The national mountain conference 2000: Stewardship and human powered recreation for the new century

2000

Keywords: mountains, mountain environment, mountain ecosystems, biodiversity, water, conservation, development, recreation, environmental impacts.

Contents

- Large Scale Wildland Network Design in the Southern Rockies

Plenary Session #1: Banff National Park: A Mountain Ecosystem Under Stress
Plenary Session #2: A Campaign for the World's Mountains
Plenary Session #3: Comparing Regional Recreation Demands, Impacts, and

Stewardship Activities

Concurrent Sessions #3: Human Powered Recreation

A. Identifying and Solving Problems between User Groups

- Trail Conflicts - Bikers, Hikers, Horses
- Climbing Management Plan Process - Joshua Tree National Park
- Motorized Recreation in the Southern Rockies

B. Human Powered User Impacts

- Hikers and Trail Network Impacts
- Human Waste and Trash Disposal on Mt. McKinley
- Impacts On Historical and Spiritual Treasures

C. Challenges of Evolving Technology, New User Groups, and Legislation

- Cellular Phones and GPS in the Backcountry
- Emerging Regulations Affecting Access for Persons with Disabilities
- New Recreation Technologies: Impacts on National Parks

Concurrent Sessions #4: Mountain Recreation Stewardship

A. Trails and Backcountry Facilities

- Protecting Trailhead Access
- "The Unfinished Trail" - Protecting the Pacific Crest Trail
- Huts and Shelters as Management Tools

B. Allocating Use and Managing an Increasing Number of Users

- Leave No Trace: A Unified Minimum Impact Recreation Message
- Wilderness Management in the Adirondacks
- Challenges of Managing Winter Recreationists
- Carrying Capacity for Outdoor Recreation: Theory and Practice

C. The Role of Mountain Clubs and Governmental Agencies to Meet the Challenges of the Future

- Land Conservation Efforts
- Research Needs
- Legislative Action and Advocacy
- Education
- The Federal Interagency Team on Volunteerism

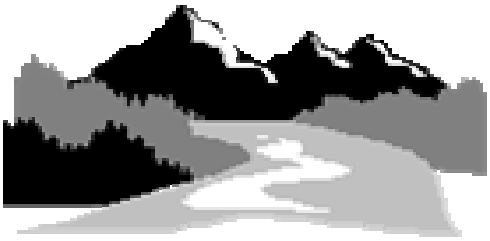
Plenary Session #4: Rewilding - The Importance of Ecological Integrity in Mountain Ecosystems

The National Mountain Conference

Stewardship and Human Powered Recreation for the New Century

September 14 – 16, 2000

Golden, Colorado



Summary Report
December, 2000

Hosted By:

The American Alpine Club

American Hiking Society,

Appalachian Mountain Club

Colorado Mountain Club

IUCN - World Commission on Protected Areas

The Mountaineers

Principal Sponsors:

Rivendell Foundation

REI
Trusted Gear. Expert Advice. Since 1938.
www.rei.com

Contributing Sponsors:

¨ L.L.Bean ¨

¨ National Geographic Maps ¨

¨ ORCA ¨

¨ Town of Breckenridge ¨

Steering Committee

Lloyd Athearn – *Deputy Director, American Alpine Club*

Mary Margaret Sloan – *President, American Hiking Society*

Ken Kimball – *Director of Research, Appalachian Mountain Club*

Rob Burbank – *Public Affairs Director, Appalachian Mountain Club*

Vera Smith – *Conservation Director, Colorado Mountain Club*

Steve Bonowski – *Conservation Comm. Chair, Colorado Mountain Club*

Lawrence Hamilton – *Vice Chair, World Commission on Protected Areas*

Edward Henderson – *President, The Mountaineers*

Heide Anderson – *Open Space and Trails Planner, Town of Breckenridge*

Introduction

The effects of development, an increasing number of recreationists on mountain ecosystems, managing public lands in mountain areas, and mediating conflicts between different user groups are a few of the critical and controversial issues that were addressed at the National Mountain Conference this September. The conference was held at the American Mountaineering Center in Golden, Colorado and featured over 50 speakers on mountain resource protection and recreation topics pertinent to all regions of the United States. Over 150 professionals, volunteers, and activists attended the three day conference and were actively engaged in a dialogue that has sparked a movement for mountain resource protection.

Conference Mission And Purpose

Issues involving mountains, including protection, public access, and sustainable use have received significant attention recently as conflicts have arisen between public land managers and outdoor enthusiasts, developers and environmentalists, and even between different groups of outdoor recreationists. The purpose of this conference was to identify and address these and other critical issues facing mountain resource protection and human-powered recreation in the United States. The conference mission was to:

- present and gain an understanding of the diverse perspectives on mountain stewardship and recreation issues
- unite the human-powered recreation community in protecting mountain environments and public access
- develop a pro-active agenda on recreation and mountain conservation issues for future use in the media and political arena.

The goals of this conference as outlined in the bullets above were successfully met through five mechanisms;

- the presentations of more than 50 speakers with expertise in recreation, resource protection, and management issues,
- the participation of conference attendees in discussions and dialogue on mountain recreation and resource issues at several junctures during the conference,
- extensive coverage of the conference and mountain issues in television, radio, publications , and electronic media,
- the development of the "Critical Issues List" to be used as a tool for post-conference follow-up,
- the issuance of a letter to the presidential candidates outlining principles for mountain stewardship and a follow-up letter to the President-elect with specific solutions to mountain resource protection issues.

Speaker Presentations

The conference was opened with an inspiring presentation by Edwin Bernbaum, of the Mountain Institute, renowned mountaineer, author, lecturer, and activist who delivered the keynote address entitled, "The Heights of Inspiration." Through a combination of images, music, quotes, and personal stories, Bernbaum described the spiritual and cultural significance of mountains in both national and international cultures. He was followed by Andy Falender, executive director of the Appalachian Mountain Club, who presented a synopsis of the critical issues facing mountain stewardship and human powered recreation. Both presentations inspired a "call to arms" for mountain resource protection and set the tone for the day's concurrent sessions which included 18 different presentations on topics related to development pressures on mountain environments and human threats to mountain ecosystems. Jillian Roulet, senior policy advisor with Parks Canada, concluded day one's speaker sessions with a presentation on Banff National Park and the work being done there to mitigate stress on mountain ecosystems.

Day two of the conference was opened by Lawrence Hamilton, Vice-chair for Mountains with the World Commission on Protected Areas. Dr. Hamilton presented an urgent plea for preserving the ecological diversity, water resources, and cultural and spiritual value of the world's mountains. A comparison of regional recreation demands and impacts was presented by Francisco Valenzuela with the US Forest Service and Chris Reiter with Blue Ridge Press. These presentations were followed by 18 different speakers presenting on topics related to human powered recreation and mountain recreation stewardship. Day two was closed with a powerful and moving presentation entitled, "Re-wilding and the Importance of Ecological Integrity in Mountain Ecosystems" by internationally acclaimed environmentalist Dave Foreman Mr. Foreman has worked as a wilderness advocate and conservationist since the early 1970's. Former editor of *Earth First! Journal*, Foreman is currently the publisher of *Wild Earth* journal, board member and Chairman of The Wildlands Project, and a member of the board of directors of the New Mexico Wilderness Alliance. He received the 1996 Paul Petzholdt Award for Excellence in Wilderness Education, and in 1998 was named by *Audubon Magazine* as one of the top 100 conservationists of the twentieth century.

Day three consisted of a field trip to two sites in the Colorado Rocky Mountains where communities are working to reconcile the needs and desires of recreationists, conservationists, and the business communities. Vail Pass, a popular winter recreation area and a site that has experienced significant user conflict, was the first stop on the field trip. Staff from the US Forest Service and members of the Vail Pass Task Force discussed the process used to develop and implement a voluntary user separation program at the site. The plan requires all users to pay the same parking fee but non-motorized recreationists (cross country skiers, snow shoers, etc.) use separate trails and parking area from the motorized (snowmobilers) recreationists. The second stop on the field trip was the town of Breckenrigde where staff from the town and local ski

areas and member of two community groups discussed the process for community involvement in several proposed and ongoing ski area expansion projects.

A copy of the full conference schedule with all speakers, their affiliations, and presentation topics is included in Appendix A. Abstracts for the presentations as submitted by speakers are included in Appendix B.

Attendee Participation

The conference attracted an audience of approximately 150 participants from local, state, and federal agencies, conservation organizations, recreation organizations, educational institutions, and other interested individuals from all regions of the United States and parts of Canada. In addition to attending speaker presentations, conference participants were actively involved in the Poster Session and Interactive Discussion Session on day one, informal discussions during the lunch and coffee breaks, and the all day field trip on day three.

During the Interactive Discussion Session, conference participants were engaged in facilitated group discussions on the critical issues list. A draft list was presented to each group and participants were asked to comment on the list and provide examples of each issue and propose solutions to each issue. The comments received during this session were used to modify and finalize the Critical Issues list which is included in Appendix B.

