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California. The paper presented is part of a larger project that fulfilled requirements for the USDI Bureau of Land Management's Management and Leadership Workshop, Keystone, Colorado, in April 1991.

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In the last few years there has been much in the literature concerning the new land ethics on public lands. Indeed, both public and professional ethical perspectives of how natural landscapes and resources should be used or preserved are in a state of transformation. The "new land ethics" are philosophically questioning the long-term implications of the current paradigm of sustained yield and multiple use. The central issues under debate are the differences between the theory and practice in current integrated resource management. Too often, it is argued, sustained-yield management has in reality become single-use management. It is said that the promise of multiple use has not been realized. The difficulty arises in part because each land use specialty has a supporting professional association, agency, research base, journal or political special interest group advocating the primacy of a single resource and its preferential status over all others. Modern theorists claim that the solution is to manage public lands as a single interactive system of plants, animals, soil, water, topography, and climate. Under this integrated hypothesis, alteration of any one resource would impact all others. Sustained yield/multiple-use management, it is further argued, is market oriented, an exercise in rationing determined by the economics of consumption. Multiple-resource management, by contrast, would be land-oriented husbandry determined by the ecology of production.

A healthy land ethic depends less on rules and regulation than on personal attitudes. Resource specialists can be aware of the ethical problems that lie hidden in situations they confront. At times it can seem to be more convenient or prudent to be value-neutral even when ethical dimensions seemingly cannot be ignored. Another risk is that resource specialists can place their program activities above stewardship. And still another peril is when resource personnel abrogate the stewardship role to provide immediate gratification to the expressed desires of an impatient, consumptive public or client.

Land ethics are a moral philosophical approach to the paradox of nonimpairment and commodity production. It is also the paradox of multiple use and sustained yield within a plethora of laws and regulations that critics say at times can transcend common sense and emotional response. Yet this is at the heart of the BLM's mission.

Native Cultures and Language: Challenges for Land Managers in Alaska[1]

Thomas J. Gallagher[2]

Abstract: Many of the Aleuts, Inuits, and Indians of Alaska continue to live a traditional lifestyle. Eighty-eight percent of the land they use for subsistence activities, however, is managed by federal or state agencies. Clear communication across cultures is essential if Native people are to be represented in agency land management decisions. Problems in communication relate to the differences between Native and Western cultures and language. Five solutions are proposed: defensible participation program, support of translator training, terminology workshops, term glossary, and use of Native terms on maps and in reports.

A majority of the Native people of Alaska — Aleuts, Inuits (Eskimos), and Indians — continue living traditional ways, at least in part. Before 1971 they occupied and used the expansive lands of Alaska without title or treaty. This changed in 1971 with the Alaska Native Claims Settlement Act which set aside 44 million acres, or about 12 percent of the state, for Native people; the remaining 320 million acres being distributed among state and federal agencies. Native people now find that, to continue their traditional ways, they must communicate their needs to agency land managers. This is not easy in a state where distance, terrain, and weather make communication difficult.

For Native people communication is complicated by language and culture differences. It is not possible to communicate effectively with Native people without some use of their language. This occurs in part because the Native languages are most often spoken by the elders, those most likely to be involved in decision making.

The problem is not as simple as hiring a translator because of cultural differences. Cultures determine what words a language has developed and uses. For example, among Yup'ik (Inuit) people there is no word for rich or poor — concepts not developed in their sharing culture. None of the Native cultures or languages have equivalent terms for such common Western concepts as park, refuge, and wilderness. "Environmental impact statement" makes no sense in Native cultures. A translation shows how difficult it is to find equivalent terms. One translation of the phrase in Inupiaq (Inuit) is inuuniagvium irrusiata allannugniagniksranagu. Which means, approximately, "a place where you live — the way it is — a statement of how it is going to be changed."

Adding another dimension to the problem of translation is the conflict of concepts. Wilderness, for example, conflicts directly with Natives' concept that people are part of the land. Wilderness designations threaten to eliminate Native access to land they have used for thousands of years. In recent debates over ANWAR, Native people have shown more fear of pro-wilderness advocates than oil development advocates. Similarly, planning conflicts with the view of Native groups that to speak about the future with certainty is a form of boasting.

The conflict is significant because agencies are not the first threat to Native people. Agencies are the last in a long line of Western institutions — missionaries, Bureau of Indian Affairs, and the public school systems — which have denied them their culture and language. The experience of denial is recent; many of today's Native leaders remember being punished for speaking their Native tongue in school. The relationship between agencies and Native people is tense and the role of agencies in the future of Native cultures is more important than either the agencies or Native people might wish.

To work in this situation, five strategies are proposed. First, agencies need to make cross-cultural communication a defensible part of their public participation programs. The program must be defensible: have clear goals, be based on the best information, use the most appropriate techniques. These techniques will probably require breaking away from the standard list. For example, many Native people do not use public meetings for decision making, but rather use a less formal style of "talking around."

Second, qualified language and culture translators are needed. Often agencies rely on local people who are bilingual to translate. But being bilingual doesn't necessarily mean that the person understands the cultural differences. Often, the translator's lack of familiarity with land management terms leads to errors. Agencies can be of service in supporting translator training and then hiring graduates and paying them a professional wage.

Third, to provide words for the translators, terminology workshops are needed. These workshops should be two-way, translating concepts from each language to the other. Agencies can play a direct role in hosting workshops. Excellent models exist from past legal workshops.

Fourth, agencies need to control their terminology or jargon. A common glossary of terms is needed that is shared by all agencies working with Native people in a region. Of particular concern are planning terms.

And last, to immediately demonstrate their concern for Native culture and language, agencies should begin to use traditional Native names for geographic features, wildlife and plants. The U.S. Geological Survey incorporates some Native names on maps, but the vast majority are missed. Native place names and plant and animal names often have special meaning or descriptive value. For example, the Yup'ik word for fish is nega, which is also the word for food. This relationship underscores the importance of fish to that culture. (An understanding of this double meaning helps understand why the Yup'ik people do not approve of "catch and release" fishing, which they consider equivalent to "playing with your food.") The descriptive power of Native words is found in the Yup'ik word for bear —carayak

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— which translates to "terrible, fearsome thing." And some words describe resources in a finer level of detail than found in English. The Yup'ik words aciirturtet, — "the first group of king salmon running under the smelt" — and masseq — "old salmon near spawning" — discriminate between salmon in a way not done with single English words. Native words can be added to agency plans and reports, just as biological (Latin) names are provided now.

In closing, Krauss (1980:89) writes, "Language is in my view the most essential part of culture." Since so much of Native ways is about land, land management agencies, whether they chose to be or not, are involved in Native language and culture. This year the major religious denominations in Alaska created a special ceremony and invited Native leaders and people. At the ceremony the churches asked that they be forgiven for denying Native people their culture, and in particular their language. By acting now agencies can prevent themselves from such an apology in the future.

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Conflicting Values: Spirituality and Wilderness at Mt. Shasta[1]

Maria Fernandez-Gimenez Lynn Huntsinger Catherine Phillips Barbara Allen-Diaz[2]

Abstract: Many people from a variety of backgrounds believe that Mt. Shasta is a major spiritual center. Although these "spiritual users" value the area's natural features, their spiritual and social activities, including construction of sweat lodges, medicine wheels, altars, meditation pads, trails, and campsites, are leading to rapid ecological degradation. This situation is not compatible with the solitude and pristine conditions called for in the Wilderness Act. Participatory management of Mt. Shasta by cultural resource users offers a possible solution.

The easily accessible meadows in and adjacent to the Mt. Shasta Wilderness have become a focal point for spiritual and social activity among non-traditional National Forest users. Each summer, hundreds of people gather in the small meadows, often remaining for weeks or months at a time. Mt. Shasta and the meadows have a long history of spiritual importance, beginning with Native American tribes and culminating with the Harmonic Convergence and establishment of a New Age community in Mt. Shasta City (Theodoratus and Evans 1991, King 1934). As much as half of the local population hold some explicit spiritual beliefs about the mountain.

Impacts and Conflicts

Conflicts over the spiritual uses of the meadows center on two types of user impacts: ecological and cultural. Ecological impacts occurring at Panther and Squaw meadows include these: excessive trampling; removal of dead wood and damage to trees; proliferation of user-created trails, campsites and fire rings; construction of dams to create bathing holes in creeks; construction of sweat lodges; and rearrangement of rocks to create medicine wheels and other structures.

Cultural impacts, such as construction of altars or mandalas, reflect the use of the resource for cultural purposes. They may or may not have an ecological impact, and may conflict directly with other users' cultural norms. Constructing shrines and placing crystals or other offerings in Panther Spring is offensive to the Wintu tribe of Native Americans who also hold the spring to be sacred (Theodoratus and Evans 1991). These structures also conflict with Forest Service wilderness policy. Drumming, chanting, and nudity, which sometimes accompany spiritual use, may also be considered cultural impacts and are the subject of frequent user complaints.

USDA Forest Service and Spiritual Users: Conflicting Cultures

The non-Native American spiritual users of Mt. Shasta are predominantly Caucasian, span a variety of belief systems, and represent every socio-economic level. Though they generally defy definition as a group and incorporate several distinct subgroups, the spiritual users share certain values, behaviors and beliefs that differ from those of the USDA Forest Service or other user groups such as climbers or skiers.

The culture and land ethic of the Forest Service is founded on scientific understanding of the natural world. Aldo Leopold described the land ethic as an ecological conscience, evolving from an awareness of the interconnectedness of people and their environment and based on a scientific understanding of ecology (Leopold 1949). Forest Service guidelines for wilderness management specify that "...National Forest Wilderness resources shall be managed to promote, perpetuate, and where necessary, restore the wilderness character of the land and its specific values of solitude, physical and mental challenge, scientific study, inspiration and primitive recreation" (36 CFR 293.2).

The New Age land ethic is based on an individual and collective spiritual relationship with the earth as a living being (GALA). It incorporates the notion of human interconnectedness with the physical and biological world, but is founded on a personal relationship with earth, rather than a scientific understanding of ecology. A goal of New Age practitioners is to overcome humanity's alienation from the earth and to restore "balance" and "harmony" in personal lives and in human relationships with nature. Some New Agers borrow heavily from Native American or other indigenous earth-centered traditions, or from a variety of religious and cultural archetypes including Judeo-Christianity to develop a new cosmology. Others emphasize love, light, the inner-God and ascendancy. Many believe that higher beings or masters, and/or extra-terrestrial beings are available to assist humans in their quest for enlightenment. Mt. Shasta is believed by some to be an area of frequent UFO activity. Some believe in a city called Lemuria located inside the mountain and inhabited by benevolent giants or "Lemurians" (Cerve 1988).

A New Age publication suggests the following activities for individuals wanting to reconnect with the earth: camping in wilderness areas, solitary or group pilgrimages to sacred sites, and earth renewal celebrations (solstices and equinoxes) (Gray 1991). All of these are common activities at Mt. Shasta. In contrast to the Forest Service emphasis on solitude and physical activity, the New Age views wilderness as a source of community and place of gathering, as well as a place for solitary contemplation.

The highly structured and hierarchical organizational culture of the Forest Service contrasts with that of the spiritual

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users. They have no homogeneous organized group, no identified leader, no single belief system. Some New Age interviewees overtly rejected rules and authority, expressing a dislike of "control." Frequently spiritual users go by unusual names that make formal contacts difficult or impossible.

Finally, each group perceived the other to be hypocritical. The Forest Service noted that while New Agers profess respect for nature, they are ignorant of ecology and unaware of the impacts of their activities on the alpine ecosystem. Spiritual users found it difficult to take the Forest Service seriously in its attempts to protect the meadows when it has permitted logging over most of the mountain and is planning to develop a downhill ski area adjacent to Panther Meadow. While the Forest Service tells visitors not to move rocks to construct wheels or altars, the Forest Service moves rocks to build trails. Forest Service personnel we interviewed believed that Native American uses and values should have precedence over those of New Age users, and described some New Agers as "Native American Wannabes." In contrast, most New Age interviewees felt that Native American spiritual uses or values should not take precedence over their own, as the Native American tradition is only one part of a continuum in the evolution of human spirituality, of which New Agers are the latest and most developed part. However, New Agers criticized Forest Service management as insensitive to the spiritual values of both the Native American and New Age communities. In sum, we can characterize the Forest Service as justifying its activities via the culture of "science and rational thinking," and the New Agers as basing their actions on "spiritual understanding and cosmic relationships."

Implementing the Convergence Model of Intercultural Communication

During summer 1991, the Mt. Shasta Ranger District of the Forest Service undertook an experiment in the effectiveness of the "convergence model" in managing spiritual use of the meadows by recruiting a New Age volunteer to work at the meadows. The convergence model emphasizes personal communication, through which shared cultural norms or values can be established, creating a "convergence" culture. The "most effective means of creating this convergence culture is through a member of the agency culture who is perceived to be similar to and empathetic toward the cultural user group" (Simcox 1990).

The volunteer, a well-educated man in his mid forties, had been drawn to Mt. Shasta by its power and approached the Forest Service with a desire to serve the mountain. The Forest Service stationed the volunteer at the trailhead into Panther Meadows, adjacent to the Ski Bowl parking lot. The volunteer's role was to greet the public, inform them of camping restrictions in the meadow, educate them about the restoration project and the sensitivity of Panther Spring, and urge them to leash their dogs and stay on established trails. The Forest Service also considered him important in gathering information about the number and type of visitors, and about the general atmosphere in Panther Meadows and the Ski Bowl parking lot. The volunteer and two graduate student researchers wore t-shirts identifying them as part of the cooperative "Mt. Shasta Meadows Restoration Project" that included the USDA Forest Service, but were not otherwise identified as Forest Service personnel.

The volunteer appeared able to communicate with all types of visitors. Because of his location he developed a special relationship with users who stayed in the area for extended periods of time. Most of these people were engaged in some personal or spiritual quest. Others were essentially rural indigents (homeless people) with some historical connection to the mountain. Several of the latter were mentally disabled and reported that they lived on government support. The volunteer explained that he grew a beard during the summer to relate better to these "street people." He also invited the public to informal campfires at his campsite and shared his food with those in need.

Both Forest Service personnel and the volunteer described the "experiment" as a success. Illegal camping was virtually eliminated in Panther Meadow, and vandalism and offensive behavior were significantly reduced. The experiment helped to establish a convergence culture between the Forest Service and spiritual users; however, conflicts still exist. One of the most difficult to overcome is the mutual perception of hypocrisy, because each group is accurate in assessing the disparities between the stated beliefs and actions of the other. Ongoing research aims to assist the Forest Service in better understanding the culture of spiritual users and working more effectively with them to protect and restore the meadows of Mt. Shasta.

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Service Delivery Strategies for Multicultural Environments

Identifying Service Delivery Strategies for Ethnically Diverse Users of a Wildland-Urban Recreation Site[1]

John M. Baas[2]

Abstract: Service delivery has become an increasingly important part of managing public lands for recreation. The range of preferences held by ethnically diverse users of recreation sites may warrant the development of more than one service delivery strategy. Two questions were examined: (1) Are there differences in site perceptions that can be identified on the basis on ethnicity? and (2) If so, how many service delivery strategies are necessary to meet the needs of the site users? Three ethnic groups were identified, but most differences were found between Anglos and Hispanics. These results indicate the development of two service delivery strategies could meet the needs of most recreationists.

Customer service has become an increasingly important part of managing public lands for recreation. This trend is evident in the National Recreation Strategy sponsored by the USDA Forest Service and Recreation 2000 sponsored by the USDI Bureau of Land Management (BLM). These initiatives have a strong emphasis on customer service. To meet recreationists' desires, managers must determine what recreationists want and then provide the desired service. To the extent that this occurs, "quality" in recreation management is achieved.

In southern California, maximizing customer service requires an understanding of the recreation preferences of an ethnically diverse population. As of 1990 California became the first state without a single ethnic group comprising more than 50 percent of the State's population. The diverse ethnicity of users might make it difficult to develop one service delivery strategy that effectively meets the needs of all. Maximizing customer service can probably be best achieved by segmenting or partitioning users into similar groups with respect to some characteristic of interest.

Segmentation is a concise way of examining the diversity of preferences held by recreationists and can be used as a means of allocating resources to the most highly valued recreation opportunities. Segmentation has been used to classify recreationists on the basis of activity participation, recreation experience preferences, and ethnicity. Once distinct groups are identified, it is relatively easy to develop service delivery strategies based on the distinguishing characteristic of each segment.

I investigated recreation use at a site in southern California to answer two questions: (1) Are there differences in site perceptions that can be identified on the basis on ethnicity? and (2) If so, how many service delivery strategies are necessary to meet the needs of the site users?

This paper reports the results of this study.

Methods

Data for this study were collected at a BLM site located near Palm Springs, California. Discussions with BLM recreation staff indicated the increased use of the area by members of the Hispanic population in the last decade. This situation provided an opportunity to test the utility of segmenting recreationist preferences on the basis of ethnicity. Data were collected on two weekends in spring 1991. Respondents were individuals who agreed to complete a questionnaire about their visit to the area. Respondents had the option to complete the survey in English or Spanish. Bilingual field personnel collected 250 questionnaires.

Service delivery needs were identified in two ways. One way involved measuring the differences between the importance of and satisfaction with 17 site and management attributes. Possible responses ranged from 1 to 5 for importance and satisfaction questions, with response categories ranging from not important to very important and from not at all satisfied to very satisfied. The second way involved categorizing responses to an open-ended question that asked respondents what they would do to improve the area. Responses were grouped into six categories: activity related facilities (baseball field, trails), high development features (trees, water, better roads), eating facilities (picnic tables, grills), concessionaire services (rent hiking equipment, snack bar), cleanliness of the area (trash cans), and management regulations (more law enforcement, no target shooting).

Results

Respondents were predominately Hispanic (78.5 percent, n=186), followed by Anglo (16.5 percent, n=39), followed by other ethnic categories. Using respondents' birthplace (country) and their self-identified ethnic group, three primary ethnic groups were identified, totalling 238 respondents. In order of decreasing frequency, ethnic groups were Mexico-born Hispanics (Mexican-Americans), U.S.-born Hispanics (Hispanics), and U.S.-born Anglos (Anglos).

Analysis of variance of mean differences between importance and satisfaction responses revealed statistically significant differences ($p<0.05$) for 11 of the 17 site and management attributes. For those 11 attributes, differences between Anglos and Hispanics were found, suggesting Hispanic site users have a greater desire for improved service delivery than Anglos. Emphasis on providing additional facilities, such as toilets and picnic tables, would probably meet the needs of most Hispanic users, while maintaining a clean nonlittered area would probably meet the needs of most Anglo visitors. The attributes that differed among all three ethnic groups were "clean area" and "low cost recreation area." Anglos showed a greater desire to have a

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, Ontario, California.

