

I N T E R N A T I O N A L

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Front cover photos of flooded forest wildlands, Indonesia,
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International Journal of Wilderness

The *International Journal of Wilderness* links wilderness professionals, scientists, educators, environmentalists, and interested citizens worldwide with a forum for reporting and discussing wilderness ideas and events; inspirational ideas; planning, management, and allocation strategies; education; and research and policy aspects of wilderness stewardship.

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India Hosts 6th World Wilderness Congress

By Vance G. Martin, President, The WILD Foundation



Article author Vance G. Martin.

CONVENING FOR THE FIRST TIME IN ASIA, the World Wilderness Congress (WWC) met in Bangalore, India, October 24–29, 1998, under the leadership of Chairman Mr. Partha Sarathy of The WILD Foundation and Congress Executive Officer Mr. Krishnan Kutty of the National Outdoor Leadership School (NOLS–India). Approximately 750 delegates from 25 nations participated in the 6-day forum,

including leaders from a wide range of professions. Established world organization figures, such as Dr. Walter Lusigi of the Global Environmental Facility, Dr. Kenton Miller of the World Resources Institute, and Mr. Mike McCloskey of the Sierra Club, were joined by well-known environmentalists from throughout India and Asia such as Ms. Medha Patkar, Mr. Bittu Sagal, and others. Asian and Indian conservation organizations participated in force, with a major showing by all World Wilderness Foundation (WWF–India) branches, under the leadership of their Director General, Mr. Samar Singh, who is also a key member of the Congress organizing committee.

One of the main objectives of the Congress was to discuss and initiate a wilderness program appropriate for greater protection of wilderness and wildlands in Asia. After thorough debate and discussion, this direction was endorsed by the Congress, which led to the concept of an Asian Wilderness Initiative (see sidebar).

The Congress met in plenary session every morning, with ten technical symposia meeting in the afternoon. The symposia addressed the following issues:

Personal, Societal and Ecological Values of Wilderness (cochaired by *IJW* Executive Editor Dr. Alan Watson of the Also Leopold Wilderness Research Institute, and Greg Aplet of The Wilderness Society)

The Himalayan Environment: A Challenge to Promote and Preserve It (cochairs Robert Pettigrew of the British Mountaineering Institute, and Mr. Mandip Singh Soin, Ibex, India)

Participatory Management by Local Communities (Professor Prasad, KSSP, Kerala, India)



IJW Editor-in-Chief Dr. John Hendee (University of Idaho), Mr. Samar Singh (WWF–India), Jim Kurth (Arctic National Wildlife Refuge), Jerry Stokes (USFS), Bob Barbee (National Park Service).

Sustainable Cities (chaired by Dr. A. Ravindra, Honorary Director, 6th WWC, India)

The Role of Education in Strengthening Sustainable Development (Dr. S. M. Nair, WWF–India)

Use of Wilderness for Personal Growth (cochaired by *IJW* Editor-in-Chief Dr. John Hendee and Ms. Marilyn Riley of Wilderness Transitions Inc.)

Gender, Environment, and Sustainable Development (Dr. Shanta Mohan, Indian Institute of Sciences, Bangalore)

Environmental Law: Protecting Public Interest (Mr. Job Heintz, a NOLS instructor, and Mr. Sririam Panchu of the Consumer and Civic Action Group, India)

The Asian and African Elephants: Flagships for Conservation (Dr. Raman Sukumar, India Institute of Sciences)

The Future of the Tiger in the Millennium (M. A. Partha Sarathy of the WWF–India)

An important feature of the WWC is the integration of delegate views from science, education, politics, the corporate sector, the arts, and the humanities toward enhanced wilderness conservation in the host continent. This is especially important for Asia, where the wilderness concept is not yet legislated except in Sri Lanka, which has a wilderness law linked to national heritage areas with no specific areas yet designated. So there is a great deal to do!



6th WWC Chairman Mr. Partha Sarathy, Ms. Devaki Jain, and Ms. Medha Patkar (above). Michael Thoresen (center) of the Thoresen Foundation, a lead sponsor of the 6th World Wilderness Congress, with WILD Foundation President Vance G. Martin (left) and Congress Founder Dr. Ian Player (right). Photo by John Hendee.



Another innovation of the 6th WWC was use of a Council process, led by Marilyn Riley and John Hendee. The World Wilderness Council met every afternoon for 90 minutes, as a forum for speaking and

listening in order to involve as many people as possible in the Congress process and to create a greater sense of community. By providing an open forum for sharing views without pressure for agreement or consensus, the Council contributed to the official resolution process, out of which came 28 Congress resolutions.