It was recognized by the Steering Committee that one of the primary functions of this conference was to allow ample opportunity for conference participants to "network" and discuss alternative solutions to mountain resource protection. Participants congregated in the "gymnasium" for the poster session, lunches, and breaks where current research projects were discussed, ideas were exchanged, and a political movement for mountain resource protection gathered momentum. In addition to the spontaneous discussions, fourteen different organizations and individuals displayed research project results, position papers, and other information during the poster session.

Press Coverage

The conference generated substantial national and regional press coverage during and immediately following the conference including coverage by the Associated Press, Boulder Daily Camera, Denver Post, ABC-TV Channel 7 Denver, Knight-Ridder Financial News Wire, the Berkshire (Mass.) Eagle, the Environmental News Network, and enn.com. Mountain resource protection and recreation issues discussed at the conference will also be featured in upcoming issues of several journals and other news media including Outside Magazine, Ski Area Management Magazine, National Public Radio, Environment News Service,

the monthly publications of the steering committee organizations, and other national and regional media outlets.

Critical Issues List

Mountains were consistently identified throughout the conference, as unique land features that are critical to ecological diversity, water resources, and natural resources. However, resource and recreation issues that distinctly affect mountains have not always been given their deserved attention. One of the goals of this conference was to identify the most critical of these issues that, if ignored, could significantly alter the ecological sustainability and economic, cultural, and spiritual viability of mountains as well as degrade the experience sought by recreationists. A list of critical issues facing mountain stewardship and human powered recreation was developed by the steering committee prior to the conference using input gathered in a survey sent to over three hundred professionals in land management agencies, conservation groups, recreation groups, and universities. The list was finalized after receiving input from conference attendees during the interactive discussion session on day one of the conference. The final critical issues list includes a brief description of, examples of, and solutions to each issue and is included in Appendix C. A condensed version of the list follows:

1. Encroaching Urban Development
2. Proliferating Human Infrastructure
3. Damaging Natural Resource Extraction
4. Declining Ecological Diversity
5. Diminishing Mountain Air Quality
6. Changing Climate Conditions
7. Recreational Overuse and Misuse
8. Ballooning Numbers of Inexperienced Users
9. Increasing User Group Conflicts
10. Losing Access to Public Lands
11. Losing the Mountain Experience and Solitude
12. Degradation of Water Resources

The Next Steps

This conference inspired a movement to place mountains on the political agenda as a unique land feature with characteristics that warrant consideration and protection. It is critical that the human powered recreation and conservation organizations that met at the conference continue the dialogue and explore effective ways to work together on common issues. Federal, state, and local land management agencies must make an effort to include stakeholders in the planning process. Events, such as this conference, that bring together a diverse group of individuals involved in mountain issues should be encouraged and supported.

During the conference, a draft letter to the presidential candidates encouraging them to become involved in mountain resource protection issues, was circulated and discussed during discussion sessions. Conference attendees were asked to comment and sign-on to the letter if in agreement. The letter asked the candidates to 1) ensure good stewardship of our public lands for future generations, 2) choose respected experts in your cabinet and administration who will manage our natural resources using sound science as a framework for their decisions, 3) actively support significant, long-term funding for open space protection and stewardship through initiatives like the popular Conservation and Reinvestment Act (CARA), and 4) convene a "Mountain Summit". Twenty nine organizations and individuals signed on to the letter, including The Wilderness Society, Access Fund, Colorado Wild, Izaak Walton League of Virginia, the six steering committee organizations, and many others. The letter, with the critical issues list, was sent to the candidates in early October. A copy is included in Appendix D. A follow-up letter will be sent to the President-elect in January which will include a finalized list of the critical issues and potential solutions.

The intention of this conference was to be a springboard for future national events during the International Year of Mountains. The United Nations General Assembly has proclaimed 2002 as the International Year of Mountains (IYM) to increase international awareness of the global importance of mountain ecosystems. The Food and Agriculture Organization of the United Nations (FAO) has been designated as the lead agency for coordinating worldwide events and activities. IYM represents an important step in the long term process initiated by the 1992 Earth Summit in Rio de Janeiro. The goal of IYM 2002 is to ensure the well-being of mountain and lowland communities by promoting the conservation and sustainable development of mountain regions. It is the hope of the steering committee that other conservation and recreation groups and public agencies will be spurred on by the momentum of this conference and will organize events that highlight mountain resource protection issues for IYM 2002.

SPEAKER ABSTRACTS

Keynote Address

THE HEIGHTS OF INSPIRATION
Edwin Bernbaum - *The Mountain Institute*

From the Himalaya to the Sierra Nevada, people around the world look up to mountains as sources of inspiration, renewal, wisdom, creativity, and vision. The remote Himalayan peak of Mount Kailas, rising aloof above the Tibetan Plateau, directs the minds of millions of Hindus and Buddhists toward the utmost attainments of spiritual liberation. Mount Sinai occupies a special place in the Bible as the imposing site where Moses received the Ten Commandments, the basis of law and ethics in Western civilization. For many in the modern world, Mount Everest symbolizes the highest goal they can strive to attain, whether their pursuit be material or spiritual. The Hopi revere the San Francisco Peaks of Arizona as divine sources of rain on which their very existence depends. Elsewhere in the United States pristine mountain environments in parks such as Yosemite and Rocky Mountain enshrine cultural and spiritual values basic to American society, embodying for many the free, unsullied spirit of the nation. As the writings of conservationists such as John Muir demonstrate, views of mountains as places of inspiration and renewal helped give rise to the modern environmental movement and have played a key role in galvanizing public support for the preservation of wilderness areas.

Using a blend of images, music, quotes, stories and personal adventure, Edwin Bernbaum explores the many diverse ways in which pilgrims, poets, artists, sages, climbers and others have drawn inspiration from the heights. The presentation examines how the evocative meanings of mountains can be used to enrich people's experience of the outdoors and motivate efforts to protect the environment here in the United States. As a model for this kind of approach to recreation and stewardship, the slides and discussion focus on a project Bernbaum is working on with The Mountain Institute to develop interpretive materials and educational activities for the US National Park Service based on the spiritual and cultural significance of mountains in Native American, mainstream American, and other cultures around the world. The presentation includes the dramatic account of an avalanche he was caught in on Annapurna, one of the highest and most sacred peaks in the Himalaya.

Concurrent Sessions #1
C1. DEVELOPMENT PRESSURE ON MOUNTAIN ENVIRONMENTS

A. SKI AREA AND FOUR SEASON DEVELOPMENT

Reduce, Reuse, Restore - Responsible Development

Elizabeth Courtney - *Vermont Natural Resources Council*

Economic development is a very important part of Vermont life. We need to do all that we can to provide Vermonters with quality jobs so that we can provide for our families and our futures. But we must be careful to encourage economic growth in support of our environment. Indeed, we must acknowledge, in the end, that economic growth depends upon environmental protection in a state that draws skiers and other tourists with its natural beauty. Mountain Resort development brings with it several areas of concern:

- Traffic. Many acknowledge that proposed mountain resort expansion would bring severe congestion to the many scenic byways and villages in Vermont. We all know how congested these roads can be on a winter's weekend. What are the alternatives to auto access to our mountain resorts in New England?
- Local Economy. If the mountain resort development projects proceed as planned, global business interests will control a large percentage of the region's labor market and command as much as a two-thirds monopoly over the region's lodging establishments. This growth could have damaging effects on the many independent family-owned inns and lodging establishments in the area. How can we best support our local economies?
- Sprawl. Vermonters pride themselves on the natural beauty of their state. Cities on the slopes may not contribute to natural beauty. In fact, they may contribute to sprawl. And sprawl only causes more sprawls - highways and strip malls where there should be forests and streams. If we pave over our Green Mountains, they will be destroyed forever. And Vermont will lose the natural beauty that makes our state unique. How can we limit the secondary growth impacts of mountain resort developments?
- Water Quality. The once-pristine streams that flow through the Killington, Stratton and other Vermont ski areas, are polluted. Why? According to the State of Vermont's Agency of Natural Resources, mountain owners are plowing oil, gasoline, and other pollutants from their parking lots and golf courses into nearby streams, allowing these pollutants to run off into the water. That is why the Agency on Natural Resources has placed these streams on its "Impaired Waters List". Should these waters be restored before new construction is allowed?

- At the Vermont Natural Resources Council (VNRC), we propose an approach to responsible development that makes use of three principles: reduce, reuse, and restore.

- Reduce the scale of the project to fit the context of rural Vermont.
- Reuse existing developed areas for new development.
- Restore former pristine streams to meet water quality standards.