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clean area than Hispanics, and Hispanics were more concerned about having a low cost recreation area than Anglos.

Differences also were found by examining the open-ended, aggregated responses by ethnic group. Again, differences seemed evident between Anglo and Hispanic visitors, but not between the Hispanic and Mexican-American subgroups. For example, 47 percent of the comments mentioned by Hispanics and 52 percent of those by Mexican-Americans pertained to high development features (grass, more trees, better access).

Among Anglos, only 27 percent of the comments about improving the area pertained to development. About 34 percent of the comments by Anglos pertained to cleanliness, whereas about 9 percent of the comments by Mexican-Americans and 11 percent by Hispanics were about cleanliness.

Conclusions

Ethnic differences for service delivery needs were found for 11 site and management attributes. Although three ethnic groups were identified, most differences were found between Anglos and Hispanics. Analysis of comments about improvements to the area revealed a similar pattern. These results suggest two management strategies are probably adequate to meet the needs of most recreationists at this site. One service delivery strategy, focused on Hispanic recreationists, might emphasize development of the area (adding picnic tables, grills, and toilet facilities). Another service delivery strategy focused on Anglo users might emphasize removing trash periodically and disseminating information to recreationists about keeping the area clean.

Comparing the Preferences of Black, Asian, Hispanic, and White Fishermen at Moraine Hills State Park, Illinois[1]

Dale J. Blahna[2]

Abstract: This paper reports the findings of a study conducted at Moraine Hills State Park outside of Chicago, which is one of the few Illinois state parks that gets a high level of use by ethnic minorities. Personal interviews were conducted with 310 fishermen at two sites within the park: the McHenry Dam, a highly developed recreation area on the Fox River, and Wilderness Lake, a beautiful and very rustic lake in the park's interior. Results indicate that, despite the aesthetics and cleaner water of Wilderness Lake, Black, Hispanic, and Asian fishermen were more likely to fish at the dam, they preferred fishing at the dam, and they travelled farther to get to the park than White fishermen. Site and experience preferences were similar for fishermen of all cultural backgrounds, except that minority fishermen were especially interested in the availability of facilities, and Blacks and Hispanics were more interested in socializing. These results indicate McHenry Dam is an important regional resource for minority fishermen, that they prefer highly developed sites, and that they are willing to travel for preferred recreational experiences.

Differences in recreation participation of ethnic minorities compared to Anglo Americans has been a focus of research for about a decade, yet there are still more questions than answers regarding the reasons minorities use or do not use resource recreation areas. Because few ethnic minorities participate in wildland settings, it is difficult to get preference data using on-site recreation surveys. As a result, several authors have suggested the need to study the recreation behavior and preferences of recreationists in areas where minorities do participate (Washburne 1978, Dwyer and Hutchison 1991).

The purpose of this study was to investigate the behavior and preferences of Black, Asian, Hispanic, and White fishermen at Moraine Hills State Park, a 1700 acre park 50 miles northwest of Chicago. The park has several designated natural areas, and it offers the closest thing to wildland recreation opportunities within an hour drive of Chicago. It also has two distinctly different fishing sites within the park: McHenry Dam, which is a highly developed recreational site on the Fox River, and Wilderness Lake, which is located in the park's interior and contains outstanding opportunities for quiet, solitude and a nature experience. Wilderness Lake is actually a series of three interconnected lakes that contain clean, spring fed water. The area is only used lightly, and fishermen have a short hike from parking areas to the lakes and to a concession stand that serves the area. The McHenry Dam area, which is located on the Fox River, has poorer water quality but is much more heavily used. There is a complete concession area (boat rentals, tackle and license sales, food, etc.), parking and picnicking right up to the water's edge, and many other activity opportunities near by.

Research Methods

Personal interviews were conducted with 310 fishermen in the Park during July, August, and September of 1990. A stratified random sampling process was used to ensure a proportional representation of fishermen from the two fishing locations (dam and lake) and days of the week (weekday and weekend or holiday). Steps were taken to minimize response bias due to length of stay and group size, but we could not control for multiple visit bias.

The response rate for Black and White fishermen was high (85 percent and 88 percent respectively), but the response rate for Hispanic and Asian fishermen was much lower (68 percent and 65 percent). The lower response of these fishermen were the result of language barriers, and it hurt our ability to conduct some analyses by all four ethnic categories of respondents. The final sample contained 194 Whites, 73 Blacks, 18 Hispanics, and 14 Asians.

Results

As expected, White fishermen were significantly more likely to fish at Wilderness Lake; only five respondents (11 percent) at the lake were nonwhites compared to 100 (40 percent) of the respondents at the dam (Chi-square= 15. 1, sig.=.002). For fishermen that were aware of both sites, ethnic minorities were significantly more likely to prefer fishing at the dam than the White fishermen (Chi-square= 6.53, sig.=.04), but not when compared to just those White fishermen interviewed at the dam (Chi-square= 2.0, sig.=.368).

General satisfaction ratings were nearly identical at both sites. On a scale of 1 to 10, with 10 being most satisfied, the mean rating was 7.3 at the dam and 7.4 at the lake. Hispanic fishermen were especially satisfied with the experience at McHenry Dam; their mean satisfaction rating was 8.6 compared to 7.0 for Whites, 7.3 for Asians, and 7.5 for Black fishermen (F value=3.28; F prob.=.02).

Minority fishermen, especially Blacks and Hispanics, were more likely to travel farther than White fishermen to visit Moraine Hills. Most of the minority fishermen came from Chicago, while White fishermen were more likely to come from McHenry and Lake counties and suburban Cook County (Chi-square= 85.6, sig.=.000). This is an important finding, because past research indicates that minorities tend to recreate closer to home (Dwyer and Hutchison 1991). These results indicate minorities will travel for natural resource related recreation under certain circumstances. (In this case, the dam is about an hour drive from the north side of Chicago and two hours from the south side.) Thus, McHenry Dam is an important regional resource for many minorities, but more of a local resource for most of the White fishermen.

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A 20 item scale was used to investigate preferences for site (natural environment, resource characteristics, facilities, accessibility) and experience attributes while fishing. The natural environment factors were rated the most preferred site attributes, and there were no significant differences by racial subgroup. On the other hand, preferences for specific resource attributes (type and size of fish, etc.) were lower than expected, indicating that this was a nonspecialized group of fishermen. Blacks at the dam were more interested than Whites in catching large fish and fishing in slow moving waters, but there were no other significant findings. The most significant site attribute differences were in preferences for facilities. For the lake fishermen, facilities were felt to be the least important aspects of a fishing experience, but they were one of the most important for ethnic fishermen at the dam. For all three minority subgroups, fishing near parking, bathrooms, and concessions were more important than for the White fishermen. In fact, the minority fishermen rated these items as highly as the items relating to the natural environment. This indicates that, while nature is an important aspect of the fishing experience for minorities, facilities are equally important and not necessarily incompatible with the natural surroundings. (Wilderness Lake also had restrooms, parking, and concession facilities, so it is the highly developed nature of McHenry Dam that appeals to these fishermen.)

Accessibility was the least important of all preference items on the survey, and it was actually ranked significantly lower by Black and Asian fishermen than by White fisherman. Again, this indicates that these minority fishermen are willing to travel for outdoor recreation opportunities if agencies provide the preferred experiences.

The only significant differences in the experience prefer-ences (socializing, relaxation, solitude, and skill testing) were in the ratings of the socializing items. White fishermen rated all four of the socializing items lower than minorities, but there were only two significant differences: Hispanic fishermen rated "to be with family and friends" higher than the White fishermen, and Black fishermen rated "to be with people who share the same interest" higher. The preference scales for socializing may be underestimating the importance of this factor for McHenry Dam fishermen, however, since Blacks, Hispanics, and Asians were all more likely to visit the park as part of a group than Whites visiting the Dam or the Lake (Chi-square= 14.8, sig.=.002). In general, however, the expectations for social and psychological attributes of fishing were very similar for all fishermen.

A final possible explanation for the popularity of the dam with ethnic minorities is that there has been a long history of use of the area by these groups. Nearly 70 percent of the visitors, however, have been coming to the park for less than 7 years, and there were no significant differences by ethnic background. Conclusions

It is surprising that such a large percentage of fishermen at Moraine Hills State Park are ethnic minorities, especially given the location of the park in a predominantly White, exurban area. Ethnic fishermen were more likely than Whites to (1) travel farther to get to the park, (2) visit the park as part of a group, and (3) prefer facilities and opportunities for socializing. The McHenry Dam area is especially popular with fishermen in the park. When the parking lot at the dam is full, most people will wait in line for hours rather than fish at Wilderness Lake. Both minorities and Whites who fish at McHenry Dam, view it as supplying a natural experience, despite the fact that it is very highly developed by resource agency standards.

The ethnic minorities fishing at Moraine Hills preferred fishing at the dam compared to Wilderness Lake. We expected this finding, but most of the reasons we expected to find to explain it (similar types of people using the area, opportunities for socializing, accessibility, historical precedence, etc.) did not seem to be as important as the highly developed nature of the site. The fact that minority visitors travelled farther to get to the park, and that there are very few sites in northeastern Illinois that get such heavy use by minorities, indicates that there is a latent demand for these types of fishing areas, and that minority fishermen will travel to use the areas if they are provided.

The Moraine Hills case illustrates that resource agencies can play an important role in providing recreational experiences for ethnic minorities, but it will require a very different approach to the provision of outdoor recreation opportunities. Resource agencies tend to provide many more experiences at the natural end of the opportunity spectrum, rather than the urban end of the continuum. This could help explain the heavy predominance of Anglo visitors in most resource based recreation areas.

Resource managers have justified low use levels by minorities as being the result of a lack of interest on the part of minorities for the types of opportunities provided by the agencies. The case of Moraine Hills State Park illustrates that an equally valid argument can be made that the agencies do not provide the types of experiences preferred by ethnic minorities (and many White fishermen as well). Recreation agencies need to provide a greater diversity of recreational experiences, such as the example provided by Moraine Hills State Park. This will require focusing more on providing recreation in urban and near urban areas, and providing significantly higher levels of recreational development than the agencies typically offer.

Acknowledgments

The research reported was supported by a grant from the Urban Recreation Research Project of the USDA Forest Service, North Central Forest Experiment Station in Chicago. I thank John Dwyer and Paul Gobster for support throughout this project, and Glen Phelan and Mike Erickson for helping to manage field data collection.

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Wilderness Issues for Urban-Proximate Areas

Urban Perceptions of the Natural Landscape: Implications for Public Awareness of Wilderness as a Distinct Resource[1]

George W. Duffy[2]

Abstract: As more and more of our population move from rural to suburban to urban to metropolitan settings, the connections between people and the land of which they are a part become less obvious, less immediately important and less clearly understood. The contrast between a complex, highly structured social and cultural urban environment and the natural world seems bipolar. The urban dweller, accordingly, sees only a continuous natural landscape. The implications of this difficulty need to be examined and understood by urban wilderness managers.

Although the concept of wilderness has a long and spirited public history, which resulted in the Wilderness Act of 1964 and subsequent wilderness legislation, the influence of that history and legislation has not been manifest in an urban awareness of this subtle and uniquely American value.

Urban dwellers seem to view the natural world primarily as the antithesis of their complex, structured cities—a place of absolute freedom. The urban dweller who comes to the forest does so to escape from the city, not to marvel at the rhythms of nature or learn of the place of natural events in their lives. The motive is more akin to running from a burning building—getting away in any direction from the heat rather than deliberating the merits of the destination.

An understanding of this distinction is essential if we are to effectively communicate the goals and direction of wilderness management to urban forest visitors.

Examples

1. "Where Are We?"

A wilderness patrolman encountered a group of four young men at a campsite located immediately next to a mountain stream. Scattered around them were paper and plastic shopping bags, a variety of pots, pans and dishes that came from a home kitchen, an ice chest, household bedding items, military surplus packs, a large radio/cassette tape player and tapes, an axe, .22-caliber rifle, empty food cans, wrappers, beer cans and numerous soiled paper towels. A ring of blackened rocks contained a smoldering campfire of green freshly cut alder limbs, the source of which could be seen immediately adjacent to the campsite. After a patient discussion of the need to "leave no trace" and the reasons therefor, suitable apologies are offered with the declaration "We didn't know." As the patrolman left, and almost as an afterthought, one young man asked, "By the way, where are we?"

2. "Ye Ye Frank"

A wilderness patrolman came upon a camping area where eight sites had been established. Each site consisted of a framework of freshly cut Alder tree trunks, a pile of moving van furniture pads and orlon-cotton blankets. Each site was scraped clean to bare earth. There were also three benches or altars constructed of freshly cut alder saplings by lashing them together with baling twine. A large pit contained institutional-sized food containers, some bearing identification as Federal public assistance foods. Scattered throughout the area were institutional plastic plates, cups, pots, pans, utensils, literally hundreds of individual teaspoon-sized packets of sugar, salt and pepper, honey, catsup, mustard and mayonnaise, books, clothing, discarded flashlight batteries, empty gallon camping fuel cans, a broken radio, numerous unwound tape cassettes, food wrappers, gum wrappers, empty cigarette boxes and countless cigarette butts, and two bibles coated with dirt. A large oak tree had been completely and irreparably girdled by a hatchet. Other trees in the area had been hacked and chopped with no apparent goal. On one tree was carved: "Ye Ye Frank." It took 2 days and half a gallon of diesel oil to incinerate the debris and clean up the area around this site. In a month the same scenario had been replicated a mile further up the canyon.

3. "I Didn't See Any Sheep."

A wilderness patrolman encountered a woman in her early fifties walking along a wilderness trail struggling to manage four large dogs on leash. The patrolman advised the visitor that this particular wilderness area contained a herd of protected desert bighorn sheep, which were frightened by the presence of dogs and that she should consider using a portion of the trail outside the sheep area when walking her dogs. The woman replied indignantly, "I didn't see any sheep."

What's Going on Here?

Clearly the foregoing examples offer a view of wilderness visitors that is not in keeping with our traditional image of the skilled, well prepared backpacker who is sure of his or her place, destination, and purpose—but what is going on here?

In example 1, the group had decided to "get away" from the Torrance area (a suburban community within the Los Angeles Basin) and go to the mountains. They had no clear destination in mind, and in fact no destination other than "the mountains" had been gained. The southern California weather was benign and required no consideration. The distance traveled on foot was less than 2 hours. The visit was only to last overnight. No particular interest in the nature of the area was expressed. This group saw

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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only that this was not the city and knew that a few items with which they were familiar would be sufficient for their stay.

In example 2, a bit of investigation revealed that the group that had occupied this site was a Christian inner city gang/drug/alcoholic rehabilitation group. It took the enrollees out of the environment that offered those vices and sequestered them (voluntarily) during the weekdays in the forest, away from those temptations, and delivered them home on the weekends when other friends and family would be available to support their rehabilitation. This group had no awareness of the forest other than as a place where the things common to their behavior did not exist.

Example 3 represents two growing trends: to use urban forest and wilderness trails to walk and exercise pets, and to keep dogs for personal protection. The former practice is a result of increasingly strict urban laws regarding pets, their attendant excrement and barking, and the ever-shrinking urban open spaces in which they are allowed. The latter is a result of the need to provide some method for self-protection against potential assailants. Indeed, three different women indicated that they would not hike or jog without their dogs.

What Does This Mean?

The foregoing examples illustrate a significant change in the way more and more people from the Los Angeles area view and use their public lands and the compromise of wilderness values attendant thereto. This increasingly utilitarian view of the land is fundamentally different from the esthetic, spiritual, reverential, land-nurturing mindset that created wilderness legislation and policy.

Whether this trend reflects a response to the pressures of life in the Los Angeles basin, a changing system of social values, or the influence of the growing cultural diversity of the area is unknown. What this means for wilderness managers, however, is that communication with the current visitors from the Los Angeles basin is going to require a much higher level of effort, both in community-based environmental education and field contact.

The Indicator Performance Estimate (IPE) Approach to Defining Acceptable Conditions in Wilderness[1]

Steven Hollenhorst Lisa Stull-Gardner[2]

Abstract: Using data from a study conducted in the Cranberry Wilderness area, this paper describes how the Importance-Performance approach can be used to prioritize wilderness indicators and determine how much change from the pristine is acceptable. The approach uses two key types of information: (1) indicator importance, or visitor opinion as to which wilderness indicators have the greatest influence on their experience, and; (2) management performance. Performance is determined by comparing actual conditions to visitor standards using the Indicator Performance Estimates (IPE) approach. The results can than be presented graphically on a four-quadrant matrix for straightforward interpretation.

The Limits of Acceptable Change (LAC) planning framework utilizes wilderness indicators to represent the condition of the resource and the quality of visitor experiences. The framework explicitly identifies how much change from the pristine is acceptable for each indicator. However, two major limitations have arisen with the LAC process: (1) lack of knowledge about the importance or influence of various resource and social conditions relative to quality wilderness experiences (Roggenbuck, Watson, and Williams 1991), and; (2) difficulties in comparing the performance of indicators. Performance is defined here as the difference between visitor standards (the amount of change from the pristine that is acceptable to visitors) and actual conditions that exist within the area.

The Importance-Performance approach (Mengak, Dottavio, and O'Leary 1986) is an effective procedure for overcoming these limitations. Two key types of information are provided for each indicator: 1) importance, or visitor opinion as to the degree of influence the indicator has on wilderness quality and/or their wilderness experience, and 2) performance, or the degree to which an indicator exceeds or is within visitor norms or standards. The approach employs a matrix divided into four sections. Each quadrant is labeled differently to indicate different management priorities (fig. 1).

Study Process

We used the Importance-Performance approach to analyze indicator data from a study conducted during the summer of 1991 in the Cranberry Wilderness Area, located in Monongahela National Forest of West Virginia. A set of social and resource wilderness indicators was chosen that represented the issues and concerns identified by a task team of concerned publics and managers. The relative importance of the indicators was determined by asking respondents to rate, on a five point scale, the influence of each indicator on the quality of their wilderness experience. The mean rating was then used to plot the importance of each indicator on the I-P matrix.

Determining the performance of an indicator was more complex. To determine indicator standards, questions were used asking respondents to specify their preferred level of each indicator. The actual conditions of the indicators were determined using two methods. First, respondents provided information on their perceptions of current conditions such as number of encounters and the number of visible places they saw where people have camped. Second, a campsite inventory was conducted in order to determine the amount of vegetation loss and bare ground exposure, tree damage, amount of litter, number of fire rings, etc.