Music was a highlight of the Congress cultural program, with Dr. David Rothenberg (noted environmental philosopher and musician) playing one evening with famous Indian traditional vocalist Ms. Rama Mani and seven other musicians—what a great evening!

The plenary proceedings of the Congress will be published by Fulcrum Publishing by September 1999 (contact Vance G. Martin at The WILD Foundation for more information). Proceedings of the “Personal, Societal, and Ecological Values” and “Wilderness for Personal Growth” symposia will be published together by the U.S. Forest Service (contact Alan Watson of the Aldo Leopold Institute for more information). Publication of other symposia proceedings will depend on the arrangements of their leaders. For further information, contact: The WILD Foundation, P.O. Box 1380, Ojai, CA 93024, USA. Telephone: (805) 640-0390; fax: (805) 640-0230. E-mail: vance@wild.org. **IJW**

ACCOMPLISHMENTS

Asian Wilderness Initiative—

An expert working committee of professionals from prominent nongovernmental conservation and scientific organizations in ten nations will survey existing legislation, policy, public attitudes, and cultural values in Asia concerning protection for wilderness, or wild nature relatively unaffected by human and technological development. They will develop a framework to advise governments (national and local), communities, and private landowners in creating legislation and policy, and designating specific areas in order to better protect wilderness values in Asia.

Wild Rivers: A Global Inventory—

The first comprehensive inventory of the remaining wild rivers of the world, the result of four years of work, was presented at the Congress by Mr. Michael McCloskey, Chairman of the Sierra Club (USA).

Cheetah Reintroduction in

India—After thorough discussion, a proposed joint effort with Namibia (Africa) endorsed at the Congress will be pursued by numerous nongovernmental organizations (NGOs) in India.

Marine Wilderness—

This concept, presented to the Congress by Ms. Maxine McCloskey, seeks to recognize and better protect the unique wilderness values on and within the high seas.

Resolutions—Out of 62 resolutions presented at the Congress, 28 were unanimously approved for the official Report of the Congress, which will be circulated to all participating NGOs, governments, and all involved and affected parties.

Editorial Perspectives

Sustainable Financing of Parks and Protected Areas— Are User Fees the Answer?

By Alan E. Watson, Executive Editor (Science and Research)

AROUND THE WORLD we are all struggling to retain some wildness in our landscapes through legislation, responsible stewardship, and education of visitors and the public about wilderness values. These efforts could be in vain if we do not also strive to ensure a sustainable source to finance the continuing processes of education, restoration, monitoring, scientific investigation, and visitor services required to realize the benefits of protected places. Over the past 30 years an abundance of energy has been focused on “protection” of wilderness through the creation of national protected area systems in several countries, rallying support to protect more of the Earth’s surface, training of managers to make decisions which comply with the wilderness ideal, and development of “Leave No Trace” and other wilderness education programs. The work has just begun. How do we assure the sustainability of these places, the continuation of protection, and realization of benefits from an increasingly scarce resource? In several countries, there is rapid movement toward testing and use of recreation fees as a substitute or supplement for the ever unstable, politically susceptible, allocation of federal tax dollars.

The *International Journal of Wilderness* invites papers from scientists and managers, nongovernmental and membership organizations, students, and private wilderness interests that offer different perspectives on the promises and perils involved with charging people who enter wilderness a daily or trip fee to participate in that experience. We also are interested in papers that thoughtfully describe alternative solutions to financial sustainability issues. It is clear that not all societies, or all members of all societies, are equally served by wilderness fee programs. In *IJW* volume 4, number 1, Jonathan Barnes provides an excellent contrast between local-use values and international nonuse values, and the importance of capturing some portion of these values as income by local, rural communities

in Namibia in order to accomplish the intent of wilderness allocation. Universal application of fees in this instance would be inappropriate as a method of sustainable financing.

On the other hand, in the United States, many reports suggest that a slight majority of wilderness visitors who pay newly required camping fees feel that paying a fee is okay, and the established level (usually about \$5 to \$10 per night) is “about right.” We also know many people oppose the fees and we are constantly developing greater understanding of the basis for this opposition. How do we weigh this opposition and the negative effects a fee policy has on a segment of our society against the attraction of alternative sources of funding for the basic job of providing recreational services to visitors and restoring sites impacted from increasing levels of public use?

These are some of the most important political, philosophical, and personal questions we are going to have to answer in the next few years. Look beyond wilderness allocation. Look beyond this years political positioning on budget issues. Think about the appropriate method of providing sustainable financial support to ensure an enduring wilderness resource. We would welcome papers and comments on these topics.