Ski Area Development in the West
Jeff Berman - *Colorado Wild*

One of the primary threats to Colorado's roadless areas and biodiversity now comes from industrial tourism and recreation in the form of ski area expansions. Since 1996, three companies - Intrawest, the American Skiing Company, and Vail Resorts - have undergone initial public offerings generating hundreds of millions of dollars. With these funds, they bought the leases to additional ski resorts, most of them on public lands administered by the U.S. Forest Service (FS). These companies are now under demand to increase shareholder return even though skier visitation levels nationally have remained flat for the last 20 years.

Since 1996, these and other ski companies have proposed numerous expansions really intended to bolster the value of their own adjacently held private land, rather than provide for public recreation as required by FS guidelines. In Colorado, skier visits have only grown only 30% since 1985, yet high impact, lift served ski terrain has more than doubled. In the White River NF, home to ski area icons such as Vail, Aspen, and Breckenridge, skier acreage has increased 107% since 1985, yet skier numbers only 28%. Notably, the White River NF is now in the process of revising their management plan, that will 're-zone' sections of forest for either wildlife preservation vs. future lift served skiing.

Expansions completed or underway at Vail, Wolf Creek, and Loveland, and now proposed at Breckenridge, Keystone, Copper Mountain, Arapahoe Basin, Purgatory, Ski Cooper, Winter Park, Silverton (two whole new ski areas) and Telluride - well over half of Colorado's ski areas - threaten wetlands, roadless forests, critical wildlife migration routes, and rare species including the boreal toad, lynx, wolverine, native cutthroat trout, and goshawk. Moreover, in refusing to acknowledge the ensuing offsite real estate development, the FS not only ignores - but promotes - additional impacts to wildlife, its habitat, and the biodiversity of the Southern Rockies.

Colorado Wild's Ski Area Citizen's Coalition program works to contain this growing threat through research, education, and advocacy efforts designed to halt the environmentally harmful or real estate driven portions of ski area expansions now at over half of Colorado's ski areas. Colorado Wild helped form the ad-hoc White River Conservation Coalition to advocate for responsible

recreation management within the White River NF plan revision, including limiting ski area expansions to within the constraints of ecological protection. In coordination with numerous other conservation and non-motorized recreation organizations, we are generating a tremendous outpouring of public sentiment in favor of wildlife and community preservation as opposed to additional ski area expansions.

Water Withdrawals
Chris Kilian - *Conservation Law Foundation*

B. SUBURBANIZATION OF MOUNTAIN REGIONS

Balancing Nature and Commerce in Gateway Communities
Catharine Gilliam - *Community Strategies*

"America's brightest people are attracted by America's most beautiful places."
- Former Colorado Governor Roy Romer

As the economy expands and technology moves toward great flexibility in where people live and work, the pressures on mountain communities will grow enormously. This presentation will review how to build partnerships, utilize tools and shape policies to make sure growth is beneficial to the larger community. It will look at examples of collaborative conservation and community-based stewardship that the Sonoran Institute has developed in western communities near public lands, as well as examples from the east.

The Sonoran Institute is based in Tucson, with an office in Bozeman, and is dedicated to promoting community-based strategies that preserve the ecological integrity of protected lands, and at the same time meeting the economic aspirations of adjoining landowners and communities. Examples will be drawn from Balancing Nature and Commerce in Gateway Communities (Howe, McMahon and Propst, Island Press, 1997), Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands (Cestero, Sonoran Institute, 1999) and the Community Stewardship Exchange, a web site at http://www.sonoran.org.

The session will also examine eastern case studies from the Smokies, Blue Ridge and Alleghenies. While the politics and players are somewhat different in the eastern United States, the lessons of community-based stewardship are important and applicable. The need to build a national network of partnerships that work effectively to protect mountains will be discussed.

Mountain stewardship in the 21st century will require skills of communication, education, collaboration and campaigning. Local land use laws must be used more effectively to protect mountain ecosystems. Collaborative conservation cannot replace environmental advocacy, traditional land management planning

processes, or judicial review as mechanisms for resolving contentious public lands issues. But, finding workable solutions that look ahead to assess and value resources, or allow a community to correct past mistakes, is an essential skill in protecting America's mountains.

Grand Canyon General Management Plan
Brad Traver - *NPS Grand Canyon*

Development In and around the Greater Yellowstone Ecosystem
Pamela Lichtman - *Jackson Hole Conservation Alliance*

The Greater Yellowstone Ecosystem (GYE) is an extraordinary place with Jackson, Wyoming and Grand Teton National Park at its heart. The GYE is the last, large intact temperate zone ecosystem left on earth. It is a region renowned for more than half the world's geothermal features, North America's largest herds of elk, as well as impressive populations of free-roaming bison, moose, bighorn sheep, mountain goats, grizzly bears, wolves, bald eagles, mountain lions and other native wildlife. The region includes the headwaters of the Missouri, Yellowstone, Snake, Green and Wind Rivers, and is home of the magnificent Teton, Wind River, Beartooth, Absaroka, and Gros Ventres mountain ranges. This unique assemblage of geological, geothermal, and biological features attracts more than 10 million visitors annually including thousands who would like to live here. Such an influx of visitors and want-to-be resident's strains the region's infrastructure, fragments wildlife habitat, invades the peace and tranquility we seek in our wild lands, and puts additional development pressures on our public lands. The community of Jackson, Wyoming is a prime example of the "Suburbanization of Mountain Regions" -- a pattern of development outside of national parks that threatens to erode the very features that draw people to visit and live in these areas.

Protecting the region's exceptional natural resources while fostering sustainable human communities takes cooperation and an understanding of how management agencies and/or landowners affect one another. The community of Jackson, Wyoming undoubtedly benefits from its proximity to spectacular wildlands including two of the worlds most acclaimed National Parks - Grand Teton and Yellowstone. There is also no question that this small community suffers from this relationship. What are the positive spin-offs of being a gateway community (e.g., economic, cultural, and spiritual)? What are the negative impacts that gateway communities endure (e.g., housing shortages, high cost of living and a service-based employment)? Is there a way to effectively address these impacts? I will try to briefly explore these issues in the upcoming National Mountain Conference on Stewardship and Human Powered Recreation for the New Century.

C. HUMAN INFRASTRUCTURE

Controlling the Aesthetic Impacts of Telecommunication Towers
R. Matthew Goebel - C*larion Associates*

Thanks to the booming growth of the multi-billion dollar telecommunications industry, local governments today are increasingly worried about the aesthetic impacts of thousands of new cell towers springing up all across the country, often in mountain areas.

Over one-third of American adults currently use wireless phone service. In 1999, there were around 35,000 towers throughout the country, and there may be four times that many in existence in just a few years as the wireless industry matures. Often reaching several hundred feet tall and placed in elevated, highly visible public spaces, such facilities may have substantial community-wide aesthetic impacts. The towers infuriate nearby residents concerned about the visual impacts on their neighborhoods and the financial impacts on their property values, and threaten tourism and recreational opportunities by marring visually sensitive resources such as mountain ridgelines. As a result, many governments are attempting to regulate such facilities more aggressively than they have before.

In the past, local regulation of satellite dishes and other telecommunication facilities posed few legal difficulties, and the courts upheld reasonable zoning restrictions. Today, however, because of the passage of major new federal legislation (i.e., the Telecommunications Act of 1996), the law regarding the siting, placement, and maintenance of such towers has become significantly more complicated.

The bottom line for local governments is that, while compliance with federal and state laws is necessary, and while this area of land-use regulation has become significantly more complicated in recent years than it was in the past, it is still possible to draft regulations that minimize the effects of wireless towers on local community character and visual resources. This session will discuss how local communities can draft such regulations. First will be an introduction to important legal concepts and rules, including brief examples from around the country where the laws have been tested and applied by local communities. Second will a discussion of specific tools that local governments can use to regulate the aesthetics of cell towers, including zoning restrictions (e.g., setbacks, height limitations) and development standards (e.g., co-location, stealth technology).

Impacts of Backcountry Roads and Protecting Roadless Areas
Dan Kent - *Friends of the Abajos*

Human Infrastructure on Public Lands
Jay Watson - *The Wilderness Society*

Concurrent Sessions #2

C2. HUMAN THREATS TO MOUNTAIN ECOSYSTEMS
A. AIR, WATER, AND NOISE POLLUTION

Mountain Air Quality and Visibility Trends
James Sisler - *CIRA-Colorado State University*

In recent years, the health and environmental effects of particulate matter air pollution have been the subject of much research and discussion by scientific and policy professionals in the air quality community. Regulatory programs are under way to address these effects and are expected to result in decreasing ambient particulate matter concentrations (PM) and improved visibility over time.

Implementation of the acid rain program is expected to reduce annual sulfur oxide emissions by more than 10 million tons (from 1980 levels) by 2010. In July 1997, the Environmental Protection Agency (EPA) promulgated new primary and secondary national ambient air quality standards for PM2.5 (particulate matter less than 2.5 mm) and the EPA has implemented a national program to reduce regional haze visibility impairment in more than 150 Class I areas across the country. Implementation of these programs over the coming years will require additional technical assessment and strategy development. Monitoring of particulate matter concentrations, visibility levels, and analysis of trends over time are critical activities needed to develop and evaluate strategies to reduce acid rain, attain national health standards, and make reasonable progress in reducing visibility impairment.