Performance was viewed as the difference between visitor standards and the actual conditions of an indicator. However, indicators are measured using different scales and therefore not directly comparable. To deal with this problem, Indicator Performance Estimates (IPEs) were determined by standardizing the difference between visitor norms and actual conditions using the following formula:

$$IPE_i = \frac{p_i - a_i}{sp_i}$$

where:

IPE_i = indicator performance estimate of indicator i
P_i = mean visitor preference level for indicator i
a_i = mean actual condition of indicator i
sp_i = the standard deviation of the distribution for p_i

The formula assumes that higher values for the actual condition of an indicator represent poorer wilderness conditions (i.e., number of parties encountered). For indicators in which higher indicator values represent positive conditions (i.e., wildlife sightings), p_i would be subtracted from a_i.

Results and Discussion

The I-P values for each indicator are evident in figure 1. Two indicators appeared in the Keep up the Good Work category; number of large parties seen and the number of fire rings. Visitors found these conditions important to their wilderness experience, and rated the conditions as within visitor standards.

Five indicators appeared in the Concentrate Here category, including the number of parties of people seen each day, the number of parties camping within sight or sound of their campsite, the number of parties walking past their campsite each night, the number of visible places seen each day where people have camped, and the percent of vegetation loss and bare ground seen around where people have camped. These indicators were important to visitors, but actual conditions exceeded their preference standards. These areas warrant the greatest management attention.

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, Ontario, California.

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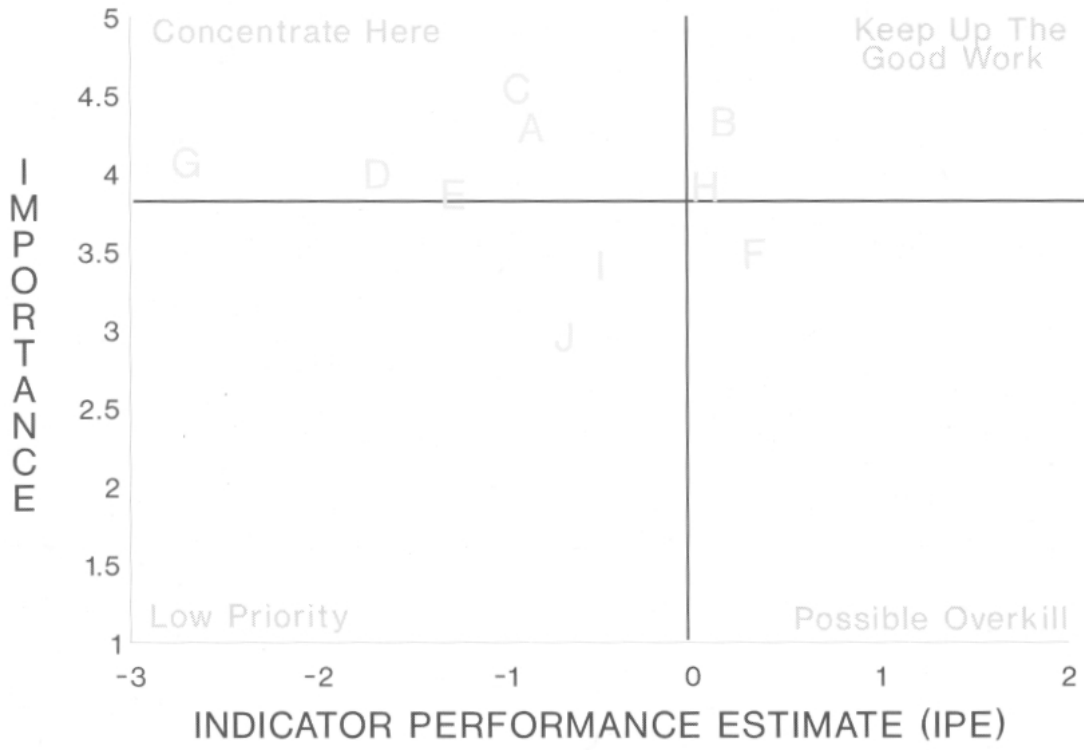

Figure 1—Importance-performance ratings of wilderness indicators, Cranberry Wilderness study, December 1991.

Code	Indicators
A	Number of parties of people seen each day
B	Number of large parties (more than 6 people) seen each day
C	Number of parties camped within sight or sound of my campsite
D	Number of parties that walk past my campsite each night
E	Number of visible places where people have camped
F	Number of horse parties encountered each day
G	Percent of vegetation loss and bare ground where people have camped
H	Number of fire rings (from campsite inventory)
I	Signs seen each day
J	Culverts seen each day

It is interesting to note that four of these indicators related to feelings of crowding while only one related to recreation impacts on the resource. The indicator that had the most influence on the quality of visitors' wilderness experience was the number of parties camped within sight or sound of their campsite. With respect to performance, the indicator that exceeded visitor standards by the greatest margin was the amount of vegetation loss and bare ground exposure where people have camped.

In order to determine the most appropriate management action for a given situation, objective information is needed regarding the influence and condition of various indicators of wilderness quality. The I-P approach provides managers with a simple means of including this information in the LAC decision-making process.

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Facilitating Backcountry Use of Bureau of Land Management Wildlands[1]

R. Steve Smith[2]

Abstract: BLM wildlands are extensive areas which offer opportunities for increased backcountry use. Many BLM wildland areas are not currently receiving much backcountry use due to their unfamiliarity by the public and lack of facilities. Increased urban/BLM wildland interfacing can produce important benefits for both individuals and our society. Using various informational techniques, signing and field facility development, use of BLM wildlands by our urban population could be greatly increased.

Most of the public lands administered by the USDI Bureau of Land Management (BLM) are wildlands. They are wildlands in the sense they are mostly undeveloped, have few use facilities and access is often limited to backcountry roads. Proximity of these public lands to urban areas throughout the western United States varies—many are close to populated areas but many are extremely remote and isolated.

BLM public lands currently receive a diverse variety of visitor and commercial use. The amount of visitor wildland use is generally quite light in most areas. For this paper, I am focusing on arid BLM wildlands which occur throughout much of the western United States. The wildland use discussed in this paper is backcountry recreational activities such as backcountry vehicle exploration, vehicle camping, hunting, hiking, and backpacking. Why is BLM wildland use intensity light and even non-existent in some areas? Much of the BLM land is desert or arid desert mountain ranges which many wildland users do not find as attractive or interesting as the more popular forested and alpine areas with widespread vegetation and plentiful surface water. Many people are not knowledgeable on how to safely visit and enjoy the BLM public lands which are arid, lack surface water and are accessed only by primitive roads. Finally, there are generally few actions taken to promote backcountry use of these lands and explain their diverse outings opportunities.

The BLM public lands have a lot of potential for more increased backcountry use in our society. For those areas close to populated areas, the opportunity is there for day visits while the more remote lands can be accessed with multi-day trip planning. I will review the following points relevant to promoting the BLM wildland/urban interface: (1) Desirability of promoting increased wildland/urban interface, (2) Benefits of wildland/urban interface, and (3) Methods of promoting backcountry use.

How much backcountry use of BLM wildland is wanted? Should we actively seek to increase use? Our increasing population needs more space for wildland recreation. BLM lands have the space to accommodate more use. I believe that primitive types of wildland use, where the visitor enjoys, appreciates, and can develop an understanding of the natural environment should be promoted. From personal BLM wildland backcountry experiences over the last 30 years and observations from leading others into the backcountry, I have come to believe such outings can provide individuals with personally meaningful, important outdoor experiences. A down side factor is that increased use can often mean environmental degradation and use conflicts. Including environmental education efforts along with how and where to use BLM wildlands can significantly minimize these impacts.

There are benefits to increasing backcountry use of BLM wildlands both for the individual visitor and for our society in general. Individuals can enjoy and personally benefit from a natural outdoor experience in BLM wildlands. They can meet their personal needs of relaxation and outdoor enjoyment with opportunities for various levels of physical challenge. These challenges can range from just getting to the roads end and primitive car camping to multi-day backpacking trips through rugged terrain while carrying all your water and navigating cross country. Society can benefit too when individuals are more content. People can find a sense of personal contentment through backcountry activities, they can become more in tune with their understanding of environmental needs and can cope better with day to day pressures.

What can we do to facilitate backcountry use of BLM wildlands? In many other areas of the world, societies are much more outdoors oriented and facilities are built to assist with wildland use. In many mountainous areas, there are various types of shelters — from primitive windbreaks to elaborate huts — available for protection.

Throughout the Alps, there are trails, huts, trams, mountain cable cars and even high elevation hotels perched on ridgelines. While comparatively there is more backcountry development in the Alps than in the United States, the development is in harmony with the environment. Such development seems to allow or enable a much greater percentage of the population to pursue wildland activities. The people in the countries encompassing the Alps seem to not only be much more outdoors oriented than we in the United States but also much more involved in taking care of their wildland landscapes. I think there is a real benefit in helping people devote more of their leisure energies towards wildland use and lessen the dependence on the many artificial activities which are so prevalent.

Management designations and policies do limit what developments can be made on BLM wildlands in some areas. Resource protection needs will sometimes necessitate management to minimize use. Also, there are a variety of management designations, such as wilderness, which will limit the options you have to promote or facilitate use. As allowed by pertinent laws and policies, the following are various management actions

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, Ontario, California.

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which can be considered for promoting backcountry use of BLM wildlands.

Maps and Guides: Maps, brochures and guides could be developed to provide information on locating and accessing BLM wildland areas. Guides can be used to highlight opportunities for cross country travel where no trails exist and describe wildland natural and cultural features that would be of interest to visitors. Consider leaving or stabilizing features other than those with just historic value which can be of interest to backcountry users. In the Inyo Mountains a 26 ton bulldozer is abandoned at the remote Keynot mine at 8,400 feet and is now an oddity which attracts backpackers.

Backcountry Use Methodology: Provide information on how BLM's arid and mountainous wildland areas can be safely used and techniques to follow to minimize environmental impacts.

Water Sources and Developments: In most BLM wildlands areas, there are natural springs. Some already provide reliable water while others could be developed with minimal work to improve water collection and storage. It may be possible to put in artificial water catchments which could also be a source of water. Information on the location of these water sources and health aspects regarding purification needs could then be provided to users.

Provide Shelters: In some areas, there are already historic cabins which can be stabilized and used for backcountry shelter. At other locations, various types of shelters could be developed, ranging from small windbreaks to more elaborate covered shelters. Friends of the Inyo Wilderness Study Area stabilized a historic cabin located at a remote site at 8,200 feet in the Inyo Mountains and stocked it with emergency provisions. Preliminary results show knowledge of this cabin has generated more use and no added management problems.

Trails: There are many historic trails not actively used which could be easily improved for current use. New trails could be developed and kept at a lower standard of construction to keep down costs and lessen environmental impacts.

Signing: Install signs which provide directions and show trail routes.

Conduct Orientation Trips: Experienced personnel could schedule and lead wildland outings of varying degrees of difficulty. Such trips would then enable visitors to learn about backcountry opportunities, use procedures and enable them to return for follow up outings.

Establish Trailheads: A major need for use of BLM wildlands are access points which can be located and accessed.

Mark Cross Country Routes: Many BLM wildlands have outstanding opportunities for day hikes and backpack trips where no type of use trail exists. Route marking techniques using rock cairns and signing could be used to help visitors negotiate cross country travel routes.

Summary of Educational Poster Session

Summary of Educational Poster Session

The educational poster session provided a way of increasing the ordinarily limited time available for discussion of papers, while simultaneously making it easier to communicate visual materials not well suited to oral presentations. Poster presenters were available for 3 hours to discuss their displays. Poster presentations were divided into two categories: minority issues and management issues. These poster presentations are summarized below. This symposium session was moderated by Tracie Welton, USDA Forest Service, and George Welton, California State University at Northridge.

Issues Affecting Minorities

Six of the posters in part addressed the common issue of minorities. The first, **"Communication Issues in Multicultural Environments"** by John M. Baas, focused on land managed by Federal agencies. Baas pointed out that, for effective natural resource management, good communication is essential. It can enhance resource protection goals, users' recreation experiences, resolve conflicts between user groups, enhance the public image of resource management agencies, and enhance land management agency understanding of increasingly complex and politically astute publics. In the multicultural environment in southern California, several factors serve as barriers to good communication. These include different values of agency and user personnel, numerous languages spoken by users, and poor communication technique (message or medium used to transmit the message). By being aware of these factors, natural resource managers can improve communication in multicultural environments.

The second poster paper on this topic, **"Wildland-Urban Interface: Site Observations in Southern California"** by Deborah J. Chavez, addressed minority participation patterns and other issues concerning minority visitation to two southern California National Forests. Chavez described the study sites as having concentrated dispersed usage and being water-based recreation areas. Patterns of visitor use, land ethics, and social interactions were examined. Average group size was eight, and most visitors spoke English or Spanish. Visitors showed a preference for sites next to the water and for shaded areas. Activity preferences were for hiking, picnicking, and visiting with others. Passive depreciative behaviors were seen, but active depreciative behaviors were not. Most of the interaction between natural resource managers and the public were law-enforcement related. Cost-effective management techniques to reduce depreciative behaviors include suggestions for signs, and to improve social interactions include adding some positive interactions—such as a short chat after—stopping to cite visitors.

The third poster presentation concerning minorities was Dale Hom's **"Natural Resource Challenges for a Culturally Diverse Pacific Northwest: An Outdoor Recreation Model."** Hom reported that resource managers have not been proactive in delivering quality customer services to ethnic minorities, which is evidenced by low participation in outdoor recreation. Resource agencies provide benefits for the American mass culture, and may be inadvertently excluding ethnic minority groups. Utilizing concepts of strategic marketing, recreation managers and providers can better understand this "new" customer. Asian, black, Hispanic and Native American groups have unique differences, needs and concerns, which must be considered in service delivery. Recommended strategies were identified to improve customer services for a culturally diverse population in the Pacific Northwest.

Victor Caro examined depreciative behaviors in his poster entitled, **"Hispanic Culture Influence on Land Stewardship Development and Land Preservation Issues."** Caro's areas of study are riparian corridors located in the San Gabriel Canyon on the Angeles National Forest and in Lytle Creek Recreation Area on the San Bernardino National Forest. He reported that within the Hispanic population there exists three distinct subgroups (U.S.-born Hispanics, Mexico-born Hispanics, and Central America-born Hispanics) that have significantly different beliefs on environmental awareness and land preservation issues. Foreign-born Hispanics, in many cases, are less environmentally attuned than are their U.S. counterparts. Activities that contribute to global warming and land degradation are considered less harmful by Mexico-born and Central America-born Hispanics. "Hispanic" visitors are more likely to modify the recreation site for water sport activities and open fires, and to improve the picnic area. Certain activities, such as bathing or washing in the stream, tree carving, and leaving trash at the recreation site are viewed as reasonable by Hispanic forest visitors. Land managers, however, consider these activities "depreciative" behavior. To preserve the recreation site, land managers must develop an environmental education program that will provide appropriate land stewardship information geared to particular visitor groups.

Theoretical frameworks for minority issues were addressed by J. Mark Fly and Gillian C. Brown. In **"A Conceptual Framework for Understanding Recreation Behavior from a Multicultural Perspective,"** J. Mark Fly suggested the need to consider the complexity of minority recreational experiences. Even though there have been an increasing number of studies concerning recreation behavior from a multicultural perspective, we are far from understanding the true complexity of leisure participation by ethnic minority populations. The driving force behind this line of research is to explain the bases for differential participation in recreational activities by different cultural groups. Fly noted that for some time now, attempts have been made to explain differential participation using subculture (ethnicity) and marginality theories. A more recent introduction into the theo-

retical foray is the "interracial relations" explanation by West. These findings suggest that for any given situation each of the theories may singly or jointly explain differential participation in recreation and leisure activities by ethnic minority populations. Given the complexities of human social behavior and the diversity of the infrastructure that provides recreational opportunities to citizens, simple explanations understandably are scarce.

In "Understanding Social Stigma as a Barrier to Recreation Participation of Individuals With Disabilities Using Fishbein's Model of Attitude Formation," Gillian C. Brown examined another minority population—individuals with disabilities. Brown noted that societal attitudes are the fundamental foundations for the barriers that individuals with disabilities encounter in their daily life, as well as in their recreation. Fishbein's model of attitude formation facilitates a vital understanding of the root of such negative attitudes. This model shows that attitudes and behavior are based on beliefs. Beliefs (whether they are based on fact or fiction) and strength of belief are the basis for attitudes (be they positive, negative, or neutral). The behavior, then, is the response to the attitude. Finally, feedback or "the action of others" finishes the cycle by reinforcing the belief or altering it. Attitudes are formed, and subsequently attributes that make one different are categorized and stereotyped along with negative archetypal information linked to the "difference." In this way, stigma are assigned. In recreation participation, the attitude and similarly the stigma create a large psychological barrier to participation for persons with disabilities. Lack of interaction and exposure to individuals who are markedly different, coupled with misconceptions and low tolerance, manufactures a hostile environment for recreation and its inherent benefits. A basic comprehension of attitude formation can lead to education which can, in turn, reverse the pervasive negative attitude in our society.

Issues Affecting Management

Eight poster presentations addressed management issues. The first by Tess Albin-Smith and Pam Linstedt was entitled **"Resolving Recreation Land Use Conflicts on the Jackson Demonstration State Forest."** The Jackson Demonstration State Forest (JDSF) is the only state recreation area on the Mendocino Coast managed for both sustained yield timber production and related research, education, and outreach programs. In a study of camping and use permits for 16,719 visitors to the JDSF in 1992, Albin-Smith and Linstedt discovered quite different recreation expectations between local and nonlocal visitors. Whereas many local visitors use the JDSF because they or their families historically camped or grew up on the forest, nonlocals are unfamiliar with its history or management role. JDSF recently added a program specifically to address recreation. A consulting firm was hired to develop a plan to provide high quality recreation and to address some of the land use and recreation conflicts on the State Forest. Conflicts of use, such as hunting and horses, off-road vehicle use, target practice, vagrancy, and patrol problems continue to be a challenge for future planning.

Lynn Roberts, in **"Opportunities for Research at Mount St. Helens: A World-Class Living Laboratory,"** described research resulting from management needs. She reported that during the first 3 years following the 1980 eruptions, Mount St. Helens was a focal point for geological and ecological study. In the USDA Forest Service, scientists from the Pacific Northwest Research Station and managers from the National Forest System joined forces to enable and coordinate an unprecedented suite of interdisciplinary investigations. More than 300 scientists represented dozens of universities and public agencies. In recognition of this research opportunity, the Forest Service created a staff scientist position for Mount St. Helens National Volcanic Monument. This scientist is responsible to ensure that baseline data and ongoing studies are maintained for both the benefit of visitor information programs and the future needs of society. The Monument was created for its research, recreation, and environmental education opportunities.