(For conceptual, research, monitoring, and case study papers on recreation access fees, see “Societal Response to Recreation Fees on Public Lands” at www.fs.fed.us/research/tvut/wilderness/recreation_fees.htm.) **IJW**



Article author and *IJW* Executive Editor Alan E. Watson with his son Jubal.

Soul of the Wilderness

U.S. Wilderness Management in the 21st Century— Politics, Policy, and Partnerships

By Craig Mackey



Article author Craig Mackey.

“A wilderness ... is hereby recognized as an area where the Earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.” For the wilderness user, manager, and advocate these eloquent words from the 1964 Wilderness Act represent the law of the land and our common heritage.

And yet, as we head into the new millennium, wilderness stands at a crossroads, its purpose, management, and use continuing to evolve. Just as the second half of the 20th

century witnessed the birth and growth of wilderness, the beginning of the 21st century will see the maturation and management of wilderness. What follows is an overview of major issues and trends impacting wilderness in the United States, from the view of someone associated with federal land policy, commercial outfitting, and wilderness education.

Recreation Funding

Congressional efforts to balance the budget have impacted funding for public lands, including deep cuts in recreation and wilderness budgets. From a high of \$46 million in 1995, USDA Forest Service funding for wilderness management dropped to \$33 million in 1997. The administration's 1999 budget requests only \$35 million for wilderness management—despite a proposed \$20 million increase for general recreation management (see Figure 1).

The request for a sharp increase in recreation spending (but not wilderness) reflects USDA Forest Service recognition of the increasingly vital role that recreation plays in their mission. Several years ago, the agency's leadership began releasing their predictions to Congress, the media, and the outdoor industry, that by the year 2000, the economic contributions from activities on the national forests would come 75% from recreation. Fish and wildlife would be 10%, minerals 8%, and timber a mere 3% (see Figure 2). At the millennium's turn, national forest-based recreation (includ-

ing wilderness) is projected to pump \$75 billion into the U.S. economy (USDA, Lyons).

But will Congress recognize and support the dramatic new financial importance of recreation and wilderness? Some think not because outdoor recreation, unlike timber, has not had a viable constituency in Congress. In a June 1998 meeting with outdoor industry representatives, Senator Slade Gorton (R-Wash.), chairman of the powerful Senate Interior Appropriations subcommittee, explained that the Senate does not fund public land recreation (and wilderness) because they do not hear much about it from their constituents.

User Fees—Filling the Void

Yet even with more publicity and lobbying, I don't believe recreation appropriations will ever approach those achieved by timber. First, after working so hard to balance the budget, Congress wants to keep it that way. Second, with huge chunks of the budget allocated to defense spending and mandated programs, such as Social Security, only a small slice is left for discretionary programs, including land management.

Congress is looking for programs to help pay their own way and public land recreation is a leading candidate. In 1995, Congress approved the Recreation Fee Demonstration Program. The federal agencies were given free rein to implement user fees, with one huge incentive: the new receipts would stay with the collecting agency, rather than being cycled back to the national treasury for general appropriation. The goal of “fee demo” was to test a full spectrum of user fees, determine the viability of fees, understand capacity of the agencies to implement and utilize fees, and determine public acceptance of the “pay to play” concept.

Collecting user fees is not a new concept. Yellowstone National Park has been collecting fees since 1910 (at \$10 a car), and members of the public choosing to visit public lands utilizing the services of an outfitter have been paying agency fees for years. But no other policy issue today has the capacity to revolutionize the management and use of public lands more than user fees. Many big-picture policy questions remain unanswered on fees, but it is clear that the fee demonstration program has ignited a now unquenchable entrepreneurial spirit in the land management agencies. Four dollars per person, per day to visit a park adds up to a lot of

money. Agency ingenuity seems limitless. Pay to play is here to stay.

There are many arguments in favor of fees. I have testified twice before Congress in support of fee demonstration projects. Fees that can be levied and retained locally may be just the ticket managers need. Big Bend National Park needed \$100,000 to cover river management costs—enter a proposed \$4 per person, per day river fee. The good news is that local managers can actually spend the funds wisely, targeting timely priorities and cutting the horrendous backlog of infrastructure development and maintenance we see in our parks and forests nationwide. The flip side is that, given a healthy taste of direct cash flow from fees, Congress will likely just maintain—or in some cases reduce—current appropriation levels for public lands. Land managers will be caught in the middle. Fee collections go up, appropriations drop, and managers are dependent on user fees to get their job done.