Since 1988, the Interagency Monitoring of Protected Visual Environments (IMPROVE) national visibility monitoring network has been in operation in 29 primarily rural Class I sites and one urban site (Washington, DC) across the country. IMPROVE data from the rural sites are used to examine eleven year trends (1988-1998) of visibility and PM2.5 concentrations. The network is cooperatively managed and funded by the Department of Interior (National Park Service, Fish and Wildlife Service, and Bureau of Land Management), Department of Agriculture (U.S. Forest Service), the Environmental Protection Agency, and state governments.

This presentation evaluates trends in visibility and PM2.5 for the 10th (best visibility days), 50th (average visibility days), and 90th (worst visibility days) percentiles over the eleven-year period from 1988-98. Data from these sites provides an indication of regional trends in air quality and visibility resulting from implementation of various emission reduction strategies. Statistics for

five-year rolling averages and annual averages presented reveal that a few sites are experiencing degradation in visibility; however, visibility conditions at a majority of sites are holding steady or showing significant improvement.

Water Quality - A Case Study in the San Juan Mountains
Gene Reetz - *Environmental Protection Agency*

The San Juan Mountains are located in southwestern Colorado and consist of some of the most rugged and scenic terrain in the Southern Rocky Mountains. The area has often been called "The American Alps" because of the many glaciated mountains, with 14 peaks rising over 14,000 feet. Most of the mountains are of sedimentary or volcanic origin and the area is heavily mineralized. The land ownership pattern is typical of the Colorado Mountains, with private lands at lower elevations and public lands (usually US Forest Service) at higher elevations. However, there are numerous private lands, obtained through historic patented mining claims, at higher elevations as well.

Ute Indians utilized the area as did early fur trappers. Man's impacts on the San Juans were minimal until the arrival of miners in the 1860's. Mining for gold and silver was particularly strong during the later part of the century and continues today, although at a much reduced scale. Ranching soon followed mining and, along with timber harvesting, formed the economic base of the region for many years. In the early 1970's, recreation became more locally significant, especially with the development of a major ski resort near Telluride. The dynamics between the more traditional economies (mining, ranching and forestry) and the newer economies (recreation and tourism) are classical of what is occurring throughout many areas in the Rocky Mountains.

EPA first became involved in San Miguel County (in the heart of the San Juan Mountains) in the late 1980's through the Agency's responsibilities under the Clean Water Act. The County was increasingly concerned with growth and sprawl particularly associated with recreation, resort, and second home development, and requested EPA's assistance in identifying and protecting critical wetland resources. This led to an EPA funded wetland mapping project which, in turn, resulted in the County adopting measures to protect valuable wetlands as well as the discovery of illegal wetland fill activities. EPA followed up on the illegal wetlands activities by taking an enforcement action against the ski/resort developer. The case was settled with a substantial fine and implementation of a wetland restoration plan, which is currently being implemented.

EPA has also been active in protecting the sensitive environments in San Miguel County through the agency's authorities under the National Environmental Policy Act. The most significant example was EPA's reviews and comments on a proposal to expand the Telluride Ski area. The proposal to expand the Telluride ski area/resort into relatively undeveloped alpine and sub-alpine areas had

some local support, but also generated strong local opposition. The proposed expansion required approval from the U.S. Forest Service which triggered the NEPA process. In commenting to the USFS, EPA consistently pushed for analysis of the "least damaging" alternative to the proposed expansion and the consideration of San Miguel County's land use planning guidelines. The final Forest Service "Record of Decision" addressed many of the concerns raised by EPA.

Through a "non-regulatory" program know as "Community Based Environmental Protection" (CBEP), EPA expanded on its partnership activities with the County by providing funds to scientists from the University of Colorado's Institute of Arctic and Alpine Research (INSTAAR) to map and assess sensitive alpine areas as part of San Miguel County's Watershed Protection Plan. This project led to the County adopting additional land use codes to protect these sensitive areas which were threatened by development.

EPA also developed partnerships with a number of local communities in the County and the Colorado Department of Health to protect local drinking water supplies. The "Source Water Protection" provisions of the Safe Drinking Water Act encourages communities to delineate the sources of their public water supplies, evaluate the susceptibility of contamination to those supplies, and then take steps to protect those supplies and prevent contamination. This pilot effort resulted in adoption of additional local controls to protect critical source water areas in the County.

In summary, EPA's use of regulatory authorities under the Clean Water Act and the National Environmental Policy Act, coupled with non-regulatory Community Based Environmental Protection efforts and the implementation of partnerships with local governments has resulted in very creative and tangible protection of sensitive mountain environments in San Miguel County, Colorado.

Aircraft Overflights and Noise Pollution
- NPS - Denver

B. CHALLENGES FROM MINING, LOGGING, AND GRAZING

The Challenges from Logging
Bruce Hamilton - *The Sierra Club*

Mountain ecosystems in the United States face a wide array of human threats, but one of the most devastating is commercial logging. Following World War II, the demand for timber products in the United States soared and the timber industry turned to the mountainous National Forest System with a vengeance. Employing heavy machinery and relying primarily on clearcutting, the timber industry scalped over half of the National Forests -- over 100 million acres -- and had the taxpayers build over 400,000 miles of roads to access the timber.

This onslaught of logging and road building has led to massive erosion and stream siltation, replacing diverse native late successional forests with monoculture tree farms, and habitat fragmentation which jeopardizes the survival of old-growth dependent species and neo-tropical migratory songbirds. National Forests, once trumpeted as The Land of Many Uses, were dominated by timber production throughout the 1960s, 1970s, and 1980s. These alarming trends have started to be reversed during the Clinton Administration, but much more needs to be done, quickly, to protect our remaining wild forests and to restore the forests that have been damaged by past abuse. The Sierra Club supports an end to all commercial logging on all public lands within the United States and supports the National Forest Protection and Restoration Act to accomplish this goal. We are also supporting preserving 60 million acres of remaining roadless wild forests from all logging, road building, off road vehicles, and resource extraction through the President's roadless area initiative which is presently being decided.

In the future, our mountainous national forests should be the source of clean water, wildlife habitat, recreational opportunities, and spiritual renewal --but not commercial logging. We have the opportunity to preserve what's left and restore what has been lost, if we act wisely and quickly.

The Threat of Past, Present, and Proposed Mines
Dan Randolph - *Mineral Policy Center*

Countless towns including Silverton Colorado, Wallace Idaho, Butte Montana, Clifton and Arizona throughout the mountain west exhibit a terrible beauty- A beauty of place and a terror of past destruction. Mining for gold, copper, zinc, silver, and other metals has been a driving force in the history of the West. It continues to be one. Today, the people of the mountain west are wrestling with this legacy and political reality.

The effects of mining are both local and regional. To a local area, there is no more destructive an activity than a modern open-pit mine. Modern mines cover areas of up to 10 or more thousand acres with pits and waste rock piles, the pits go to depths of over several thousand feet deep, the waste-rock piles are the largest built structures on the planet. Regionally, these areas of devastation act as pollution sources to air and water, for thousands of years. There are thousands of miles of western rivers and streams that are effectively dead or severely damaged due to the mining that has occurred during the past 160 years.

In 1872 the US Congress passed a law which was designed to aid the expansion of European-American conquest of the West. That law, the General Mining Act, said that mining was the highest and best use of all public lands. It still says that.

Three examples of currently proposed mines in the west are the Rock Creek proposal on the border of Idaho and Montana, which would literally undermine the Cabinet Mountains Wilderness Area, the Carlota Copper proposal in Arizona, which would sit in the middle of the Pinto Creek Canyon, adjacent to the Superstition Mountains Wilderness Area, and the Imperial proposal in southeastern California, that would destroy a very wild and culturally irreplaceable site sacred to the Quechan people.

How people can become active in helping to change the 1872 Mining Law, and the various mining related issues, will also be discussed.

Livestock Grazing on Public Lands
Cathy Carlson - *National Wildlife Federation*

As more and more Americans take advantage of our rich and diverse public lands for recreation, one of the conflicts that arises is the protection of recreational use of these lands from continued livestock grazing at historic levels. Few public lands users realize the extent of domestic livestock grazing on the lands administered by the U.S. Forest Service and Bureau of Land Management (BLM), or the dramatic effect this use is having on our public land resources. Domestic livestock grazing takes place on roughly 270 million acres of public lands. Over 90 percent of the BLM lands, primarily in the western United States, are available for grazing by domestic livestock. Over 80 percent of National Forest System lands in the West are available for grazing. Cattle and sheep can be found in Wilderness Areas, Areas of Critical Environmental Concern, National Monuments, campgrounds, and many other public lands "protected" from other uses such as mineral development or managed for recreation.