Reed E. Gardner also focused on the management of Mount St. Helens following the volcanic eruption, in **"Mount St. Helens National Volcanic Monument: A Decade of Excellence."** Gardner reported the last words of geologist David Johnston as the eruption of Mount St. Helens rushed toward him at Johnston Ridge—"Vancouver, Vancouver—This is it!" Never in recorded history had an event enveloped a National Forest to make it the object of worldwide focus. The eruption of Mount St. Helens on the Gifford Pinchot National Forest was an event known throughout the world. It drew communities and governments together to deal with unprecedented problems and to take advantage of unparalleled opportunities, and it placed the Forest Service in a unique leadership and stewardship role. Recreation opportunities were created and facilities developed as a result of the volcanic eruption, including these: 30 view points with interpretive signs, a state-of-the-art information board system, 8 campgrounds, 2 backcountry toilets, 1 backcountry shelter, 3 Sno-Parks, 3 information stations, 1 concession, 1 horse camp, 216.5 miles of trails, 21 trailheads, 6 bridges, 1 visitor center, 39.6 miles of road restoration, and 52.9 miles of road construction.

Looking at landscapes from the perspective of visitors was the emphasis of Arthur W. Magill's poster entitled **"Our Managed Landscapes: Opinions of What People See."** Magill reported that visitors to wildland areas of the United States see an untold variety of natural and manmade features comprising our national landscape. People endow meaning to the landscapes they see, and they use words to express that meaning as well as their concern. A study completed in 1989 identified what people saw in landscapes and assessed their opinions of what they saw. Color slides provided simulations of commonly seen natural landscape features, manmade structures, and resource management. A rich collection of terms were used by 788 respondents to describe 154 objects that were seen. Respondents additionally indicated whether the objects were liked, disliked, or seen with indifference. "Roads" were the most frequently reported evidence of management while less than half as many responses were for "clearcuts." Despite being reported most frequently, roads were not disliked nearly as much as clearcuts. Responses showed that people liked "green moun-

tains," "green hills," and "green valleys." This study suggests that the sooner a landscape disturbance reverts to green, the less likely it will be regarded with disfavor.

In **"Planning and Management of USDA Forest Service, National Park Service, and Bureau of Land Management National Recreation Areas,"** Rick Dorrance examined guidelines for special designation of resource areas. Federal land management agencies increasingly are using special designation of areas as a means to focus attention on valuable assets. Because there are no standard designation guidelines or operational procedures, the management of these areas varies widely. Nationwide, 49 managers responsible for 54 specially designated areas were surveyed. Interviews suggested enabling legislation, area attributes, management mechanisms, and public advocacy factors as most likely to produce successful recreation areas.

Linda E. Kruger, Roger Clark, and George Stankey presented a poster on **"Alaska as a Wildland-Urban Interface: What Questions Do We Need to Answer?"** Under the auspices of the Consortium for the Social Values of Natural Resources, they conducted a delphi process to identify critical questions that need to be answered to more effectively manage Alaska's wildlands. The delphi process involved Native corporations, researchers, academicians, and citizens with a known interest and past involvement in management of Alaskan lands, as well as managers from local, State, and Federal agencies. Key areas identified in the problem analysis include these: the need to integrate social, economic, and ecological aspects in research, planning and management; the need to improve the public participation process; and the need to improve information on the acceptability of human modifications from both social and ecological perspectives.

Lynn Huntsinger and Jeremy S. Fried examined the important management issue of conflict in their poster entitled, **"Resource Management Conflict at the Urban Fringe: The Case of Mt. Diablo State Park."** They describe Mount Diablo State Park as a rapidly expanding urban area, bordering central Contra Costa County in California. Controversy surrounding the Park's recently adopted general plan has been of surprising extent, vehemence, and duration, mostly due to the proposed elimination of grazing—a traditional use of Mt. Diablo's oak-dotted slopes. For the most part, the conflict echoes grazing controversies on Federal lands: a remnant rural community favors traditional forms of "wise use," while urban environmentalists see grazing as detrimental to environmental preservation. The serious threat of wildfire, however, and the extraordinarily high real estate values at the urban-rural interface in Contra Costa County, have lent unusual power and financing to the pro-grazing side of the issue. The Mt. Diablo grazing controversy offers the opportunity to explore the changing composition of controversy over resource management. Improved understanding and anticipation of the interests affected by resource management decisions can help land managers avoid costly conflicts like those experienced at Mt. Diablo.

The poster **"National Forests Are for Everyone,"** by Brian Kermeen describes another important management issue—access. Kermeen noted that National Forests are the leading provider of outdoor recreation in the United States, yet most of the developed facilities were built without fully considering the needs of persons with disabilities. As a result, a large segment of the population has been excluded from using them. The goal of Chief F. Dale Robertson, USDA Forest Service, is to "become the leading provider of accessible outdoor recreation." To accomplish this goal, the America's Great Outdoors initiative has a major emphasis on access. The initiative involves a design guide, facilities survey, data management, and training. In addition to the emphasis on outdoor recreation, Chief Robertson wishes to be the employer of choice for persons with disabilities. Universal design provides the opportunity to also incorporate multicultural considerations. By better understanding the needs of all our customers, and designing for them, we can provide facilities and programs free of barriers to participation. National Forests are for everyone!

Summary of Simulated Field Trip Session

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The Simulated Field Trips offered resource managers an opportunity to "show" Symposium attendees their resource areas. The emphasis was on recreational activities in the wildland-urban interface and on management techniques for these areas. The six presentations were in the form of slide shows and videotapes. The session was moderated by Robert Laidlaw of the Bureau of Land Management.

Desert Areas

The first set of presentations focused on desert areas and included Veronica A. Fortun's **"Discover Your California Desert District"** talk on the vast sandscapes, unusual wildlife, swaying palms, and distinctive beauty found in this resource area. Fortun described the California desert as a source of natural, historic, recreational, and economic riches. Her slide presentation included petroglyphs to shifting sand dunes, multi-million dollar gold mines to majestic bighorn sheep, and ribbons of pipeline to wide open spaces. The Bureau of Land Management is responsible for the balanced management of these public lands and resources. Management is based upon the principles of multiple use and sustained yield—a combination of uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources.

Emily Garber presented a videotape entitled **"The Desert as Dessert: Recreation in the Desert-Urban Interface,"** which described the Cave Creek Ranger District on the Tonto National Forest as a year-round playground for the over 2 million people of metropolitan Phoenix. The tape described the area as currently ill-equipped for the task of meeting the demands of its visitors. While boasting many attractions—two lakes, several miles of the Wild and Scenic Verde River, two wilderness areas, many well-visited archaeological ruins, and quite a few miles of well-used pedestrian, equestrian, motorcycle and four-wheel drive trails and roads—most of the heavily used areas of the Ranger District are undeveloped. The District is now planning and designing recreation facilities, and anticipates several recreation facility rehabilitation and construction projects.

Wildland-Urban Interface

Michael J. Rogers then changed the focus with his slide presentation entitled **"The Angeles National Forest: A Forest Service Laboratory for Wildland-Urban Interface Challenges."** According to Rogers, the Angeles National Forest does not fit the image of a traditional forest, and traditional management does not work. The wildland-urban interface poses many new and unprecedented issues to recreation management on the Angeles, including these: effective law enforcement, appropriate recreational experiences for many diverse cultures using the forest, traffic control, and public participation in decisions and activities. In addition to these clear "people management" issues, protection of natural resources on the Forest involves indirect social issues, such as water quality, litter, graffiti, and smog. None of these issues is exclusive to the Angeles, but their magnitude is much greater on this forest. Roger's slide presentation provided visual images of traditional uses of forests juxtaposed against visual images of nontraditional uses and the related issues.

Another issue in managing resources in the wildland-urban interface is the problem of conflicts. Timothy G. O'Keefe's presentation, entitled **"La Grande Forest"** addressed this issue. La Grande is a small community located in the heart of the Blue Mountains of eastern Oregon. The area is historically dependent on mining, grazing, and timber. In the Blue Mountains today, interest in forest recreation is growing rapidly. This noncommodity use of the public forest resource has resulted in some conflict with traditional forest uses. Resource managers on the La Grande Forest are trying to balance commodity and noncommodity needs.

Our next look into the wildland-urban interface came from Jose M. Salinas, Jr. with his videotape entitled **"The Caribbean National Forest: Providing for a Hispanic Visitor."** This National Forest, in the Commonwealth of Puerto Rico, is described as much loved and heavily visited. The multicultural visitors to this resource represent many, and often conflicting, values. The level of recreation use in contrast to the level of development poses difficult management problems. The impact of managing for endangered species and the forest's long-standing policy of custodial recreation management has caused a near crisis. A continued lack of proactive management will probably result in loss of public benefits and public support, and damage to the resource.

Partnerships

Again we changed the focus, this time to look at the value of partnerships in solving dilemmas in the wildland-urban interface. Jim Tallerico's video presentation entitled, **"Partnership in Mill Creek Canyon,"** described one example of problem solving. Mill Creek Canyon, located near Salt Lake City, suffered from overuse. Using a partnership, a user fee system was instituted. The process included public support. A minimal fee was collected as visitors exited the area, and visitors were informed that the money would be used in the canyon. The video described how the fee system was used successfully to repair the resource area.

Papers from Third Concurrent Session, Friday Morning

Agency and Visitor Interactions and Communication

Using an Interactive Computer Program to Communicate with the Wilderness Visitor[1]

David W. Harmon[2]

Abstract: The Bureau of Land Management, Oregon State Office, identified a need for a tool to communicate with wilderness visitors, managers, and decision-makers regarding wilderness values and existing resource information in 87 wilderness study areas. An interactive computer program was developed using a portable Macintosh computer, a touch screen monitor, and laser disk player. The program allows the user to randomly and instantaneously access and review descriptive text, color slide and video tape files, and numerous maps and graphic displays. The program has been used successfully in a variety of settings to communicate with individuals and groups seeking information on proposed wilderness areas. This "cutting edge" technology provides wilderness and recreation resource managing agencies with a powerful new tool for communicating with those seeking information on wilderness resources and recreational opportunities.

In October 1991, the Bureau of Land Management completed a 15-year study of its roadless areas on public lands located throughout the West. The study, required by the Federal Land Policy and Management Act of 1976, resulted in the identification of over 26 million acres of lands with wilderness qualities known as Wilderness Study Areas (WSAs). Eventually, Congress will make final decisions via legislation on each of these WSAs regarding whether or not their wilderness qualities and primitive recreational opportunities will be preserved.

Meanwhile, the public and elected representatives at all governmental levels have shown an increasing interest in the wilderness resource values of individual areas and in how BLM's wilderness recommendations were derived. Requests for information on individual areas has increased tremendously since the wilderness study began. Primary interest has focused on primitive recreational opportunities and on other wilderness attributes unique to each area. Interest often has extended to the commodity resource values of individual WSAs whose development might be foregone in the event of wilderness designation.

During the 15-year wilderness study on BLM lands in Oregon, a vast amount of resource information was generated during the wilderness inventory, study, and reporting processes. Oregon has 2.8 million acres of WSAs scattered throughout the state in 87 separate roadless areas. This information was in the form of text, color slide and video tape files, and maps. A system was needed to organize the most important information in a format that would allow BLM quick and easy access to all segments of this large wilderness data base. A centralized information system would provide rapid development of responses to queries from the public, would greatly assist in giving presentations at public gatherings, and could aid in day-to-day management of these lands by making access to important wilderness data quick and easy.

To this end, in 1991 a multi-media computer program was developed. It combined the most important resource and analytical information on each of the WSAs into a single random access system that allows the user almost instantaneous access to WSA-specific color slides, video tape, sound track, maps, color graphics, and text. A person planning a wilderness visit can now sit down at the computer, view a map of the specific WSA, and see color slides and video footage keyed to photo points giving a preview of terrain and scenery. The user can view on the monitor text from the Statewide wilderness EIS specific to any area of interest covered in the study. Examples include a description of wilderness values, wildlife and plant species present, and ecological conditions. If desired, a general oral description of wilderness conditions could be listened to from the audio track. An overview of the Statewide wilderness study displayed in color graphics could also be viewed.

The system utilizes a Macintosh IIfx computer with touch screen monitor and extended keyboard. The entire 2,200 page Oregon Statewide Wilderness EIS is stored on the computer's hard drive as are 55 color graphic displays (some have animation), and 270 maps. A second component is the video imagery stored on a 13-inch laser disk that contains 440 color slides and over 53,000 frames of video tape footage. A portion of the video tape footage is narrated and can be listened to via a pair of accessory speakers. Supercard software provides the shell or navigational tool for this non-linear, random access program. A projector can be used when giving a presentation to a group. The system is portable and user-friendly, and the format allows the user to randomly access details from a large volume of site-specific wilderness information.

This is a prototype project that provides a working model of how a large quantity of multi-media wilderness resource data can be organized for easy access and use by both the public and the managing agency. The program is presently based on only one computer system (which is being used in this demonstration), and most of the use of the program, to date, has been in giving presentations to groups rather than individual use by members of the public. Future plans include expanding the hardware base to include compatible systems in the four major wilderness managing BLM offices in Oregon, and modifying the program to include a larger data base, which will add final wilderness area boundaries determined by Congress via legislation.

Eventually, a visitor access system could be placed in each district office public room, which would be dedicated solely to use by the walk-in visitor.

Interactive multi-media computer systems provide an exciting new communication tool for public and state land managing agencies. The advanced technology utilized provides limitless opportunities for enhanced communication between wilderness and recreation managing agencies, and visitors to the public lands.

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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Computer-assisted Promotion of Recreational Opportunities in Natural Resource Areas: A Demonstration and Case Example[1]

Emilyn Sheffield Leslie Furr Charles Nelson[2]

Abstract: Filevision IV is a multilayer imaging and data-base management system that combines drawing, filing and extensive report-writing capabilities (Filevision IV, 1988). Filevision IV users access data by attaching graphics to text-oriented data-base records. Tourist attractions, support services, and geographic features can be located on a base map of an area or region. Record-keeping and customized responses to visitors' inquiries are accomplished with powerful report generating and mail merge capabilities. These features provide the agency with a cost-effective tool to interpret the recreational opportunities in natural resource and surrounding areas to potential visitors and tour brokers.

In 1989, an interdisciplinary, interagency team began examining ways to use technology to market the recreational opportunities of a nondestination county in northern California. The purpose of the project was to develop ranch vacations using area farmers and ranchers as hosts and guides for hunting, fishing, and other forms of recreation. Field interviews were used to inventory existing services and attractions. Geographic information was collected to locate each property on a data-base map and photographs were taken of major attractions at each site (Sheffield, Furr, Nelson and McIntyre 1991).

Insufficient accommodations and attractions proved to be a limitation of the ranch vacation approach to tourism development. One strategy to address this situation would be a partnership of area agencies, private landowners, and businesses to develop and promote the attractions and services needed for a successful tourism industry.

In northern California, Federal agencies such as the Forest Service, the Bureau of Land Management, and the Park Service are among the largest land stewards in many counties. These resource agencies are grappling with budget and personnel reductions, changing clientele, and increasing pressure to serve as partners or catalysts for tourism development. Software packages such as Filevision IV provide an inexpensive and sophisticated tool to create timely, high quality, customized responses to visitor inquiries about area attractions and services.

Software Overview and Features

Filevision IV, the software selected for this demonstration, combines a multilayer data-base with a drawing program. In creating the data-base, individual records are developed for each site. Within each record, attractions, activities, and services are keyword indexed. Photographs can be scanned or imported into the data-base record. Each attraction or service is entered into the data file as a record and as a location on the base map.

A unique aspect of this software is its ability to link text-oriented data-base information with spatial information such as pictures, diagrams, or maps. This object-data-base link allows a user to attach a record to its location on a map. Once a record is linked to its place on the map, the user can click on the appropriate icon or polygon to retrieve the full record about a site. Enlargements ("pop-ups") and shaded thematic maps can be created to illustrate key areas such as campgrounds, hiking trails, interpretive sites and other areas of special interest to visitors. Links can also be established between two or more data files. For example, separate files can be created for each community in the vicinity of the natural resource area. When accessed via the link, a new file, complete with a new map (e.g., a nearby downtown commercial district), is opened and the resource area map is closed. Up to 32 data-bases or data-base layers can be established in one working file.

Once the data-base has been created, it can be utilized in a variety of ways. Maps and records can be printed or viewed on a computer screen. The entire data-base can be queried, sorted, and presented using a highlight command to locate only those records matching the potential visitor's specifications. Files can be viewed graphically (on the map), or an entire record can be retrieved and viewed intact. Specific records can be transferred into form letters for personalized responses to inquiries. Mailing labels, form letters, and custom reports are easily created and managed using embedded word-processing capabilities.

Implications and Applications For Natural Resource Agencies

Although Filevision or similar software packages have been utilized in tourism and recreation settings (Devine and Kuo 1991; Foust and Botts 1991; McNiel and Supernowics 1991), they were used in destination areas or urban environments. This proposal is unique in its approach to tourism development in rural areas with natural resource agencies but no strong tourism industry. This technology has powerful potential to aid in marketing an area to visitors, thereby stimulating demand.

In northern California rural areas that are not destinations, the natural resource base is often the most promising attraction and resource agency personnel have the tools, training, and technology to participate in cooperative ventures with other area stakeholders. Further, if agency resources have already been entered into a data-base, the file importing capabilities of Filevision IV reduce data-base development time and eliminate duplicate mapping.

Because natural resource areas cross-county borders, agency personnel are in a unique position to encourage cross-jurisdictional collaborations. This is important since a single rural community or county may possess an insufficient number of attrac-

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Lions and services to draw many visitors. Acting as a partner to community-based hospitality service providers, private landowners, and local economic development organizations, resource agencies can serve as lead agencies in rural tourism promotion in northern California. Centralized reservations and information can aid in regional tourism development and promotion. Information exchange and referrals can be facilitated as can the training and planning needed to create a vital visitor support system.

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Social Interaction in Adventure Recreation Participation[1]

Michael A. Schuett[2]

Abstract: This study investigated the social interaction of white water kayakers and attempted to predict the level of enduring involvement of participants. It was hypothesized that social interaction would shift from classes and programs to peers of similar interests as level of involvement increased. The results did show that social interaction is a primary reason for participation and varies by skill level, gender and age. Using multiple regression analysis the hypothesis was not supported; however, ANOVAS showed significant main effects and interaction effects for gender, age and skill level for kayaking in specific types of groups. These findings support the importance of the social aspect of white water kayaking and reinforce the effect of skill level in understanding kayakers' preferences, which can then be used in formulating policy decisions for the management of public lands and waterways.

This study investigated the social interaction of white water kayakers in predicting the level of enduring involvement for participants. The hypothesis was that social interaction will shift from classes and programs to peers of similar interests as the level of enduring involvement increases.