The impact of this pervasive use of public lands by livestock, while subtle to the naked eye, is quite dramatic in the changes it is causing on the ground. Over 200 species of fish and wildlife are threatened with extinction as a result of grazing on public lands. Wholesale alteration of plant communities from native grasses and shrubs to monocultures of crested wheatgrass and invasive species are attributable directly to use of public lands by domestic livestock. Domestic grazing is particularly damaging to the fragile areas along western streams and rivers, which are also vitally important for fish and wildlife and recreational users. Sheep and cattle strip these riparian areas of vegetation, trample streambanks, promote erosion, and foul waters used by anglers, boaters, and hikers. Water developments, roads and fences proliferate across the public domain, opening roadless areas to motorized traffic, and displacing wildlife from their traditional habitats.

The federal land management agencies remain reluctant to tackle the widespread problems caused by improper grazing, particularly in the face of conflicts with recreation use. Recent programs such as BLM's Rangeland Reform

initiative have had little success to date in promoting sound land conservation and effective regulation of domestic livestock. The Forest Service is even further behind the BLM in updating its livestock grazing policies to reflect current and future demands for land use.

Ranchers on public lands are part of our past in the West. As the keepers of the public's resources today and into the future, recreational users will need to help find a way to work with the 17,000 ranchers who use the public lands to address conflicts with recreation. One approach is to assist ranchers who are interested in shifting their livestock operations off the public lands, through a permit retirement program that compensates ranchers for foregoing the use of the public lands where conflicts exist with recreation use. This approach should enable most ranchers to keep their private ranchland intact, retire whatever debt they may have from grazing on public lands, and creates a win-win situation for ranchers and recreationists.

C. MONTANE ECOSYSTEMS AND SPECIES PROTECTION

Habitat Fragmentation and Unique Species

Peter Anderson - *Indiana State University*

Habitat fragmentation has become a leading cause of species reduction in many locales. On a global scale, the pace of fragmentation has increased since the 1950s. However, in North America, many lowland ecosystems were fragmented extensively prior to the 1950s. Remote locations, those that were distant from major transportation corridors, primarily railroads, received less impact. These areas were often hilly or mountainous areas, such as the middle and northern Rockies, the Adirondacks, and the higher and steeper slopes of the Appalachians, southern Rockies, Cascades, and Sierra Nevada Mountains. Areas that were located closer to developing cities or had merchantable forest, mineral, and/or water resources received heavier use pressure than remote areas, and thus habitats were fragmented earlier. As development moved from the east to the west, from lowlands to highlands, from near developing cities to rural locations, forests and grasslands were altered, habitats fragmented and species distributions altered forever. In this presentation I will consider the fundamental causes of fragmentation and examples of fragmentation from the middle Rocky Mountains and the northern eastern United States.

Introduction of Alien Species and the Effects on Native Biota

Kathleen Matthews - *US Forest Service PSWRS*

The impacts of non-native trout introductions in high elevation lakes of the Sierra Nevada Most of the 10,000 high elevation lakes and ponds of the Sierra Nevada, California were historically fishless. After more than a century of fish stocking, introduced trout are now present in larger lakes. Stocking continues throughout Forest Service Wilderness lakes while stocking was terminated in

California's National Parks. Our studies and surveys of over 2000 water bodies have found that non-native fishes have had profound impacts on amphibians (both the mountain yellow-legged frog *Rana muscosa* and the Pacific tree-frog *Hyla regilla*), benthic invertebrates, zooplankton, and garter snakes. Reducing impacts to aquatic ecosystems should be a high priority especially since these lakes are primarily located within federal wilderness areas, and will require that some lakes be restored to their historic fishless condition. Despite the low resistance of native biota to non-native fish introductions, our research also indicates a high resilience of the montane biota indicating that if fish were removed the systems would recover.

Large Scale Wildland Network Design in the Southern Rockies
Bill Martin - *Southern Rockies Ecosystem Project*

A comprehensive, large-scale Wildland Network Design (WND) is currently being developed for the Southern Rocky Mountains of Colorado, southern Wyoming and Northern New Mexico. Integrating multiple factors such as representation of natural ecosystem types, special elements such as old-growth forests and globally rare element occurrences, along with the protection of habitat for designated focal species will result in a blueprint for the long-term protection and enhancement of the regions' resources. Work presented will be based on regional assessments conducted by the Southern Rockies Ecosystem Project (SREP) and found in the recently published 'State of the Southern Rockies Ecoregion Report' as well as specific material from the Southern Rockies WND analysis.

Plenary Session #1

Banff National Park: A Mountain Ecosystem under Stress
Jillian Roulet - Parks Canada

In the Canadian Central Rockies, despite the amount of land protected in national and provincial parks, ecological integrity is threatened. Of particular concern are wildlife corridors and the habitat of grizzly bears. Through a variety of cooperative mechanisms, remaining wildlife corridors are being protected. Caps have been placed on the development of park communities, ski hills and commercial accommodation.

The managing of day use in backcountry areas remains a problem as day hiking and mountain bicycling continues to increase in popularity. Steps are being taken to manage human use in ecologically important backcountry areas. A summary will be provided of the issues facing Canada's rocky mountain national parks and various measures that have been introduced to begin to address these issues.

Plenary Session #2

A Campaign for the World's Mountains
Lawrence S. Hamilton - *IUCN-World Commission on Protected Areas*

The critical issues affecting our mountains in the United States differ only in degree with those faced by all of the mountains of the world. We are obviously linked to Canada and Mexico by continuous mountain ranges, and need to join with those concerned with mountain protection and conservation in our neighboring countries. Their wolves are our wolves. With climate change, migration of flora and fauna along the ranges will help to preserve the rich biodiversity of mountains. Their protected wildlands abutting the country borders expands our protected wildlands ecosystems.

Similarly we share common problems, and are companions in the search for solutions with our other neighbors on other continents. The commonality of interest, of abuse, of coping strategy at a global level has lead to the production and endorsement of Chapter 13 for Mountains at the Earth Summit in Rio de Janeiro in 1992. The ensuring Global Mountain Agenda has produced a growing international awareness of the need for a global campaign for mountains, an electronic network called The Mountain Forum, a Mountain Protected Areas Network under the World Commission on Protected Areas, a book on the state of the world's mountains and an expanded journal Mountain Research and Development. And, the United Nations has designated the year 2002 as International Year of Mountains.

What is happening is a gradual alerting of the general public, the governments, the corporations and other mountain users, that mountains by virtue of their three dimensionality are special chunks of the earth that need special treatment. A "Campaign for Mountains", and for mountain protection, is needed. Participants in this National Mountain Conference are urged to become involved in an international agenda for "mountain rescue".

Plenary Session #3

Comparing Regional Recreation Demands, Impacts, And Stewardship Activities
Francisco Valenzuela - *US Forest Service*
Chris Reiter - *Blue Ridge Press*

Recreational uses of the mountains are increasing and along with this increased use are increased environmental impacts. Responding to these impacts citizens and land mangers are undertaking efforts to reduce impacts and in some cases restore areas of past damage. Also with this increased use are impacts to the social environment as crowding reduces the quality of the recreation experience and opportunities for solitude are being lost. Looking at mountain recreation use across the country, the impacts of this use and the stewardship

activities paints a picture of rapid growth and an urgent need to take wise action.

Often stewardship activities themselves are forever changing the nature of the mountaineering experience. Challenging philosophical questions have yet to be addressed about the desired future nature of the mountain experience. Future mountaineers may end up in a brave new world engineered by land managers and well-meaning citizens in their efforts to cope with increasing recreation use and natural resource damage.

Increased popularity of the mountains and stewardship efforts may result in the loss of freedom challenge, risk, and adventure. What price are land mangers and users of these special places willing to pay for the mental, physical and spiritual rewards of the mountains? The sad tidings are the future is happening to us. The glad tidings are we still have the chance to determine what kind of mountain heritage we will pass forward to future generations.

Concurrent Sessions #3
HUMAN POWERED RECREATION

A. IDENTIFYING AND SOLVING CONFLICTS BETWEEN USER GROUPS

Trail Conflicts-Bikers, Hikers, Horses
Lyle Laverty - *US Forest Service*

Hikers, mountain bikers and equestrians are all on the trail. Each is enjoying the outdoors, challenging themselves and gaining new skills, and each renewing themselves in the pleasures of their activities in the great outdoors. When they meet on this multiple-use ("shared-use") trail sometimes conflict results. Sometimes this conflict includes fear, physical interaction, and other times just plain annoyance at the interruption of their enjoyment of their activity or enjoyment of nature. With increasing frequency, as the amount of trail use increases and the kind of users diversify, conflicts are escalating.

To resolve these conflicts, hikers, mountain and equestrians all call on public land managers. Unfortunately these managers are often asked to reduce or eliminate some users on the public lands commons, or build and maintain new trails to provide additional single use opportunities as the easiest route to reduce conflict. With limited budgets and limited public lands these kinds of solutions create winners and losers, and often deign access equity to the most underrepresented user group.

Multiple-use trails are efficient, environmentally friendly and sometimes the only practical alternative. Mangers alone cannot be expected to resolve these social issues. Users must build on common ground, engage with managers, and together undertake thorough and thoughtful planning embracing each other's

recreation needs. Providing opportunities for high quality recreation experiences while sustaining the trail systems and the natural areas they pass through should be everyone's goal. Research and experience shows that workable solutions can be reached that can manage these often-emotional conflicts, given commitment and cooperation among users and managers.

Climbing Management Plan Process - Joshua Tree National Park
Randy Vogel - *Access Fund*

In 1991, the National Park Service requested all National Parks with climbing to develop Climbing Management Plans (CMP). Joshua Tree National Monument began work on a CMP almost immediately. However, what began as a simple request became one of the lengthiest, complex and controversial recreation management issues faced by the NPS. In the nearly nine years it took to officially complete this process, rock climbing, as a public policy issue, evolved from a more or less laissez-faire approach to a raging national debate. When in 1994, Joshua Tree was given National Park status, the planning process began to attract even more attention and eventually became part of a more comprehensive General Management Plan (GMP). Since Joshua Tree is considered one of the most important climbing areas in the world, the CMP had become a high stakes affair for all participants in the debate. In the process, climbers found themselves first at odds with certain environmentalists, but eventually forged a coalition with environmental groups that were key to approval of a CMP in 1999. In such a lengthy process, continuity of representation of national and local climbing organizations was instrumental in creating credibility and building constructive and longer term relationships with other participants. Also, the ability to mobilize a proactive constituency helped afford the climbing community more deference as a serious participant in the GMP and CMP process. Although the CMP has detractors from both the climbing and environmental community, it represents a unique compromise that signals a coming of age of climbing in the recreation policy debate. Just as important, the CMP is only a blueprint that still has to be fleshed out and implemented. Now as the spotlight shifts away, climbers remain committed to participating in the continuing planning process.

Motorized Recreation in the Southern Rockies
Sandy Shea - *High Country Citizens Alliance*

The rampant growth of motorized recreation threatens to turn our public lands into theme parks. In particular, public lands administered by the U.S. Forest Service and Bureau of Land Management are losing their wild character, and encountering more user conflict than ever before. A combination of slick corporate advertising, aging Baby Boomers in a booming economy, and lax federal travel policies have allowed motorized craft to go just about anywhere, including lakes, meadows, rivers, glaciers, and even the air. In trying to come to grips with the problem, federal land management agencies have recently

begun revising their travel plans. These revisions, while necessary, are likely to meet with only moderate public acceptance and compliance without real community support. The general public, and particularly those involved with public lands issues, are increasingly distrustful of the traditional approach of participating in agency-convened planning groups. In an effort to gain true community support, public lands plans are increasingly coming from within the community via community-initiated collaborative groups.

Case Study: The Gunnison Basin in Western Colorado

Examples of collaborative planning include BLM Resource Advisory Councils, Selenium Task Force, Gunnison Sage Grouse Working Group, and the Gunnison Stakeholders Group.

B. HUMAN POWERED USER IMPACTS

Hikers and Trail Network Impacts
Yu-Fai Leung - *North Carolina State University*

Resource impacts on trails have become a significant management concern in many parks and recreational areas. Degrading trail treads compromise both resource protection and recreation goals and increase maintenance costs. Proliferating visitor-created social trail networks scar the landscape and accelerate soil erosion by water or wind. As trail use by recreationists and tourists continues to grow, an understanding of trail impacts and their management strategies is imperative if trails are to be sustainable as a resource. Considerable research has been devoted to assessing and monitoring resource conditions of trails as well as to examining trail's use-environment-impact interrelationships. Few studies have investigated the extent and process of proliferation of trail networks. Trail managers have attempted a wide variety of site and visitor management actions in order to minimize trail impacts and restore lands from impacted areas. Little research, however, has been designed to evaluate and compare the effectiveness of these trail management actions. This presentation aims at providing a succinct overview of the topic of trail impacts as related to hiking and other human-powered activities. Different types and forms of trail impacts are identified, followed by a review of research literature on the causes and processes of trail resource impacts. Alternative techniques for assessing and monitoring trail resource conditions are compared. Finally, strategies and actions used for minimizing trail impacts are discussed with examples from several national parks.

Human Waste and Trash Disposal on Mt. McKinley
Roger Robinson - *NPS Denali National Park*

A crisis has been developing for over forty years with human waste and trash being deposited on the popular climbing routes on Mt. McKinley. It is the

opinion of the mountaineering staff of Denali National Park that Mt. McKinley may be one of the most polluted mountains in the entire United States Park system.

This concern became an issue in the early 1970's when nearly 300 climbers a year were spending three weeks on the mountain. Most of these people left their garbage behind on the mountain and dug pit toilets for their feces on the glacier. In the camps above 16,000 feet, human waste was deposited among small rock outcrops. Attempts were made by the Park Service and private organizations to cleanup some of this debris and try to educate proper human waste disposal. One cleanup expedition from the University of Oregon carried out all their own garbage and human waste. By 1980, 700 climbers a year were attempting the three week climb, and the Park Service had taken a passive approach primarily through education and rangers briefing each expedition before their departure. It appeared this stemmed some of the plight on the mountain. By 1985, all climbers were required to deposit their feces into crevasses and 1985 allowed no more burning of garbage. Also basic pit toilets had been installed at the 7,200', 14,200' and 17,200' camps on the popular West Buttress route. Three week long ranger patrols became common practice, which helped with enforcement. In 1995, the Park Service's booklet 'Mountaineering' was printed in eight languages. This represented 90% of all the climbers, which had now grown to nearly 1200 a year. With all of these concerted efforts there still was a significant amount of garbage being left on the mountain and improper disposal of feces within the camps. One ranger patrol cleaned up over 1000 pounds of garbage from the 14,200' camp alone. In 1998, a college student instituted a simple study on one-gallon metal fuel cans. Each person uses approximately one to two gallons per three weeks. His study found that 30% of the expeditions left one or more fuel cans on the mountain. From this information, the Park Service in 1999 instituted a mandatory check back system for fuel cans and found a 90% compliance with 50% of the climbers surveyed. In 1999, the rangers and other climbers still reported garbage that was abandoned and human waste that was improperly disposed. Rangers gave out several citations but there still remained significant non-compliance.

We have taken one step further this 2000 climbing season by implementing a system of weighing all garbage that is brought down the mountain. We have also instituted a small study to determine the weight in garbage and feces a person generates per day. We are hoping this mandatory check back system of garbage will generate a high compliance.

The Park Service is considering limiting the number of climbers wishing to climb Mt. McKinley and that review is currently in the early discussion phase. Also in discussion is the removal of all human waste, carried off by each expedition. The Mt. McKinley massif is classified as wilderness and this point alone will eventually lean the Park Service toward taking a stricter stand on protecting these values.

Impacts On Historical And Spiritual Treasures
Greer Chesher - *Author and Wilderness Consultant*

Are Federal agencies mandated to manage the spiritual?
We have become familiar with the concept that while engaged in wild pursuits, we may unwittingly transgress the sacred boundaries of other cultures, but what of our own? Many people constantly choose wilderness settings to pursue challenging activities as if drawn by some unseen force. Is it recreation or the sacred they seek? What are the human impacts on, and how can an agency manage, the spiritual aspects of a wilderness experience?

C. CHALLENGES OF EVOLVING TECHNOLOGY, NEW USER GROUPS, AND LEGISLATION

Cellular Phones and GPS in the Backcountry
Charley Shimanski - *The American Alpine Club*

There was a time when if you had a water filter, you had the latest technology in your backcountry arsenal. But today, satellites flying miles overhead, combined with cellular phone technology, means we use and respond to the backcountry in dramatically different ways.

Cell Phones

The use of cell phones in the backcountry has increased dramatically in the past decade. But have cell phones changed the accessibility to the backcountry? Have cell phones changed the way people behave in the backcountry? In this brief presentation, we'll evaluate:

1. Whether cell phones have given users a "false sense of security,"
2. Whether cell phones have increased search and rescue calls by simplifying the "call for help,"
3. The challenges and limitations of cell phones to backcountry users,
4. The challenges and limitations of cell phones to rescuers, including:
    a. Dispatch awareness (hitting distant cells in the wrong response areas - then needing to re-connect periodically),
    b. Difficulty in figuring out what cell they hit - if the user does not know where they are to begin with,
    c. Need for extended communications while rescuers are dispatched,
    d. Subject expectations (so I called - when will they BE here?)