Methods

The sample for this study consisted of 584 white water kayakers from the Nantahala Outdoor Center. This sample was comprised of former participants from the Nantahala kayaking program who had participated in varying levels of kayaking in the past year. The Nantahala Outdoor Center is one of the largest outdoor outfitters in the United States serving thousands of customers each year. This outfitter was chosen based on the following criteria: the extensive array of water-based programs and trips, willingness to participate in the study, the size of their business, ability to readily supply names and addresses of former participants, and professional reputation.

Data were collected by a mailed questionnaire. Questions pertaining to the social, psychological and behavioral aspects of white water kayakers were in the questionnaire. The social items included who they kayaked with: my friends, fellow paddlers of similar interests and skill, classes/programs, alone, in outings clubs, guides, teachers and mentors, and number of people in the group. In addition, other motivational items within a social context were used, e.g., meeting new people and talking to new and varied people. A pilot study checked for readability, content, reliability, and validity.

Results and Discussion

Response rate for the net sample of 548 subjects was 55 percent (n=30 1) after one mailing and a postcard follow-up. The sample consisted of 72 percent male and 28 percent female with a mean age of the mid 30's, a mean level of education of slightly more than a 4-year college degree, and very active in outdoor recreation activities. Skill level was equally divided between novice, intermediate and advanced level white water kayakers. Skill level was assessed by self-report and also by class of water usually kayaked, class I - class VI.

Using multiple regression analysis, the hypothesis was not supported. Descriptive statistics showed that the social aspect of white water kayaking is very important for these participants. All three skill levels of kayakers rated the desire to be with friends and meet new people while kayaking as very important. Advanced and intermediate kayakers appear more eager to meet new people while kayaking than novice kayakers. Differences were found for the social items by skill level, age and gender. For example, kayakers paddle in groups of about six people; however, novice kayakers prefer slightly more than six (M= 6.13) people in a group, while intermediate kayakers (M=5.44) and advanced kayakers (M=5.65) prefer less than six. This number appears higher than was anticipated, which may be attributed to the safety consciousness of kayakers due to the danger and risk in this activity. Kayaking with groups from outings clubs or organizations was more important for advanced kayakers than novice kayakers. This may be caused by more advanced kayakers working as instructors.

Two way ANOVAS were used to investigate the main effect of the mediating variables: age, gender and skill level with the social items. Significant differences were found among the kayakers for the social items ($p<.05$) by skill level for the following items, kayaking with: my friends, people in classes/ programs, alone, with fellow paddlers, teachers/mentors, and with a guide. Significant differences were found with gender in kayaking with: my friends, alone, and with groups from outings clubs. Age differences were found in kayaking with fellow paddlers.

Post hoc Newman-Keuls procedures ($p<.05$) were employed to detect any further interaction effects with skill level. Interaction effects were found, for example, with skill level by gender in kayaking with teachers/mentors, with groups from outings clubs, and number of people in a group. For females, the number of people kayaking in a group increased as skill level increased from novice (M=5.55), to intermediate (M=6.24), and advanced kayakers (M=8.00). For males, almost the opposite was found—novice (M=5.08), intermediate (M=5.08) and advanced kayakers (M=5.24). Male intermediate kayakers prefer the smallest number in the group, which may be the optimal group size for honing new skills and perfecting paddling techniques. Interaction effects were found for skill level by age for kayaking with: fellow paddlers and with a guide. Overall, as age increased: the likelihood of using guides while kayaking for novice kayakers was not very high but decreased; was very low and stayed about the same for intermediate kayakers, and was very unlikely and

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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decreased for the advanced level kayakers. Highly skilled kayakers appear the least likely to use guides; however, the older novice kayakers are less likely to use a guide than younger kayakers.

Conclusions

The findings from this study show that even though the level of enduring involvement can not be predicted from the social items in this study, continued research is needed in defining the construct of enduring involvement. The social aspect of white water kayaking is very important to participants and varies by skill level, gender and age. Individuals in this study kayak in groups and appear very safety conscious. These results, however, support the fact that little is known about white water kayakers, and more investigation must be directed towards the fundamental areas of skill level, age and gender differences in hopes of predicting adventure recreation behavior. Due to the heavy usage of public lands for adventure activities, it may be premature for resource managers to make policy decisions unless this type of information is made available. The results of this study are also beneficial for private outfitters who use public lands and waterways for programming, marketing and staffing.

Conflicts in the Wildland-Urban Interface

Management Decisions and the "Dred" Hills[1]

Steven W. Anderson[2]

Abstract: An area of public land called the Red Hills was being so abused by the public that it was often called the "Dred" Hills. Some staff work had been accomplished to protect sensitive areas within the 7,200-acre site, but depreciative behavior continued. Primary destructive activities included off-road vehicle use and indiscriminate shooting and dumping. This paper discusses a bold approach to management. Instead of talking about the problem, decisions were made and actions quickly taken. The results were dramatic, and public reaction was remarkably supportive. Methods of combining public support, media coverage, law enforcement, planning, and engineering produced a winning combination that allows for compatible uses of the Red Hills and protects natural resources.

The Red Hills Recreation Area is located just 30 miles east of major metropolitan areas in the central valley of California. The area was an easy drive for over 2 million Californians. The traditional use of the Red Hills was for target shooting, off-highway vehicle use, camping, wildflower viewing and photography, gold panning, hunting, and equestrian activities. The mix of multiple uses, however, had declined to two primary uses by 1988. The two uses were shooting and off-highway vehicle recreation. Other users of the area were simply fearful for their safety.

On February 6, 1991, the public lands in the Red Hills area of Tuolumne County were closed to the recreational activities of target shooting and off-road vehicle use through the issuance of an Emergency Closure Order. This action was taken to provide immediate protection of persons, property, and the public lands and resources.

The closure order halted the unsafe and indiscriminate use of firearms occurring throughout the Red Hills. Closing the area to off-road vehicles protected the unique soils of the region, and prevented further impacts to five species of sensitive plants found in the area.

The first actions taken were issuing press releases and holding media photo sessions on site. These were immediately followed by placing large closure signs.

The law enforcement patrol function was greatly expanded following the closure and included odd-hour shifts and placement of rangers at previous high-use staging areas. The rangers' role was as much public information and relations as it was enforcement.

To insure that the shooting and off-road vehicle use was halted, an engineering effort was immediately started. Engineering included bulldozer and backhoe work to prevent off-roaders from entering the previous trails. Dump sites associated with the shooting of targets, which ranged from paper targets to washers and dryers, were cleaned up with a use of the backhoe, trucks, semitrailer-size dumpsters, and inmate crews.

The closure order and the associated on-the-ground effort, halted more than 30 years of abuse. The management lessons that were learned were many. To the delight of the Bureau, the reaction to the closure was supported much more than expected.

User groups such as equestrian and wildflower enthusiasts quickly supplanted the depreciative activities of shooting and off-highway vehicle users. Hunters were supportive when they learned that they could still hunt but that only target shooting was banned. Shortly after the closure, Quail Unlimited indicated a willingness to fund projects in the area and have since established two water guzzlers at the Red Hills.

Those who were responsible for the depreciative uses of the Red Hills were unwilling to return to the area once they encountered a ranger, berms, fences and other barriers to their use. In November 1991, in cooperation with the Air National Guard, over 600 bales of straw were airlifted to the scarred hills. Inmate crews spread the straw, and the hills are once again becoming vegetated.

Management can solve complicated land use issues. Combined planning, enforcement, signing, media coverage, and engineering can restore sensitive areas and stop depreciative behavior.

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

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Impacts of Land Use Changes on Recreation and Open Space in the New York-New Jersey Highlands Region[1]

Chad P. Dawson **Wayne C. Zipperer[2]**

Abstract: The more than I million acre New York-New Jersey Highlands Region is a unique forested and rural landscape at the urban/ wildland interface with the New York-New Jersey Metropolitan area where over 18 million people reside. Conversion of land to residential and urban uses, parcellation of lands, fragmentation of forest cover, and increasing demand for recreational activities threaten to significantly alter the open space and forest-wildland landscape. Projections of changes to the year 2010 suggest that more comprehensive planning strategies are needed.

The New York-New Jersey Highlands Region is composed of portions of nine counties within the States of New York and New Jersey and encompasses over 1 million acres including over 487 thousand acres of forest lands and 159 thousand acres of agricultural lands. The Region provides more than 8 million days of recreation and tourism activity each year for residents and visitors. Most visitors reside within 100 miles of the Region in the New York-New Jersey Metropolitan Area. The Region has experienced continual residential and urban development over the last 20 years and that trend is expected to continue to 2010. Although large tracts (>10,000 acres) of public and private lands will remain, these lands are becoming relatively inaccessible both visually (except as a scenic backdrop of views into the Highlands) and physically to most recreationists and tourist.

Population And Land Use Changes

The population density within the Region increased from 459 people per square mile in 1970 to 565 people per square mile in 1990. By 2010, population projections estimate an average density of 905 people per square mile. The U.S. Bureau of the Census defines urban areas based on 1,000 people per square mile and four of nine counties in the Region will exceed that by 2010.

By 2010, over 31,700 acres of forest and agricultural land are projected to be converted primarily to residential and forest-residential (i.e., dispersed residential projects within forested landscapes) developments. Current annual rates of forest loss in the New York portion of the Region are 122 acres to residential, 68 acres to forest-residential, and 77 acres to urban. For the New Jersey portion of the Region, annual conversion rates are 255 acres to residential, 87 acres to forest-residential, and 76 acres to urban.

These land conversion rates are considered to be extremely conservative estimates since they are based on older sets of aerial photo graphs (1968/1972 and 1984/1986) and do not include the land conversion rates during the strong economic growth period between 1986 and 1991. Additionally, recent proposals for large scale residential developments (e.g., over 4,000 acres) are not included in the total estimates for 2010 since the probability of their being constructed is currently unknown.

Parcellation And Fragmentation Impacts

The land use analysis revealed that the majority of forest lands (71 pct) were smaller than 50 acres in area and less than 5 percent were greater than 1,000 acres in size. With continued residential and urban development in the future, additional fragmentation of the forest cover and more deforestation is anticipated. Although the total amount of privately-owned forest land was decreasing, the number of forest owners in the New Jersey portion of the Region increased over 40 percent during 1972 to 1988. The average size of the land parcel decreased from 22.0 acres to 12.8 acres during the same time period.

A corresponding increase in the number of landowners and decrease in average parcel size are expected to continue to 2010 and are attributable to residential and commercial development, land speculation, and the increased cost of owning land. Two important impacts of these changes in the character of the land significantly affect open space and recreational opportunities. The first impact is forest fragmentation. With the creation of more smaller forest patches, fragmentation produces a "patchwork" pattern of forest cover. The increased fragmentation has both positive (e.g., initially more wildlife sightings) and negative (e.g., visual loss of unique forest landscapes) impacts on open space and recreation activities. The second impact is parcellation. Parcellation involves the division of the land ownership into more and smaller land parcels. Continued forest fragmentation and parcellation will make parkland acquisition more costly, likely decrease recreational access to both public and private lands, and reduce the buffer that private open space provides to public parks.

Visual Impacts

Although only an additional 5 percent of the forest and agricultural lands will be converted to residential and commercial uses by 2010, the impact is greatly magnified because most of this development is along the major roadways where it significantly alters the visual landscape. Any residential or commercial development will increase road access (e.g., driveways, wider roadways), the number of buildings (e.g., residential projects and commercial strip developments), and infrastructure (e.g., telephone and utility lines) so that it will be most noticeable along heavier travelled and developed roadways in the Region.

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These collective impacts accelerate the public perception that the total land conversion from forest and agricultural uses to residential and urban uses is progressing faster than the land use data analysis have indicated.

Recreation Supply And Demand

The 160,200 acres of public land owned and managed by federal, state, or county agencies within the Region provides for over 8 million visitors days of recreation and tourism per year. Increases in recreational demand, like the population growth, have averaged 2 - 3 percent per year over the last decade. Recreation and tourism demand is estimated to increase at a similar rate through 2010 due to the increase in population and demand within the entire New York-New Jersey Metropolitan Area. The Highlands Region is one of the most undeveloped natural areas in the Metropolitan Area and the most likely location for providing additional recreational access for increasing Metropolitan demand. Based on the projected population increases in the two states and the application of the New Jersey Balanced Land Use Guidelines to the Highlands Region, an additional 51,000 acres of publicly-owned lands may be necessary to meet recreational demand by the year 2010.

Recommended Planning Concepts

The planning strategy for the Highlands Region needs to integrate recreation and tourism planning with preservation, conservation, and economic development approaches. The use of a comprehensive planning approach takes into account the inter-relationships and interdependence of the forested and natural environment, economic development, and the quality of rural life. Some of the important planning components include:

1. Preserve/conserve some of the large remaining tracts of forest land to maintain the unique open space and forest environment of the Region;
2. Designate a wildland or preserve area that maintains the forest environment as a natural system without forest harvesting, management, or residential/urban development;
3. Protect the open space character along the roadways of the Region by encouraging residential and commercial development within existing communities and service centers;
4. Cluster recreation and tourism attractions and facilities to minimize environmental and open space impacts and to create a "critical" mass for visitor appeal;
5. Encourage the creation of greenways like the Morris County Greenway System and the proposed Skylands Greenway;
6. Educate residents and visitors about the unique opportunity to maintain a forested environment at the urban/wildland interface; and
7. Maintain commercial agriculture and forest production as part of the historic and cultural "working" landscape of the Highlands Region.

The conversion of land to residential and urban uses, parcellation of lands, fragmentation of forest cover, and increasing demand for recreational activities threaten to significantly alter the open space and forest-wildland landscape. More comprehensive planning strategies, such as those suggested above, are needed to mitigate or prevent some of these projected changes by the year 2010.

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Mountain Bicycling in the Urban-Wildland Interface[1]

Arthur W. Magill[2]

Abstract: Mountain bicycling is a rapidly growing sport exerting substantial pressure on recreation areas in the urban-wildland interface. In 1983 there were under a million mountain bike users, today there are 15 million. Little is known about the bicyclists, but hikers and equestrians have complained about encounters with cyclists speeding down trails with little regard for others. Despite the few negative reports, greater value may accrue from benefits to bicyclists, increased income for resorts from summer bicycling, and potential income for rural communities. A study is planned to describe the characteristics of mountain bicyclists, define the amount of conflict with other users, identify commercial opportunities, and define community development potential resulting from bicycling. The research will investigate activities on both sides of the country through cooperation of two USDA Forest Service Research Stations.

Bicycling is among the often conflicting activities that occur where our wildlands and metropolitan areas commingle. Yet, one might question why this long-accepted sport should be controversial. As kids, we all rode our bikes almost daily, and the greatest complaint came when we blocked the sidewalk by dropping our bikes to run into the ice cream shop! Well, that hasn't changed, but bicycles have and so has how they are used. These changes are causing problems in the urban-wildland interface.

Early in the 1970's, some biking enthusiasts transformed old balloon-tired cruisers into prototypes of today's mountain bicycles and started today's mountain bicycling rage. Popularity grew because mountain bicycles are easier to use, more comfortable to ride, more durable than road bikes, and can go most anywhere a rider's ability permits. Most important, they are not limited to use on paved roads. Most of us have seen them, some may ride them, and others may have had "encounters" with them. Whichever your experience, mountain bicycling is on the rise, and natural resource managers are having to deal with it. Little is known about these bicyclists—who they are, where they come from, why they participate, their knowledge of and con-cern for natural resources, their purported conflicts with other trail users, or their impact on local communities and businesses.

This paper describes mountain bicyclists as a group and in relation to the environment, other users, and local economies. It outlines a study of mountain bicycling being planned by the USDA Forest Service at locations in the southwest and northeast United States.

The Bicyclists

The pioneers of mountain bicycling and competition racers cast an image of irresponsible "machoism" couched in an ingroup status related to bikes and cycling clothing that evolved into a reputation as "rowdy nonconformists." But, they also were linked to the baby boomers with their dual incomes, offering substantial "discretionary spending," and their adoption of fitness sports including mountain bicycling (Patrick 1988).

Mountain bicyclists also may be linked to the concept of "recreational specialization" that is a continuum from generalized to specialized recreational activity (Bryan 1977). An example is trout fishermen who form a typology from occasional fishermen to technique-setting specialists. Similarly, mountain bicyclists may range from casual riders to elite racers involved in competitive events.

Resource managers are concerned less with the elite mountain bicyclist than with casual riders who take to the trails on weekends or during vacations. The elite are attracted to interface areas once or twice a year for special events, whereas casual riders are likely to be present whenever weather and ground conditions permit.

Effects of Mountain Bicycling

Environment

Some people claim that mountain bicycles damage the environment. Cyclists retort that hikers and horses contribute as much or more damage. For example, Douglass (1987), claimed that "fat" tires exert about the same pressure on the ground as hiking boots. Grost (1989) indicated that bicycles with riders weigh about 870 pounds less than a horse, and do not have the erosive influence of motorcycles. The worst time for trail use may be when they are wet or very dry. Wet conditions can lead to deeply cut surfaces and accelerated erosion, and dry conditions to dustiness that is especially annoying during windy periods. Regardless of who the users are, alternatives are needed to assure protection of the environment.

Other Users

Conflicts between bikers and other trail users continue to occur, and some have suffered injuries as a consequence of encounters on steep trails and blind corners (Foote 1987). Consequently, state, county, and city parks have arbitrarily closed trails to bicyclists, and Federal agencies must prohibit travel in wilderness in accordance with the Wilderness Act of 1964 (78 Stat. 890; 16 U.S.C. 1131-1136). Outside of wilderness, decisions about bicycle use appear to remain at the discretion of local managers. It is not clear whether managers are opposed to mountain bicycling, per se, or whether they are applying an easy solution by posting "no entry."

Some hikers and equestrians regard bicyclists as hazardous and inconsiderate—negative perceptions that result from a few "irresponsible" riders. Correcting poor images and fostering

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thoughtful and responsible actions of the majority of bicyclists is an endeavor of several mountain bicycle organizations, such as the International Mountain Bicycling Association, the Low Impact Mountain Bicyclists of Missoula, and the Tahoe Area Mountain Bicyclists Association. They are working to educate cyclists on proper behavior and the public about responsible bicyclists while trying to encourage dialogue between hikers, equestrians, and bicyclists (Keller 1990).

Conflicts over space by competing resource users is not new. For example, canoeists and motorboaters have been found to participate in "asymmetrical" or one-sided conflicts (Watson and others 1991). In such conflicts, one group tends to regard the other with favor, but the feelings are not reciprocated. People are known to use available cues to draw inferences about others. Thus, the speed and noise of motorboats established first impressions of motorboaters by canoeists (Adelman and others 1982). This example suggests that hikers or horseback riders, unaccustomed to meeting bicyclists on trails, may be startled by their sudden appearance, have their desire for solitude violated, lose feelings of possessory rights to the trail, and become antagonistic toward bicyclists.