<u>Global Positioning System</u>
Many months ago, a talk about GPS would include how to figure out where you were based on an intentionally faulty system. Since the government has finally decided to reduce the error factor, GPS accuracy is no longer an issue. But still, many factors should be considered. What are the factors?

1. GPS users that don't know how to use GPS
2. The effect of GPS on search and rescue activities - both good and bad.

Emerging Regulations Affecting Access for Persons with Disabilities
David Startzell - *Appalachian Trail Conference*

The focus of the presentation concerning legislation will be on emerging regulations affecting access for persons with disabilities to outdoor environments, including trails and backcountry facilities. The Architectural and Transportation Barriers Compliance Board (a.k.a. Access Board) recently completed a two-year regulatory-negotiation process intended to develop new federal regulations to address the issue of accessibility to outdoor-recreation environments for individuals with disabilities. Once complete, those regulations will apply to the Forest Service, National Park Service, and other federal agencies that provide opportunities for outdoor recreation on lands under their respective jurisdictions. Other providers of outdoor recreation, including state and local parks and forests, and even private-sector providers, also will be required to comply with the regulations.

The initiative by the Access Board to develop such regulations is an outgrowth of the passage of the Americans with Disabilities Act of 1990 (ADA) and the subsequent development of the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Those guidelines, which were incorporated in 1994 into the Code of Federal Regulations and are enforced by the Department of Justice, which are applied primarily to indoor or built environments. Since the mid-1990s, the Access Board has been seeking to extend the rights provided under ADA by attempting to develop similar ADAAG-like regulations for outdoor-recreation facilities, including those in natural and even primitive environments.

The draft regulations are based on an "exceptions" approach. That approach is predicated on the assumption that it (should be) maximizes accessibility along trails. but also a recognition that, in many situations, the goal of fully complying with accessibility standards will not be achievable. The recommendations prescribe a series of technical standards necessary to meet accessibility requirements and also define those circumstances under which exceptions to compliance to those standards may be permitted. The draft regulations, which still may be undergoing public review at the time of The National Mountain Conference, could have far-reaching implications for new construction and alterations to existing trails and other outdoor-recreation facilities in mountain environments.

New Recreation Technologies: Impacts on National Parks
Katy Rexford - *Bluewater Network*

The National Parks are very popular. Last year, approximately 287 million people visited units of the park system. Park visitors enjoy many traditional activities such as hiking, fishing and wildlife viewing. In recent years, however, the National Parks have seen a rise in so-called "non-traditional" activities such as personal watercraft, snowmobile and all-terrain vehicle use. The growing popularity of non-traditional activities has coincided with an increase in problems such as user conflicts, degraded air and water quality and wildlife harassment.

Many participants of non-traditional activities assert that they have a "right" to pursue their activity in the national parks because these lands were established for the people and therefore must permit multiple uses. However, an increasing number of citizens are questioning the validity of this assumption and are beginning to ask what forms of recreation are appropriate for the National Parks. How we answer this question will determine what type of park system we leave for the future generations.

Concurrent Sessions #4
MOUNTAIN RECREATION STEWARDSHIP

A. TRAILS AND BACKCOUNTRY FACILITIES

Protecting Trailhead Access
David Houghton - *Trust for Public Lands*

David will discuss collaborative strategies for trailhead protection in New Hampshire's White Mountain National Forest. The Trust for Public Land (TPL) has worked in partnership with the Appalachian Mountain Club, the White Mountain National Forest staff, local communities, and other groups to create a long-term strategy for land protection that includes: 1) assembling a thorough inventory of significant, unprotected trailheads 2) contacting landowners, 3) determining acquisition priorities with the Forest Service and other partners, 4) working with the state Congressional delegation to align priorities and work toward federal appropriations, 5) engaging our partners, and willing sellers, to move ahead with the acquisition of highest priority lands. TPL currently has three White Mountain trailheads under option.

"The Unfinished Trail" - Protecting the Pacific Crest Trail
Robert S. Ballou - *Pacific Crest Trail Association*

For 15 years, the priority of the Pacific Crest Trail Association was to build and maintain the 2,650-mile Pacific Crest National Scenic Trail for hikers and equestrians. The trail was declared "complete" at ceremonies in southern California on National Trails Day in 1993 and thousands of volunteer hours are still devoted to trail maintenance each year by Association volunteers.

Though it was "complete" the trail was not finished. There were, and still are, a number of "interim" segments where the trail is adjacent to or on public roads or bridges, and hundreds of narrow non-restrictive easements across private land, many of which are being sold for residential or other commercial development. In March 1997, the Association was made aware of the rapid loss of land for permanent and protected routes in portions of southern California. The board of directors immediately changed the priority to protecting the trail from urban encroachment and commercial activities on non-federal lands.

Proposals were submitted to several foundations seeking funding to inventory and assess more than 225 private right-of-way easements, some as narrow as 5 feet and dispersed along 300 miles of the trail from Canada to Mexico. Funding for the project was received in 1998 and Reuben Rajala, an experienced director of trail operations, was added to the staff to conduct the inventory and assessment project. The initial project was completed this year; although updating constantly changing ownership information will be an ongoing process.

Mr. Ballou will discuss and provide examples of: (a) challenges faced by the Association in obtaining copies of the easement documents, (b) conditions found on some of the easements, and (c) strategies used to overcome the obstacles thrown in the path of correcting current and future problems.

Huts and Shelters as Management Tools
Carl Demrow - *Carter Notch Consulting*

Since the late 1960's, public land managers and resource stewardship professionals have increasingly viewed backcountry facilities such as huts, shelters and tent-sites not just as amenities for the comfort and safety of users, but as vital tools for the effective management of ever growing numbers of users on increasingly pressured recreational resources.

In providing backcountry facilities and amenities, managers are faced with a dilemma- how does one utilize such facilities as management tools in a way that does not detract from a backcountry experience and setting? The question is not simplified by recent increases in use.

In recent years, managers have been blessed with new technologies that have enabled such facilities and their systems to be less intrusive on the environment and the user. For example, a new generation of composting toilets has proven to be much more effective than earlier models, and such toilets have reduced the use of more costly and intrusive pit toilets, manual composting systems, and fly-out systems. New wind and solar power technologies at larger facilities have reduced the need for fossil fuel consumption, noisy generators, and disposable batteries.

Combine these new technologies and evolving backpacking gear with rapid growth in the number of backcountry users over the past 10 years and research that shows the value of such facilities in limiting impacts of use, and managers are faced with even more questions to answer. For example, is it still necessary to provide backcountry users with basic shelter in the age of the lightweight backpacking tent and when self reliance is a major component of the "backcountry experience?" How can such an experience be provided without intrusively limiting or permitting access? The question of to what degree the intended backcountry experience is compatible with use of alternative technologies, the continued development of hardened sites, and the need for more intensive management continues to challenge managers to find a delicate if not elusive balance, one that will continue to provide users with traditional backcountry experience values, while also providing for the effective management of those users.

B. ALLOCATING USE AND MANAGING AN INCREASING NUMBER OF USERS

Leave No Trace: A Unified Minimum Impact Recreation Message

Scott Reid - *Leave No Trace*

Given a dramatic increase in recreational use and associated resource damage, are there any tools that land mangers and others can use to educate visitors in ways to reduce their impacts?

Leave No Trace is a national program dedicated to teaching responsible outdoor skills and ethics. Begun as a US Forest Service (USFS) program in the 1970s and further developed by the National Outdoor Leadership School, the Leave No Trace (LNT) program now involves a broad array of partners--from retail shops to land managers, gear manufacturers to Scout troops, conservation organizations to user groups-to promote a consistent minimum-impact recreation message. A signed agreement ensures that LNT is promoted by federal land mangers in the USFS, Bureau of Land Management, National Park Service and US Fish and Wildlife Service.

Since 1994, the LNT program has been managed by Leave No Trace, Inc., a non-profit organization based in Boulder, CO whose mission is to promote and inspire responsible outdoor recreation through education, research and partnerships.

The LNT program is structured under the following seven principles:

1. Plan Ahead and Prepare
2. Travel and Camp on Durable Surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts

6. Respect Wildlife
7. Be Considerate of Other Visitors

Using the seven principles as a basis, the LNT program is applied widely. Curriculum is available for a variety of North American environments- from rainforests to deserts, mountains to rivers, caves to coasts. LNT also focuses on specific users including rock climbers, sea kayakers, river runners, spelunkers, and equestrians.

Hands-on training opportunities exist through the LNT Master Educator, Trainer and Traveling Trainer programs. The science of recreation ecology is used to assess and support LNT practices. A current Laboratory project in Durango, CO focuses on community-wide LNT education and assessment of the message's effectiveness. The LNT "Front country" Program assists urban wildlands managers with issues such as dog waste, dog management, user conflict and off-trail hiking.

In the face of increasing recreational use and resource damage, a Leave No Trace educational program can help land managers and others address critical impact issues pertaining to all types of human powered recreationists.

Wilderness Management in the Adirondacks
David Gibson - *Association for the Protection of the Adirondacks*

The New York State Forest Preserve, including the State's highest mountains, was set aside by the State Legislature in 1885 and in 1895 by an Article in the State's Constitution as lands of the state that "shall be forever kept as wild forest lands." Many tried to ignore this Article and permit the Forest Preserve to be timbered, sold and commercialized. The Association for the Protection of the Adirondacks was created in 1901 to prevent this.

In 1915, efforts to amend the "Forever Wild" clause for purposes of timber management failed. Yet, wilderness management adopted forms suitable for those times. Outdoor camping, trail development, access by the automobile and protection from wildfire dominated "wilderness" management activity in the Forest Preserve.

The Association for the Protection of the Adirondacks sued to block the Bob Sled Run at the 1932 Lake Placid Olympics based on the "Forever Wild" language of the Constitution. The State's highest courts agreed, stating that "Forever Wild" not only prevented the cutting of trees, but also all activities that "were out of harmony with forest lands in their wild state."

Howard Zahniser, author of the National Wilderness Act, worked closely with Paul Schaefer and allies to protect Adirondack wild rivers from major power dams in the 1940s and 50s. In 1958, the State's Conservation Commissioner

closed a trail on Forest Preserve to jeep traffic, the first action to control motorized use in what would become a Wilderness area. This action led slowly to designated Wilderness Areas in the Forest Preserve, and regulations on motorized access in 1972.

Today, the State owns 3.0 million acres of Forest Preserve. Wilderness management in the Adirondacks, including training in user management techniques, received a much-needed boost at a Wilderness Roundtable in 1997, and continues to evolve in the year 2000. This history will be briefly reviewed, and current efforts described from a Wilderness advocate's perspective.

Challenges of Managing Winter Recreationists
Kim Hedberg - *Backcountry Skiers Alliance*

The challenges of management of winter recreationists center on balancing the needs of recreationists, wildlife, and the ecosystem. Because there is a limited amount of public terrain, all needs must be considered, and the balance shifts as threats emerge. Specific challenges facing recreationists include different sports, varying expectations of experience, the sphere of influence, impacts on the wildlife and the ecosystem, and overcrowding. The four largest winter activities in which the backcountry-seeking public participates include skiing, snowboarding, snowshoeing, and snowmobiling. Although none of these activities exclude the others, the compatibility between the motorized and non-motorized users is questionable. The human powered adventurer is usually in search of untracked powder in the quiet backcountry. The motorized enthusiast is in search of groomed trails, open slopes, and steep terrain. Both groups enjoy the scenery, the wildlife, and the forest. The ever increasing number of people participating in these activities puts pressure on the ecosystem. Impacts to the environment from both groups include wildlife disruption due to noise and increased activity, potential water and air pollution from the snowmobiles, and terrain damage. These impacts require the manager of the land to restrict some uses at times. It also puts pressure on the recreationists to restrict his or her use when adverse impacts are noticed. It is the job of the land steward to balance the needs of everyone while keeping the ecosystem in tact.

To create some sort of order in areas where overcrowding is causing user conflicts, adverse impacts on wildlife, and ecosystem damage, tools must be created to put nature and people back into balance. Some of these options include education and information, signing, law enforcement, use restrictions (such as rationing or reservations), and expanded use areas. A case study of how conflict on Vail Pass has been handled will be discussed. The discussion concludes with recommendations on where we go from here.

Carrying Capacity for Outdoor Recreation: Theory and Practice
Robert E. Manning - *University of Vermont*

Growing participation and interest in outdoor recreation has given rise to a substantial body of scientific literature on management of parks, wilderness, and related areas. While this literature is diverse in terms of its scope, methodology, and geographic application, several frameworks have been developed to guide management of the carrying capacity of outdoor recreation areas. These frameworks include Limits of Acceptable Change, Visitor Impact Management, and Visitor Experience and Resource Protection. A central focus of these frameworks is formulation of indicators and standards of quality. Indicators of quality are measurable, manageable variables that help define resource conditions and the quality of the visitor experience. Standards of quality define the minimum acceptable condition of indicator variables. Once indicators and standards of quality have been formulated, indicator variables are monitored and management action is taken to ensure that standards of quality are maintained.

This approach to managing carrying capacity is illustrated through application to several national parks. Special emphasis is placed on the social component of carrying capacity. Research to develop indicators and standards of quality, development of computer simulation models to monitor indicators of quality, and alternative outdoor recreation management practices are described.

C. THE ROLE OF MOUNTAIN CLUBS AND GOVERNMENTAL AGENCIES TO MEET THE CHALLENGES OF THE FUTURE

Land Conservation Efforts

Brad Udall - *Eagle Valley Land Trust*

Research Needs

Kenneth D. Kimball - *Appalachian Mountain Club*

Today information is ubiquitous. It is easily transportable at gigabytes per second; it is sharable; it is diffusive and it tends to leak, secrecy is impossible and it is expandable. The problem of what information we use is further confounded because many environmental debates are fought and decided not in front of peer-reviewed science panels, but rather in front of judges trained in law, not science. All argue bad science on the other side. Scientists are motivated to find truth, which takes dollars and time. Policy makers are trained to make decisions in the short-term with best available data. Though science is not well designed for advocacy or the policy maker, it is an invaluable tool to move us away from the ready," shoot", aim problem. Research rarely will give black and white answers, but it can narrow the confusion zone. There are not enough resources to solve all of our mountain stewardship concerns, so focus is needed.

To protect mountains and employ effective stewardship plans, we need well-informed organizations and individuals at the policy debate table. Though research rarely defines objectives, it can help us understand outcomes of our decisions. This presentation will use case studies to show how research was used to make a simple but effective modification to control hikers in an endangered alpine plant management plan; how it is applied in the policy arena to reduce visibility degradation in our mountains; and to understand what outcomes for mountain ecosystems might be expected if hypothesized climatic change is a reality. Mountain protection requires NGO's to be more than scientific ombudsmen, but also to develop in-house scientific capabilities for increased creditability and success.

Legislative Action and Advocacy
Myrna Johnson - *ORCA*

Education
Vera Smith - *Colorado Mountain Club*

Recreation is fast becoming the top use, both in number of users and in acreage, of the nation's public lands. With the privilege of use comes the responsibility of stewardship. Mountain clubs and other recreation organizations are well-suited organizations to: 1) educate on appropriate and responsible recreation, 2) educate on "the state of the ecosystem," 3) provide policy guidance on recreation management as well as ecosystem protection, and 4) set an example of how land users can embrace a stewardship role. The potential of the non-motorized community to affect public lands policy is considerable. For instance, non-motorized users, at the moment, significantly outnumber motorized users in absolute numbers as well as in user days. By uniting as a national force with common messages of protecting the health of the landscape and responsible recreation, mountain clubs et al can play a vital and powerful role in insuring that the backcountry is adequately protected for all species, non-human and human, that rely on these wild places.

The Federal Interagency Team on Volunteerism
Don Hansen - *US Forest Service*

The Federal Interagency Team on Volunteerism (FITV) was established in the 1980's as a loose confederation of agencies formed to coordinate and exchange information about federally administered volunteer programs focused on preserving natural and cultural resources. FITV is now a formal interagency team working to advance the common vision and objectives of its members who are dedicated to public service, volunteerism, and expanding the public's understanding, appreciation, and stewardship of America's natural and cultural resources.

AREAS OF FOCUS (to be discussed during the concurrent workshop) - The strategic goals of FITV are focused on mutually benefiting activities and cooperative ventures which will enhance the professionalism and viability of volunteer programs of the various agencies. These goals include:

- Market Volunteer Programs to Internal and External Audiences
- Develop Training and Professional Development Materials and Opportunities
- Increase Partnering Agencies and Commitments to Volunteer Programs
- Support Effective Volunteer Program Management and Administration

MEMBER AGENCIES - FITV consists of nine federal government agencies, from three different Cabinet Departments concerned with the use and preservation of natural and cultural resources. The U.S. Department of Agriculture agencies in FITV are: the Forest Service (FS), the Natural Resources Conservation Service (NRCS), and the Cooperative State Research, Education, and Extension Service (CSREES). Agencies from the U.S. Department of the Interior include: the Bureau of Land Management (BLM), the Fish and Wildlife Service (FWS), the United States Geological Survey (USGS), and the National Park Service (NPS). The U.S. Army Corps of Engineers (USACE), Department of Defense, is also a member of FITV.

Plenary Session #4
REWILDING - THE IMPORTANCE OF ECOLOGICAL INTEGRITY IN MOUNTAIN ECOSYSTEMS
Dave Foreman - *The Wildlands Project*

Notes to readers

This paper an outcome of The National Mountain Conference: Stewardship and Human Powered Recreation for the New Century, Golden, Colorado. 14-16 September 2000.