Local Economy

Many resort communities across the country experience a "feast and famine" situation each year, especially those that obtain their predominant income from winter sports. Recreational activities at such locations, including the urban-wildland interface, are drastically reduced during spring and fall, but may improve during summer. Summer use, however, is predominantly camping, hiking, fishing, or sightseeing, which contributes far less to local economies than skiing does. The introduction of mountain bicycling to the urban-wildland interface may bolster weak summer incomes. It is not known yet, however, if mountain biking at resorts and interface communities is profitable.

A Study of Mountain Bicycling

Research units at the Northeastern and the Pacific Southwest Research Stations of the USDA Forest Service are undertaking a joint study of mountain bicycling. The purpose is to examine the socioeconomic characteristics of mountain bicyclists, their concern about natural resources, the severity of conflicts with other resource users, opportunities to stabilize or bolster local economies, and means for communicating opportunities to potential mountain bicyclists.

The research will examine the background, activities, and expenditures of mountain bicyclists in relation to specific urban-wildland interface resorts. It will investigate cyclists' knowledge of natural resources and views about conflict with other users. The economic influence of mountain bicycling will be determined through analysis of cyclists' expenditures for various goods and services at specific resort areas. And the economic influence on local merchants, before and after the advent of bicycling, also will be studied to determine if the sport has contributed to community stability or growth.

Results of the research should provide resource managers with information to guide planning and decision making regarding use restrictions and public information efforts. It also should give rural communities information suggesting whether mountain bicycling might contribute to their economic well-being.

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Place of Residence and Hiker-Horse Conflict in the Sierras[1]

Alan E. Watson **Michael J. Niccolucci[2]**

Abstract: A mail-back survey of overnight hikers at the John Muir Wilderness suggests that place of residence contributes slightly to our understanding of general desirability of encounters with horses, but not to our understanding of evaluations of specific encounters or of evaluations of potentially conflicting behaviors.

Hikers in the John Muir Wilderness make complaints each year about encounters with horses and impacts caused by horse use. In past research, intergroup conflict commonly has been assessed through a set of forced-choice questions in which respondents were asked to evaluate specific encounters with other types of groups or by obtaining an indication of general desirability of such encounters.

Jacob and Schreyer (1980) presented a theoretical model for recreational conflict that defined conflict as goal interference attributed to the behavior of others. They also proposed four factors that influence likelihood of conflict between recreation visitors: the importance they attach to the recreation resource *(resource specificity), activity style* (i.e., activity specialization level), *mode of experience* (or expectations people have for a recreation visit), and *lifestyle tolerance* (willingness to share a place with members of other lifestyle groups).

Another potential contributor to hiker-horse conflict is place of residence. A majority of visitors to most wildernesses are from the State in which a wilderness is located. Therefore, the proportion of urban residents visiting a particular wilderness is likely related to the proportion of urban residents in that State. Wilderness areas in highly urban States such as California (91.3 percent urban in 1980, with 66 percent of the total population in centers of 1 million or more) would expectedly receive a high proportion of urban visitors.

Wildland visitors from urban areas are likely to have had limited contact with the natural environment and, therefore, other resource users. The attitudes and values the urban resident brings to wildlands are likely to be influenced by the environment in which the resident lives.

In a national telephone survey, Kellert (1984) found that residents of population centers of less than 1 million had greater knowledge about animals and the environment than those who lived in places of more than 1 million. Kellert also found some consistency in basic attitudes urban residents held toward animals. The most prevalent attitude toward animals was "humanistic" (primary interest and strong affection for individual animals, principally pets). The second most common attitude, a "moralistic" one, involves a strong focus on right and wrong treatment of animals, leading to a strong opposition to cruelty toward animals. The third most common attitude, "negativistic," is characterized by avoidance of animals because of indifference, dislike, or fear. Of seven attitude domains, the least common was what Kellert called "dominionistic"—a desire to subordinate animals in the context of sporting and recreational pleasures. Expression of conflict by hikers when encountering horses in wilderness may be influenced by place of residence because of nondominionistic and highly humanistic, moralistic, and negativistic attitudes common to urban residents.

Methods

We obtained a systematic sample of hiking groups who received permits to camp overnight in the John Muir Wilderness during the summer and fall of 1990. After a postcard reminder and two replacement follow-ups, a final usable sample of 341 hikers provided a response rate of 86 percent.

Each hiker indicated feelings of enjoyment, dislike, or neutrality toward having met horses on a specific trip in the John Muir; each indicated the general level of desirability of such an encounter in wilderness; and, more in line with Jacob and Schreyer's definition, each answered whether the behavior of any group had ever interfered with the quality of a wilderness experience at that particular place. Respondents who indicated conflict on this last item were asked to identify the type of group that exhibited the interfering behavior and specify the behavior.

Hikers also indicated the type of community in which they resided at the time of completing the survey and during childhood (to age 18). From a list of several options, three categories were constructed for this analysis: (1) from very rural to a small city of not more than 50,000 population, (2) a medium city (50,000—1 million population), and (3) a major city or metropolitan area (more than 1 million people).

We used chi-square analysis and a stepwise discriminant procedure to examine the contribution of place of residence to understanding conflict. We developed 17 independent variables, largely using summative Liken scales, based on the four factors defined by Jacob and Schreyer. For each conflict measure, analysis consisted of (1) chi-square analysis using the place-of-residence variables, (2) developing a model based on the 17 independent variables suggested from Jacob and Schreyer factors (this forms a basis for comparison), and (3) including the place-of-residence variables with the significant variables found in the initial modeling to statistically test their contributions. All statistical tests were conducted at the p=.15 level. We used cross-validation techniques to measure goodness-of-fit and to derive error rate estimates.

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Results and Conclusions

An extremely high proportion of hikers were from California (90 pct). Over 40 percent are considered highly urban, living in population centers of more than 1 million people. About 27 percent lived in places with populations of less than 1 million but at least 50,000, with 31.5 percent living in places of less than 50,000 people. The percentage of those who had lived in population centers of more than 1 million while growing up was much less (27 pct), and many more grew up in places of less than 50,000 population (50.5 pct).

Neither place-of-residence variable was significantly related to the first measure of conflict—an indication of enjoyment or dislike of encounters with stock on a particular trip (table 1). We found five of the 17 theory-based independent variables significant in the discriminant model, with overall classification success of 75.4 percent. When included in the analysis, the current place of residence was not significant, although the place of residence during childhood was (p=. 148). The childhood residence variable did not increase overall classification success, however.

Table 1—*Significance and classification success for place of residence*

	Chi-square (p-value)		Jacob/	Jacob/ Schreyer with*	
Conflict measure	Reside now	Grew up	Schreyer*	Reside now	Grew up
			percent		
Enjoy/Dislike	3.01 (.222)	.62 (.733)	75.4	N.S.	74.6
Desirability	6.41 (.093)	.45 (.929)	82.9	83.7	84.5
Behavior-based	1.03 (.597)	.10 (.952)	75.0	N.S.	N.S.

* Overall classification success
N.S.= not significant

The current place of residence was significantly related to the desirability conflict measure, but the childhood residence was not (table 1). Discriminant analysis found nine significant variables with overall classification success of 82.9 percent. When each place-of-residence variable was included individually with the nine significant theory-based variables, they were significant in the respective models (p=.14 and .15). In both cases, overall classification improved slightly to 83.7 and 84.5 percent.

For the final measure (behavioral-based), neither place-of-residence variable was significantly related to conflict (table 1). We found five of the theory-based independent variables significant, providing overall classification success of 75 percent. When added to the five significant theory-based variables, neither place-of-residence variable contributed significantly to resultant models.

Place of residence has some minor effects on expression of conflict by hikers toward horses. Of the three conflict measures, place of residence appears to contribute only to understanding of a hiker's general disposition toward horse encounters, not to understanding evaluations of specific encounters or evaluations of specific behaviors of horse users.

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Partners in the Wildland-Urban Interface

Partnerships in Sustainable Tourism Development: The Case of Canmore, Alberta, Canada[1]

Dianne Draper[2]

Abstract: A variety of formal and informal "partnerships" have evolved in the course of planning for the first two of several large-scale, multi-million dollar private sector tourism development projects proposed for the small town of Canmore, adjacent to Banff National Park, Canada. This paper briefly identifies the major impetuses for and the nature of these partnerships which have involved Canmore planners, area residents, environmental groups, developers, and a variety of local and provincial government departments. Drawing on social dilemma theory concepts, the paper notes that both structural and behavioral responses to the dilemma of balancing self-interests and collective-interests in tourism development projects could help ensure that sustainable tourism occurs in Canmore in the future.

Canmore, with a 1990 population of about 6000, was established in 1883 as a coal mining community but now plays a service support role for the Bow-Canmore corridor, including both Banff National Park and Kananaskis Country. For years, Canmore motel operators have supplied overflow accommodation for Banff. Currently, the Bow-Canmore area is emerging as a potential destination alternative to Banff Park and townsite for national and international visitor markets.

Extending about 33 kilometers from Banff National Park's east gate to the hamlet of Seebe, the Bow-Canmore corridor is one of the most significant potential tourism destination areas in Alberta and Canada. The high capability and desirability for major tourism facility development in this portion of the Bow River Valley has been identified in provincial, regional, and local plans for more than 20 years. The area has virtually all of the attributes necessary for development as a visitor destination area of international significance, including natural resource features such as scenic mountain landscapes, forested lands, and the Bow River itself; diverse wildlife, waterfowl and sport-fish species; excellent access via the Trans Canada Highway; proximity to metropolitan Calgary and its international airport; a world-famous neighbor, Banff National Park, where development opportunities are constrained by policy as well as limited land availability; suitable infrastructure; developable lands, both public and private; and private sector and governmental interest in tourism development.

Tourism Development Proposals in the Bow-Canmore Corridor

Recognizing these attributes, private sector tourism developers have proposed nine sizeable projects for the Bow-Canmore area. Two projects are most advanced in planning. One of these is Richard Melchin's Three Sisters Golf Resorts Inc. project, a four season resort complex with hotels, multifamily residential, single family residential, interval ownership, retail, golf courses, camping, RV park, and other recreation facilities on private land (fig. 1). The company has completed an EIA for the entire development and is proposing to proceed with an 18-hole golf course and practice range. The other major project, Hal Walker's Canmore Alpine Development Company, proposes a Hyatt Regency-operated hotel, convention, golf course, and recreational housing development on private and public land. It has received approval for phase I, which will see construction of one 18-hole golf course, a 500-room hotel, 200 units of staff housing and residential subdivision. Other smaller-scale tourism development proposals involve time-shared chalets, more golf courses, RV parks, and a helicopter-accessed teahouse and lookout located on Mount Lady Macdonald.

Widespread community concern arose when the number, size, and potential rate of development of these projects first became known. Citizen groups such as BowCORD (Bow Corridor Organization for Responsible Development) were formed to protest the potential losses to the local population and environment that these massive resort schemes could bring. Later, a group of business persons united to voice their support for tourism growth through PROD (Professionals for Organized and Responsible Development).

Social Dilemma Theory and Sustainable Tourism

The drive for economic gain in the tourism industry frequently creates a dilemma between individual and collective rationality, a conflict which centers on the rift between private gain to individuals (tourism developers) who seek to maximize personal wealth and power, and gain to members of the public (local community) which focuses on the provision of an optimal mix of public goods and infrastructure over the long term. In terms of a social dilemma framework, each tourism developer and investor in the Canmore area has an economic incentive to increase the magnitude of development activities. If all do so, such socially defecting choices could result in irreversible damage to the host community, Canmore, and the environmental resources on which its tourism is based. Socially cooperative choices involve a form of restraint, such as sustainability, on tourism development.

Both structural and behavioral solutions to tourism development dilemmas are possible. Structural solutions involve coordinated, organized group action, and behavioral solutions derive from changes in an individual's behavior. Examples of structural solutions include placing restrictions on access to, and development of, tourism environments, or giving responsibility to a superordinate authority for control and development decisions relating to tourism environments. Behavioral solutions

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seek to identify the conditions under which individual developers will voluntarily restrain their use of a public good in the absence of external constraints or coercion. The challenge the people of Canmore face is to gain cooperation in the social dilemmas posed by tourism development.

Tourism Development Issues in the Canmore Area

The task of ensuring that natural resource base and community values are maintained as the people in the valley prepare for future growth of tourism and recreation primarily falls on the municipality of Canmore. In 1991, as part of its Economic Development Survey, the town of Canmore administered a questionnaire survey to all households. Results indicated that the majority of respondents felt priority should be placed on Canmore's quality of life and need for environmental protection. Canmore 's mountain setting, opportunities for outdoor recreational activities, and friendly, family-oriented, small town atmosphere were valued highly. Clear concern was expressed, however, that the town already was becoming another overcrowded, traffic-congested Banff.

Almost 91 percent of the survey respondents were aware of the tourism development projects proposed for the town, and over 76 percent indicated that tourism development projects would be an appropriate type of development for Canmore. Although 40 percent of residents felt the tourism projects were compatible with current lifestyle, 46 percent felt they were not. Further survey results showed that 89 percent of respondents agreed or strongly agreed that Canmore should adopt strong environmental protection guidelines, and that 82 percent agreed or strongly agreed that Canmore should develop strong design guidelines to control development. The stage was set for the institution and evolution of formal and informal cooperative efforts and partnerships to resolve tourism development dilemmas in Canmore.

Tourism and Cooperative Partnerships in the Bow-Canmore Corridor

In the absence of a master plan for tourism development in the Bow Valley, and particularly in response to the number of private sector tourism development proposals which were submitted during the 1989-90 period, Alberta Tourism established

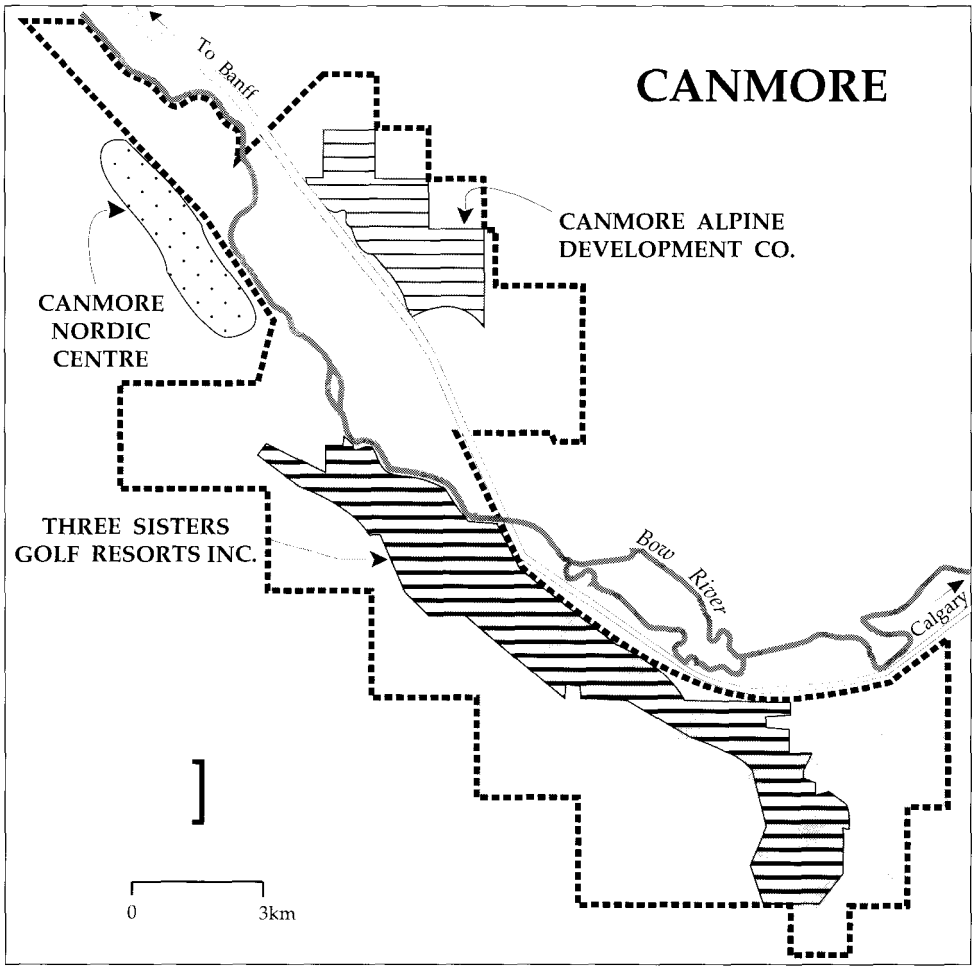

Figure 1—Proposed tourism projects in Canmore, Alberta.

and coordinated preparation of the "Bow-Canmore Tourism Development Framework." They saw this framework as an appropriate mechanism to examine development implications, provide information and guidance for public and private sector tourism development decisions, and coordinate overall government involvement. The framework may be considered as a formal, structural response to the social dilemmas posed by tourism development.

After 2 year's experience with the framework, Alberta Tourism has noted increased communication and cooperation among those associated with, or affected by, the proposed tourism developments. The "we-they" confrontational relationships which often characterized previous interactions have been replaced by more effective, working partnerships with most public and private stakeholders. The efforts of Alberta Tourism personnel to promote public involvement help explain how such improvement was facilitated. For example, the first research undertaken as part of the framework involved a visual impact analysis of existing and proposed development in the valley. A representative public group was brought together to help evaluate both existing and modified (computer simulated) visual quality within the Bow-Canmore Valley. In addition to their direct research input, this group was part of Alberta Tourism's monthly community meetings during which any proponent or opponent of tourism development could discuss the ongoing research or exchange information on pertinent issues. As a result of these and other meetings Alberta Tourism personnel were able to understand and become better attuned to what citizens, municipalities, and developers wanted from the tourism development opportunities. Future forums could provide decision makers with insights into those aspects of proposed developments that would be (in)compatible with desired community lifestyles.

Structural, informal responses to touristic dilemmas are evident in the creation and early reactions of members of BowCORD and PROD. Subsequent actions of citizens comprising BowCORD, however, reveal an evolution in understanding of the importance of collective interests in touristic development. As its members currently initiate a public "tourism information fair," BowCORD appears to be taking a more formal, proactive and interactive stance to achieving its view of appropriate development alternatives than it did previously.

Certain actions of developers Hal Walker and Richard Melchin highlight the significance of behavioral responses in achieving personal and local community development objectives. Each of these gentlemen has spent hundreds of hours at various public meetings and open houses designed to inform interested persons about their respective projects as well as to expose both men to local concerns. Melchin's and Walker's exemplary efforts to listen and respond illustrate the effectiveness of socially cooperative choices in bringing about restraint in development. Since both men reduced the on-site density of their projects partly as a result of this type of public input, and as both acknowledged, these and other modifications ultimately achieved better quality proposals, hence the likelihood of sustainable tourism development becoming a reality in the Bow-Canmore corridor is enhanced.

The increasingly cooperative and effective partnerships evolving in the Bow-Canmore corridor, as its citizens, developers, and governments respond in structural and behavioral ways to the challenges of resolving the dilemmas associated with touristic development, are clear signs of hope for the future of economically, environmentally, and socially sustainable tourism.

Building a Commitment to Partnerships in the Coachella Valley: the Santa Rosa Mountains—A Case Study[1]

Russell L. Kaldenberg[2]

Abstract: The Coachella Valley is situated in eastern Riverside County, California, approximately 100 miles east of Los Angeles. During the 1980s it was one of the fastest growing areas in the nation with an annual growth rate of 8.3 percent. As open space diminished, many governing jurisdictions, and environmental and educational organizations began looking for a commitment to open space for future generations. The Santa Rosa Mountains have become the focus of this intense effort by a multiorganizational partnership.

The California Desert Conservation Area (CDCA) was established by Congress in 1976. Four years later a plan was approved for the 25-million acre area running from Mono Lake Basin to the Mexican border and from the Nevada and Arizona borders to the eastern boundaries of the several National Forests in southern California. The Santa Rosa Mountains are within the CDCA, forming its western edge in Riverside County. The Santa Rosa Mountains are actually a geographic unit composed of portions of two mountain ranges. At Tahquitz Canyon, behind the city of Palm Springs, a fault divides the Santa Rosa Mountains Management Unit into two mountainous subunits. The northern half is the San Jacinto Range and the southern half is the Santa Rosa Range. The San Jacinto Mountains continue into the San Jacinto Ranger District of the San Bernardino National Forest and into Mt. San Jacinto State Park. The Santa Rosa Mountains terminate in Anza-Borrego Desert State Park in San Diego County.

As a result of the Bureau of Land Management's (BLM) California Desert Conservation Plan the Santa Rosas became a Habitat Management Area for Penninsular bighorn sheep. The California Department of Fish and Game (CDF&G) declared it a State game refuge. A Wilderness Study Area was designated and recommended to be included within the National Wilderness Preservation System. Through the efforts of the Wildlife Conservation Board, 27,000 acres of private land were acquired for management by CDF&G. Little else was accomplished during the 1980's.

As the Coachella Valley experienced a growth rate of over 100 percent during the 1980's, concern arose that the valley floor would eventually be fully developed and developers would begin to look towards the mountains for future home sites. Proposals to revise the 1972 Palm Hills General Plan within the mountainous portion of Palm Springs began to surface in the late 1980's. This rapid growth of the valley and the fear of mountain and hillside development stimulated concern that if action was not taken soon, the Coachella Valley's mountains would soon be in the same situation as the Santa Monica Mountains, engulfed by development and every inch of the private land threatened by development and escalating land values.

The Process of Partnership

In 1989 the Coachella Valley Mountains Trust was able to get bipartisan legislation to then Governor Deukmejian to establish the Coachella Valley Mountains Conservancy, only to see it vetoed. On a concurrent track, the Bureau of Land Management began working with governing jurisdictions through the Coachella Valley Association of Governments (CVAG) to work towards a special designation for the Santa Rosa Mountains. After less than 1 year of intensive discussion and combined efforts of the citizens of the Coachella Valley, the Santa Rosa Mountains National Scenic Area (NSA) was established by Order of the Secretary of the Interior in March 1990.

The partners include the cities of the Coachella Valley—Coachella, Indio, La Quinta, Indian Wells, Palm Desert, Rancho Mirage, Cathedral City, Palm Springs, and Desert Hot Springs. Both Cahuilla reservations (Agua Caliente and Morongo) joined the partnership, as did the CDF&G. The County of Riverside Board of Supervisors passed a resolution endorsing the National Scenic Area. Other partners include the Friends of the Indian Canyons, Deep Canyon Research Station (University of California), the Sierra Club, Coachella Valley Archaeological Society, the Bighorn Institute, and Palm Springs Open Space and Trails Organization. Letters of support also came from the USDA Forest Service and the California Department of Parks and Recreation, as well as from hundreds of citizens. A dedication was held on May 5, 1990, on land donated by Westinghouse Development Company.

The partnership was sealed with the Santa Rosa Mountains NSA extending from One Horse Spring on the Morongo Indian Reservation in the northwest to Anza-Borrego Desert State Park in the south. The western boundary of the NSA is coterminous with the San Bernardino National Forest. The eastern boundary is more difficult to define but is approximately the toe of the slope, where the mountains meet the valley floor. Of the roughly 200,000 acres within the NSA, 90,000 acres are administered by BLM, 27,000 acres by CDF&G, 20,000 acres by the University of California Natural Land and Water Reserve System, 15,000 acres by Indian reservations, and the remainder are privately owned acreages or Indian allotment lands.

The Commitment

In early 1991 Governor Deukmejian signed the legislation creating the Coachella Valley Mountains Conservancy, with a Board of Directors representing the citizens of the valley. Involved agencies (BLM, USDA FS, CDF&G) became nonvoting members of the Board.

The BLM established an Executive Steering Committee (ESC) of the Santa Rosa Mountains NSA consisting of 15 members representing all governing jurisdictions in the valley,

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

[2]Area Manager for the South Coast Resource Area, USDI Bureau of Land Management, North Palm Springs, California.

CDF&G, the Building Industry Association, Southern California Edison, and the development community. The purpose of the ESC is to develop a comprehensive umbrella plan embracing the needs of all, but dedicated to protecting the scenic values while allocating uses and user space and opportunities consistent with natural resource management goals. The plan, designed to be undertaken as a Comprehensive Resource Management Plan (CRMP), is in its second year of development. Subcommittees have been designated and are headed by citizens. These include: (1) Recreation, headed by Southern California Edison, (2) Cultural and Native American resources, headed by the Agua Caliente Indian Reservation Chairman, (3) Planning, headed by the Building Industry Association, (4) Land Tenure Adjustment, headed by a City Attorney, (5) Biology, headed by the Nature Conservancy, and (6) Minerals, headed by a professor of geology at the College of the Desert. BLM specialists serve as staff to the various committees. A geographic information system provides computerized graphic and analytic tools to examine potential allocations of resources.

During the planning process management of the NSA continues. The Scenic Area Visitor Center was approved with land donated by Westinghouse Development Company, and the City of Palm Desert serves as the lead agency for compliance with the California Environmental Quality Act. Both the City of Palm Desert and the Agua Caliente Reservation have entered into a cost reimbursement agreement for the BLM to provide law enforcement on their lands within the NSA.

A private real estate agent has purchased several sections of land within the NSA to exchange for developable lands on the valley floor. BLM continues to explore opportunities for additional land exchanges within the mountains. The Forest Service has nearly completed their consolidation of their Santa Rosa unit to eliminate threats of development.

For Fiscal Year 1992 the BLM was allocated $1 million from Land and Water Conservation Funds (LWCF) to begin the acquisition of private parcels. An additional $5 million may be provided in Fiscal Year 1993. Hundreds of letters supported allocation of the LWCF funds.

Conclusions

From here the following steps are needed:

1. Finish the CRMP and make it consistent with the general plans of the cities and the county.
2. Continue consolidating the land base to eliminate the threat of development. About $60 million will be needed.
3. Continue meeting regularly and allow the community to be the decisionmaker through a permanent ESC established through the CRMP or through legislation.
4. Dedicate staff to the National Scenic Area perpetually so that on-the-ground realizations are consistent with management philosophy.

The process of partnership is complex and difficult. It requires sincere commitment on the part of all. In this case the BLM has been used as the prime mover for the preservation of the Santa Rosas because it had the legislative authority necessary and the commitment to do so. Partnerships, to be effective, must be nurtured. They must have economic commitment from everyone. Philosophy is not enough. And they must have donated volunteer time from everyone from mayors and tribal chairs to agency resource staffs. A partnership must be adopted by local citizens and be locally institutionalized. It must transcend individuals and groups or it will not succeed.

If the above steps are taken in a reasonable amount of time, the "Santa Rosa Mountains National Scenic Area ... where sharply defined mountain peaks create a near-perfect scenic backdrop for the communities and resorts of the Coachella Valley, where palm trees spring up from fault lines to dance in the breezes, where the rare Penninsular bighorn sheep struggle to survive in a harsh environment" will be protected forever.

Papers From Fourth Concurrent Session, Friday Afternoon

Data Collection Techniques for Multicultural Environments

Outdoor Recreation Participation: Blacks, Whites, Hispanics, and Asians in Illinois[1]

John F. Dwyer[2]

Abstract: Blacks, Whites, Hispanics, and Asians in Illinois attach a high level of significance to outdoor recreation. However, there are important differences in the outdoor recreation participation patterns of these four groups, including the activities participated in and where they participate, that have important implications for recreation resource planning and research.

Recreation resource planners face significant issues as they try to meet the needs of people from increasingly diverse racial and ethnic backgrounds. Research has identified differences in the recreation preferences and behavior of Blacks and Whites (Dwyer and Hutchison 1990; Dwyer and Gobster, in press); but planners face important questions about how to best serve other important groups as well, including Hispanics and Asians. A comparison of the recreation participation patterns of these four important groups is made using recreation participation data for 1987 and 1989 collected in telephone surveys for the Illinois Department of Conservation. The analysis is based on 1,661 Whites, 249 Blacks, 56 Hispanics, and 37 Asians. The discussion focuses on differences among these four groups to help planners identify the special needs of each group and to suggest possible responses to changes in the racial and ethnic composition of the populations served. Small sample sizes preclude analysis of the substantial variation in recreation participation within each of these groups.

The Results

Each of the four groups places a high level of importance on outdoor recreation, with Asians giving it the highest rating, followed by Hispanics, Blacks, and Whites.

There are important differences in percent of the group participating among Whites, Blacks, Hispanics, and Asians across 31 diverse outdoor recreation activities. In general, Whites are the most likely to participate in each activity and Blacks least likely. The participation of Hispanics and Asians usually falls between the other two groups. Notable exceptions include high participation by Blacks in softball or baseball, running or jogging, basketball, and horseback riding; high participation by Hispanics in soccer, basketball, and picnicking; and high participation by Asians in picnicking, tennis, and observing nature.

There are also important differences in the kinds of places in Illinois where each of the four groups engage in recreation. Whites are more likely than the other groups to use private clubs that require memberships such as a country club or swim club; but less likely than the other groups to use vacant lots or streets. Blacks are less likely than other groups to use a friend's yard or property; or commercial recreation areas open to the public, such as a campground, water park, or golf course. Hispanics are least likely to use Federal recreation areas or forests. Hispanics and Asians are more likely than the other groups to use city and county recreation areas or forest preserves, or school yards; while Blacks and Hispanics are least likely to use State parks or other State-operated recreation areas in Illinois. Whites have the highest average level of satisfaction with parks in their neighborhood, and Blacks the lowest.

There are significant differences in the outdoor recreation travel patterns across the four groups. Whites are more likely to take overnight trips in Illinois or outside Illinois than Blacks, Hispanics, or Asians. As with activities, the largest difference is between Blacks and Whites, with the other groups falling between them. Whites who do take overnight trips for recreation tend, on the average, to take more trips than the other groups. The out-of-state travel patterns of the ethnic groups suggests relatively high levels of trips to areas where there is a high proportion of individuals from their group, such as Blacks traveling to the Southeastern United States and Hispanics to Mexico, perhaps reflecting trips "back home." Asians concentrate their out-of-state overnight trips in adjacent states. There is less overnight travel by Blacks, Hispanics, and Asians; and their concentration in urban areas (particularly Blacks) makes urban and near-urban resources especially critical to these groups.

Discussion

There are many important differences and similarities in recreation participation across the four groups; but the largest and most consistent differences tend to be between Whites and Blacks. Across the 31 outdoor recreation activities examined in this study, a substantial portion of the significant differences in participation are between Blacks and Whites. This suggests that planners concerned with White and Black communities should be aware of possible differences in participation. There appears to be a general tendency for greater Black participation in sports than Whites; but lower participation than Whites in activities that take place in more remote areas and involve undeveloped settings or water resources. These findings are consistent with a number of other studies (Dwyer and Hutchinson 1990). Blacks are also less likely than Whites to take overnight trips in Illinois and elsewhere; but Blacks who travel are more likely than other travelers to take trips to the southeastern United States (except Florida). There are also important Black-White differences in the types of outdoor recreation resources used in Illinois, with Blacks more likely to use streets and vacant lots; but less likely than Whites to use all other types of recreation resources.

It is also important to recognize differences between other racial and ethnic groups as well, and certainly to avoid referring

[1]Presented at the Symposium on Social Aspects and Recreation Research, February 19-22, 1992, Ontario, California.

[2]Research Project Leader, North Central Forest Experiment Station, USDA Forest Service, Chicago, Illinois.

to all non-Whites as "minorities" and assuming that all "minority groups" have similar participation patterns. While limited sample sizes make it difficult to make comparisons across the minority groups, significant differences (among Black, Hispanic, and Asians) emerged with seven activities. There is significantly higher participation in picnicking by Hispanics and Asians when compared to Blacks. Hispanics have significantly higher participation than Blacks in swimming at pools, simming elsewhere, and fishing. Asians are significantly more likely than Blacks to go sightseeing, observe nature, or play tennis; but significantly less likely than Blacks to play baseball. Hispanics and Asians are more likely than Blacks to use a yard or local park for outdoor recreation.

There is no clear pattern of difference between Whites and Asians or Hispanics. This is partly due to the small sample sizes, and partly to high levels of diversity within the Asian and Hispanic groups. This diversity could reflect a combination of recent immigration and individuals who have been in this country for a long time, as well as the diverse countries and cultures from which members of these groups have come. It is particularly interesting to note the high level of significance that Asian and Hispanics attach to outdoor recreation activities. We have much to learn about these important groups, as well as about Black and White groups in Illinois and elsewhere, to provide for the needs of all recreation customers.

Planners should interpret with care the results of this and other analyses of actural participation patterns. Present patterns reflect preferences; but are also limited by constraints such as availability of recreation facilities, skills and equipment, knowledge of and ability to travel to recreation areas, and fear of discrimination or other antisocial behavior. While it was not possible to evaluate all of these factors, when individual (gender, age), household (number, income), and locational (Chicago, northern suburbs, southern suburbs, and North, Central, and South Illinois) variables are held constant, some differences between groups are eliminated; but many others remain. This suggests that we have yet to understand many of the differences that we have observed.

Conclusions

The results point out that there are important differences in recreation participation across the four racial and ethnic groups. This suggests that planners give careful attention to the needs of each of these groups. Past studies have focused on Black/White comparisons and this analysis confirms these differences, but also suggests that Asian and Hispanic groups are different from Blacks and Whites and from each other. While we have made comparisons among four groups, there is significant variation within each of those gorups and great care must be taken to avoid steriotyping a group by its average or by its differences from others. Additional research is needed to identify the recreation preferences of important population groups such as those studies here; but we also need an intensified effort to understand why these differences exist and explore more fully the variation within each group.

Acknowledgment

The Illinois Department of Conservation provided the data used in this study.

References

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Summary of Round Table Session

Summary of Round Table Session

The round table session was designed for interaction between the presenters and other round table participants. Twelve round tables, each capable of holding 10 participants were set up in one room. Presenters for the sessions were encouraged to lead discussions on one of many topics in these areas: a research idea that the presenter was just formulating; an unpublished, preliminary result from a recently completed or in-process study; or the latest management techniques used in a resource area. This session was moderated by Arthur W. Magill, Pacific Southwest Research Station, USDA Forest Service. Below are the topics discussed.

Research Topics

The first set of topics are research related and theoretical in nature. John L. Heywood served as presenter at the session entitled **"How Do Visitors Regulate Behavior in Urban-Proximate Forest Recreation Settings?"** This group discussed day use of urban-proximate forest settings, which encompasses a wide variety of recreation activities, engaged in by many different types of users, in widely varying forest settings. Heywood noted that in any particular setting regular patterns of behavior occur and asked, "How is it possible for these regular behavior patterns to emerge when completely different combinations of users occupy a site on any given occasion?" His answer—game theory. Game theory considers the payoffs players expect to receive by taking one or more actions. To understand how day-use visitors make choices that establish regular patterns of behavior in urban-proximate forest recreation settings, we must consider games of pure coordination. Pure coordination games are characterized by multiple payoffs that provide each player with equal benefits, or multiple equilibrium solutions. The particular equilibrium chosen makes no difference as long as most parties chose the same one. Verbal communication, however, is not an aspect of equilibrium choice, although coordinating parties may get clues from other sources about expected behavior. For example, picnicking in a variety of settings is characterized by regularity of behavior. The regularity does not come about because picnickers verbally negotiate an equilibrium, but because all have reciprocal, higher order expectations about an appropriate picnicking style for that setting. That is, as a picnicker I expect that you expect that I expect you to act in certain ways. Further you also expect that I expect you to act in certain ways. The equilibrium solutions to coordination problems that emanate from such higher order expectations result in conventions. Picnicking, and many other day use activities on urban-proximate forest lands, may be regulated by conventions that help solve coordination problems.

Linda Kruger presented **"Sense of Place: What Role Does It Play in the Wildland-Urban Interface?"** Kruger reported that a sense of place is the combination of social and physical aspects of a setting with the psychological and other aspects that a person brings to the setting, and the interplay between the two. Sense of place does not exist separately from the experience of people and a setting. The questions presented for discussion include these: What meanings and importance do people invest in special places? How do people express their bonding and linkage to places? What poses a threat to sense of place experiences? How can we come to better understand sense of place, the role it plays in people's lives, the role it plays, or should play, in how we manage our land and resources?

Thomas A. More and James R. Averill addressed **"Satisfaction, Happiness, and Emotion in the Recreation Experience: Are We Asking the Right Questions?"** More reported that over the past two decades, the analysis of satisfaction has been arguably the dominant paradigm for recreation research, so much so, in fact, that customer satisfaction has now been institutionalized as part of the Forest Service's recreation management system. Yet, he noted, there is mounting concern in both the recreation literature and the consumer behavior literature about the very meaning and validity of the satisfaction concept. More's theoretical argument was that happiness, rather than satisfaction, is the dominant emotional system involved in recreation experiences. Satisfaction, by contrast, is a subsystem of happiness that is systematically related to other subsystems such as pleasure, fun, and cheerfulness. More argued that previous examinations of the emotions in recreation have tended to emphasize only one or another of these elements rather than integrating the three. Thus, some authors discuss arousal, others discuss congruence (or gaps) between expectations and reality, while still others discuss self-actualization. This lack of integration fosters confusion between the functions of an emotion and the mechanisms by which these *functions* are fulfilled.

Dorothy Parmelee presented the round table topic of Geographic Information Systems (GIS), entitled **"Using GIS as an Analytical Tool for Simulation Modeling."** She reported that spatial perspectives regarding recreational opportunities provide social scientists and recreation managers insights as to what influences a person or group of people in selecting recreational sites. Computerized GIS can be an essential tool in identifying spatial patterns and projecting future trends through analysis and simulation. Her discussion explored applications such as building a model to estimate the impact on usage patterns for recreational areas.

Management Tools and Techniques

The other round table sessions were geared toward management tools and techniques. The first of these was Betsy Barber's presentation entitled **"Customer Service Evaluation."** Customer values are constantly changing. A nice world, Barber reported, is one where customers would just tell you in a polite,

calm manner, when, where, and how you can keep them happy and what you can do to meet their needs. But many times they do not. Land managers need to create a means by which you can regularly measure the quality of the service provided. The focus of her round table discussion was to help professionals who are responsible for evaluating customer service. To do this required an in-depth look at the "moments of truth" found in the service cycle. These are those specific moments that influence a customer to have a positive experience or a negative one. The management of these moments are the key to high quality customer service.

"Market Segmentation, Tourism and Recreation Resource Allocation: The Case of the Caribbean National Forest," presented by James S. Bedwell, focused attention on the Caribbean National Forest as a good test case for market segmentation. The Caribbean National Forest, in the Commonwealth of Puerto Rico, is an important recreational resource whose values are important to the local citizens for not only their enjoyment but also as a major tourist attraction. Intense recreation pressure with limited resources, like that found in the Caribbean National Forest, requires greater sophistication in visitor management. By paying attention to the different types of visitors and their differing needs and desires managers help assure satisfying recreational opportunities. On the Caribbean National Forest, for example, the visitors were segmented into several groups from rural to international visitors. Bedwell reported that providing for specific market segments increases the efficiency of management by focusing management efforts and defining recreation opportunity settings, and information needs. Market segmentation can also help you gain a more supportive constituency, and giving value to the natural environment also provides greater protection to the forest. The future will require greater intensity of management and further research to fill in obvious information gaps.

Thomas R. Kettelcamp led a round table discussion entitled **"The Wilderness Ideal Potential for Urban America."** The discussion briefly examined the wilderness ideal (the natural environment is essentially unmodified with little or no evidence of the impact of man) and then examined compromises of that ideal (nonconforming issues) that presently exist within wilderness boundaries. Discussion centered on questions that included these: How does the wilderness manager handle structures such as old cabins, mines, bridges, and dams? What do we do with highly developed trails, signs, culverts, corduroys, and port-a-johns—all of which many feel just don't belong within wilderness area boundaries? What management techniques can be used to encourage use in urban-proximate areas and at the same time provide opportunities for the solitude that a wilderness area is designed to provide. And ultimately, by what criteria do resource managers make decisions on maintaining the integrity of the wilderness resource, yet be sensitive to tourism and urban proximate areas?

Brent H. McBeth examined a specific case of partnerships in his round table discussion entitled **"Partnerships and Communication in the Wildland-Urban Interface: Utah Byways and Backways."** McBeth described a unique Statewide partnership in Utah, which he argued has created a national model for partnerships and communication in the wildland-urban interface. The partnership committee consisted of representatives from the Forest Service, Bureau of Land Management, National Park Service, Association of Governments, Utah Department of Transportation, Federal Highway Administration, Utah Travel Regions, Utah Travel Councils and local interest groups and publics. All participants shared funding and program implementation and direction responsibilities. The cooperation allowed a system of designation of State "Byways and Backways," which serve public needs without regard for single agency jurisdiction or boundaries. Utah has designated 27 "Scenic Byways" and 58 "Scenic Backways" throughout the State. The partnership published an attractive 50-page full-color brochure describing each travel way in the State. The partnership has now expanded to a Statewide effort for interpretive planning and implementation.

Maxine Terner led a round table discussion proposed by Thomas H. Mikkelson entitled **"Open Space Planning and Management: East Bay Regional Park District."** By the year 2000, the population of the nine-county San Francisco Bay Area is expected to grow to 6.6 million people, a growth rate of 120,000 people per year. Alameda and Contra Costa Counties, "The East Bay," is expected to absorb nearly one-third of this projected growth, but not, Terner reported, without difficulty. The relentless pace of urbanization is now seen by citizens as a threat to their lifestyle and well-being. Concern about protecting remaining open space is at an all-time high and thus, the role of government as provider and caretaker of open space has come center stage. There is an increasing need to develop more diverse land protection strategies that go beyond public agency acquisition of open space. One such tool, called "Guidelines for Open Space Planning and Management," provides public agencies, developers and citizens with concepts, criteria, and specific examples of how open space areas of varying size can be planned, managed, financed and incorporated into existing city, county and regional open space systems.

Larry Swan led the round table discussion proposed by Susan Odell entitled **"Recreation and Rural America—What Do Communities Want?"** Swan reported that rural issues and urban-wildland interface issues are just different points on the continuum of issues facing resource managers and communities as they deal with values associated with recreation, leisure, tourism, commerce, ecotourism, green space, and natural resource use and preservation. Since the USDA Forest Service has a revitalized mission to work with rural communities, and recreation resources are frequently cited as one potential source for community development, many people are searching for ideas and methods to analyze and evaluate this potential. Other people and communities see tourism and tourists as a negative change or prefer to look at community needs for parks, bike paths, or beautification of commercial areas. Discussion centered on questions that included these: As we learn what communities want, what are the implications for research? For the next round of forest plans? For the types of skills needed by resource professionals? And for the role of the Forest Service?

The round table discussion entitled **"Establishment and Management of USDA Forest Service, National Park Ser-**

vice, and Bureau of Land Management Specially Designated Areas" was led by Steve Plevel and Rick Dorrance. The Coronado National Forest in southern Arizona is exploring the possibility of creating a National Recreation Area. Their goal is to increase the quality of resource management. Because pertinent information was not readily available about such specially designated places, a nationwide survey of area managers was conducted to serve as a basis for a proposal. The survey method consisted of 1-hour telephone interviews of 47 Forest Service, National Park Service, and Bureau of Land Management managers. Preliminary survey analysis discussed at the round table indicated the following: special designation often is a reactive measure, with the proposal coming from outside the agency, and the agency not actively being involved in the designation procedure. Generally, management has been successful in implementing legislative directives. Designation improves relationships with the outside world, increases recognition of the attributes of the area, and increases funding. Adverse effects of designation are minimal.

Richard Barbar's round table discussion also focused on multiple agencies. His topic was **"Exploring Coordinative Mechanisms for Focusing Land Managing Agencies on joint Social Research Efforts."** Barbar noted that natural resource agencies often share similar management challenges. Some of these challenges involve visitor management issues such as customer service, resolution of conflicts, and communication. Also, many of these challenges are becoming more salient as culturally and ethnically diverse visitors use federal, state, and local lands. The purpose of this discussion was to begin to examine ways in which multiple agencies could work together in researching and addressing these challenges. Participants at his table included representatives from the Bureau of Land Management, the Forest Service, the National Park Service, and several universities. All agreed on the need to coordinate social research and to keep a dialog going between groups. Using a clearinghouse was suggested, though no mechanism for coordination was clearly articulated.

Appendixes

A. Symposium Agenda

Social Aspects And Recreation Research Symposium

February 19-22, 1992, Ontario, California
Theme: Social Aspects of the Wildland-Urban Interface

Wednesday, February 19, 1992

5 p.m.-7 p.m. Registration

7 p.m.-9 p.m. Welcoming Address by Barbara Weber, USDA Forest Service
Invited Speaker, Jim Williams, California State Polytechnic University, Pomona
Keynote Address by John Twiss, USDA Forest Service
Reception

Thursday, February 20, 1992

8 a.m.-9:30 a.m. Invited Speaker, Robert Pfister, California State Polytechnic University, Pomona
Keynote Address by John J. Moeller, Bureau of Land Management

9:30 a.m.-12 noon Concurrent Sessions

Access Initiatives
Session Chair: Gary Elsner

Edward J. Hamilton, "National Research, Technology and Training—Implementing Accessible Recreation Design Concepts"
Brian Kermeen, "Access to Public Recreation Opportunities and Universal Design"
Kenneth J. Kunert, "Improving Access to Outdoor Recreation Areas Through Partnerships and Volunteers: A Call for Involvement"
Laura McLachlin, "Vacationing Among Families Who Have a Child With A Disability"
Brian O'Callaghan, "Design Guidelines to Universally Accessible Outdoor Park and Recreation Facilities, Programs, and Services"
Barbara C. Weber, "Open Challenges to the Research Community: A Call for Action"

Fire Safety, Education, Multicultural Environments, and Land Stewardship in the Wildland/Urban Interface
Session Chair: Gail Van Der Bie

Thomas Combrink and Denver Hospodarsky, "Quality of Life Contributions of an Urban-Proximate Forest"
Kathy James, "Leveling the Barriers: Increasing Racial Diversity in Environmental Education"
Jennifer L. Rechel, James B. Davis, and Ted K. Bradshaw, "Fire Risk and Residential Development: A GIS Analysis"
Thomas C. Swearingen, "Comparative Analysis of Environmental Ethical Reasoning: Preliminary Observations"
Gail Van Der Bie, Don Morales, and Mary Anne Keller, "Land Stewardship in a Multicultural Environment: A Case Study on Bracken Fern Management—A New Shared Land Ethic"

Valuing Cultural Diversity: Research and Policy Questions
Session Chair: Robert Pfister

Maria T. Allison, "Fostering Cultural Diversity: Problems of Access and Ethnic Boundary Maintenance"
Rene Fukahara Dahl, "Leisure Service Delivery Systems: Are They Adequate?"
Robert E. Pfister, "What is Cultural Diversity and Multi-culturalism?: A Multinational Perspective"
Sharon J. Washington, "The Baggage You Carry With You: Unlearning Oppression"

1 p.m.-5 p.m. Concurrent Sessions

Land Use Ethics and Communication With Multicultural Groups
Session Chair: Steve Anderson

Deborah S. Carr and Daniel R. Williams, "The Socio-Cultural Meanings of Outdoor Recreation: An Exploration of Hispanic Recreation Experiences on the Forests of Southern California"
Deborah S. Carr and Daniel R. Williams, "Sources and Implications of Intra-Ethnic Variation: The Hispanic Users of the National Forest as an Illustrative Example"
Duane DePaepe, "Land Ethics for Bureau of Land Management Employees"
Thomas J. Gallagher, "Native Cultures and Language: Challenges for Land Managers in Alaska"
Maria Fernandez-Gimenez and Lynn Huntsinger, "Conflicting Values: Spirituality and Wilderness at Mt. Shasta"

Thursday, February 20, 1992, continued

Service Delivery Strategies for Multicultural Environments
Session Chair: Robert Laidlaw

John M. Baas, "Identifying Service Delivery Strategies for Ethnically Diverse Users of a Wildland/Urban Recreation Site"
Dale J. Blahna, "Managing Areas for Multicultural Recreationists: Motives and Preferences of African American, Asian, Hispanic, and White Fishermen at Moraine Hills State Park"
Daniel L. Dustin and Richard C. Knopf, "Building Multicultural Responsiveness Into Outdoor Recreation Management"

Wilderness Issues for Urban-Proximate Areas
Session Chair: George Duffy

George W. Duffy, "Los Angeles Basin Visitors to the National Forests: Understanding Their Awareness of Wilderness as a Distinct Resource"
Alan Ewert, "The Urban-Proximate Wilderness: Managing for the Difference"
Steven Hollenhorst, "The Indicator Performance Estimate (IPE) Approach to Defining Acceptable Conditions in Wilderness"
R. Steve Smith, "Facilitating Backcountry Use of Bureau of Land Management Wildlands"

5 p.m.-8 p.m. Educational Poster Session
Moderators: Tracie and George Welton

Tess Albin-Smith and Pam Linstedt, "Resolving Recreation Land Use Conflicts on the Jackson Deomonstration State Forest"
John M. Baas, "Communication Issues in Multicultural Environments"
Gillian C. Brown, "Understanding Social Stigma As A Barrier to Recreation Participation of Individuals With Disabilities Using Fishbein's Model of Attitude Formation"
Victor Caro, "Hispanic Culture Influence on Land Stewardship Development and Land Preservation Issues"
Deborah J. Chavez, "The Wildland-Urban Interface: Site Observations in Southern California"
Rick Dorrance, "Planning and Management of USDA Forest Service, National Park Service, and Bureau of Land Management National Recreation Areas"
J. Mark Fly, "A Conceptual Framework for Understanding Recreation Behavior from a Multicultural Perspective"
Reed E. Gardner, "Mount St. Helens National Volcanic Monument: A Decade of Excellence"
Dale Hom, "Natural Resource Challenges for a Culturally Diverse Pacific Northwest: An Outdoor Recreation Model"
Lynn Huntsinger and Jeremy S. Fried, "Resource Management Conflict at the Urban Fringe: The Case of Mt. Diablo State Park"
Brian Kermeen, "National Forests Are for Everyone"
Linda Everett Kruger, Roger Clark, and George Stankey, "Alaska as a Wildland-Urban Interface: What Questions Do We Need to Answer?"
Arthur W. Magill, "Our Managed Landscapes: Opinions of What People See"
Lynn Roberts, "Opportunities for Research at Mount St. Helens: A World-Class Living Laboratory"

8 p.m.-10 p.m. Simulated Field Trip
Moderator: Robert Laidlaw

Veronica A. Fortun, "Discover Your California Desert District"
Emily Garber, "The Desert as Dessert: Recreation in the Desert/Urban Interface"
Timothy G. O'Keefe, "La Grande Forest"
Michael J. Rogers, "The Angeles National Forest: A Forest Service Laboratory for Wildland-Urban Interface Challenges"
Jose M. Salinas, Jr. "The Caribbean National Forest—Providing for a Hispanic Visitor"
Jim Tallerico, "Partnerships in Mill Creek Canyon"

Friday, February 21, 1992

8 a.m.-9:30 a.m. Invited Speaker, Alan Ewert, USDA Forest Service
Keynote Address by Jack Kelly, University of Illinois

9:30 a.m.-12 noon Concurrent Sessions

Agency and Visitor Interactions and Communication
Session Chair: John M. Baas

David W. Harmon, "Using an Interactive Computer Program to Communicate With the Wilderness Visitor"
Emilyn Sheffield, H. Leslie Furr, Charles Nelson, and George McIntyre, "Computer-Assisted Promotion of the Recreational Opportunities in Natural Resource Areas: A Demonstration and Case Example"
Michael A. Schnett, "Social Interaction in Adventure Recreation Participation"

Conflicts in the Wildland-Urban Interface
Session Chair: Steven Hollenhorst

Steven W. Anderson, "Management Decisions and the Dred Hills"
Chad Dawson and Wayne Zipperer, "Impacts of Land Use Change on Recreation and Open Space in the New York- New Jersey Highlands Region"
Arthur W. Magill, "Mountain Bicyclist Activities in the Interface"
Alan Watson, "Encounters Between Urban Residents and Packstock: Conflict in the Sierras"

Partners in the Wildland-Urban Interface
Session Chair: Frances Enkoji

Dianne Draper, "Partnerships in Sustainable Tourism Development: The Case of Canmore, Alberta, Canada"
Russ Kaldenberg, "Building a Commitment to Partnerships in the Coachella Valley: The Santa Rosa Mountains—A Case Study"
Brent H. McBeth, "Take Pride in Utah, Outdoor Ethics Campaign"

Friday, February 21, 1992, continued

1 p.m.-3 p.m. Concurrent Sessions

Data Collection Techniques for Multicultural Environments
Session Chair: John F. Dwyer

Dale J. Blahna, "Understanding Multicultural Orientations Toward Nature: Evidence from Focus Group Research in Chicago"
John F. Dwyer, "Outdoor Recreation Participation: Blacks, Whites, Hispanics, and Asians in Illinois"
Patricia Farrell, "A Different Look at the Nature of Leisure Engagement"

Managing the Research Function for Human/Natural Environment Interaction: Research for the 1990's
Session Chair: Alan Ewert
Multiagency Panel to Include Bureau of Land Management, National Park Service, and the Forest Service

3 p.m.-5 p.m. Round Table Sessions
Moderator: Arthur W. Magill

Dick Barbar, "Exploring Coordinative Mechanisms for Focusing Land Managing Agencies on Joint Social Research Efforts"
Betsy Barber, "Customer Service Evaluation"
James S. Bedwell, "Market Segmentation, Tourism and Recreation Resource Allocation: The Case of the Caribbean National Forest"
John L. Heywood, "How Do Visitors Regulate Behavior in Urban-Proximate Forest Recreation Settings?"
Thomas R. Kettelkamp, "The Wilderness Ideal Potential For Urban America"
Linda Kruger, "Sense of Place: What Role Does It Play in the Wildland-Urban Interface?"
Brent McBeth, "Partnerships and Communication in the Wildland-Urban Interface: Utah Byways and Backways"
Thomas More and James R. Averill, "Satisfaction, Happiness, and Emotion in the Recreation Experience: Are We Asking the Right Questions?"
Dorothy Parmelee, "Using GIS as an Analysis Tool for Simulation Modeling"
Steve Plevel and Rick Dorrance, "Establishment and Management of USDA Forest Service, National Park Service, and Bureau of Land Management Specially Designated Areas"
Larry Swan for Susan Odell, "Recreation and Rural America: What Do Communities Want?"
Maxine Terner, "Open Space Planning and Management: East Bay Regional Park District"

7 p.m.-9 p.m. Mixer

Saturday, February 22, 1992

Field Trip To Angeles National Forest — Tour Leader: Tom Spencer

Field Trip To San Bernardino National Forest — Tour Leader: Gary Earney

8 a.m.	Meet in hotel lobby
8:30 a.m.-9:30 a.m.	Leave hotel and travel to the site
9:30 a.m.-11:30 a.m.	Presentations by Forest managers
11:30 a.m.-12:30 p.m.	Travel back to hotel

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The Forest Service, U.S. Department of Agriculture, is responsible for Federal leadership in forestry. It carries out this role through four main activities:

- Protection and management of resources on 191 million acres of National Forest System lands
- Cooperation with State and local governments, forest industries, and private landowners to help protect and manage non-Federal forest and associated range and watershed lands
- Participation with other agencies in human resource and community assistance programs to improve living conditions in rural areas
- Research on all aspects of forestry, rangeland management, and forest resources utilization.

The Pacific Southwest Research Station

- Represents the research branch of the Forest Service in California, Hawaii, American Samoa and the western Pacific.

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