For undeveloped recreation and wilderness, the balance between fee revenues and management costs (including the costs of fee collection), is tenuous. Even if fees are significant and efficient, backcountry recreation may need to be a net beneficiary of fees from other recreation areas in a forest or park. Significant questions remain:

1. What is the public's capacity to pay fees?
2. Can fees account for a viable portion of the existing backlog of public lands maintenance, or the ongoing costs of recreation and wilderness management?
3. What will be the ongoing costs of collecting and administering fee programs?
4. How will fee revenues be shared among rich units generating profits and poor units operating at a loss?
5. How will increasing pressure for annual passes impact the viability of fee programs among different agencies and locations?

Federal Downsizing

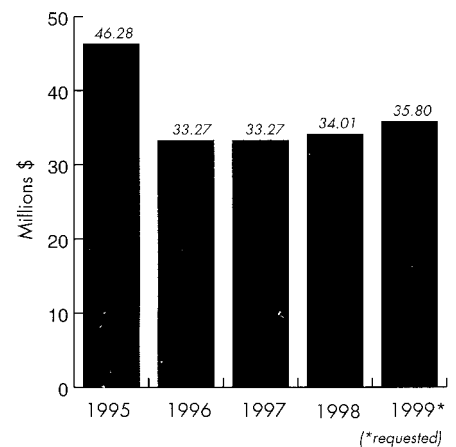
For federal agencies, resources are tight across the board. Limited appropriations, combined with the administrations own efforts to “reinvent” government, have resulted in significant cuts in the federal workforce. For example, the USDA Forest Service work force has declined from a peak of nearly 42,000 full-time equivalents (FTE's) to less than 36,000 in 1997 (see Figure 3).

Downsizing is changing the system, too. As the agency has downsized, some staff and a great deal of authority have been pushed out from the centralized Washington, D.C., level and regional offices into the field. Everyone is doing more with less, and the impact, particularly in the backcountry, is obvious. In central Colorado, six wilderness rangers are responsible for the combined management of three wilderness areas, one of which, Eagles Nest, has more than 130,000 acres and scores of entry points for the two million-plus persons living within a two-hour drive. While many citizens might celebrate the demise of a federal bureaucrat or two, the impacts of federal downsizing on wilderness management are no cause for celebration:

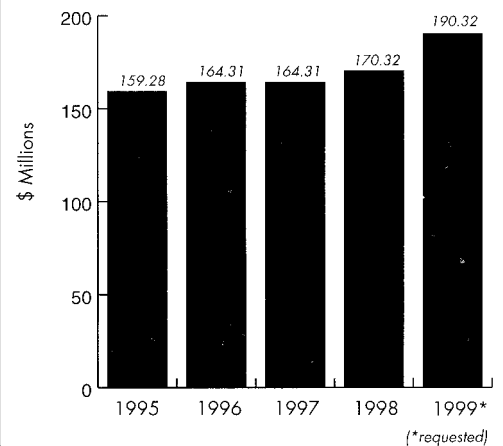
1. The agencies are shifting personnel to recreation and wilderness management, but often without the appropriate training to manage these activities and resources effectively.
2. Field staff are increasingly asked to supervise numerous, and not necessarily parallel activities (e.g., professional biologists taking on concessions management).
3. If the funds or staff are not available, the agency may close the resource or limit the activity in the interest of resource protection.
4. Even proven partnerships are being pushed away for lack of agency staff to administer them (e.g., volunteer trail clearance and maintenance by groups such as Outward Bound). Compounding the tragedy, such volunteer groups are thus denied the educational value of such experiences.

Figure 1

U.S. Forest Service
Wilderness Management Budget



U.S. Forest Service
Recreation Management Budget



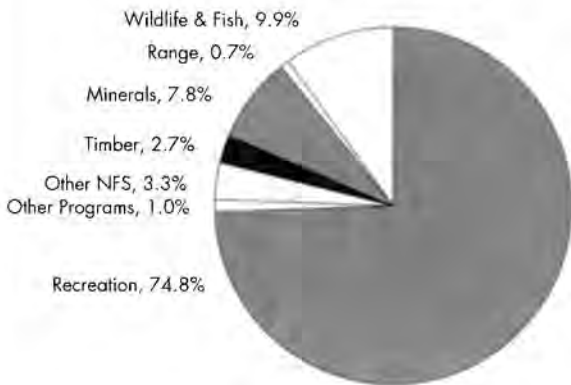
U.S. Forest Service. 1998. Recreation, Heritage and Wilderness Resources, Fiscal Year 1999 Budget. Washington, D.C.: General Accounting Office.

Concessions Reform: Financial Returns and Competition

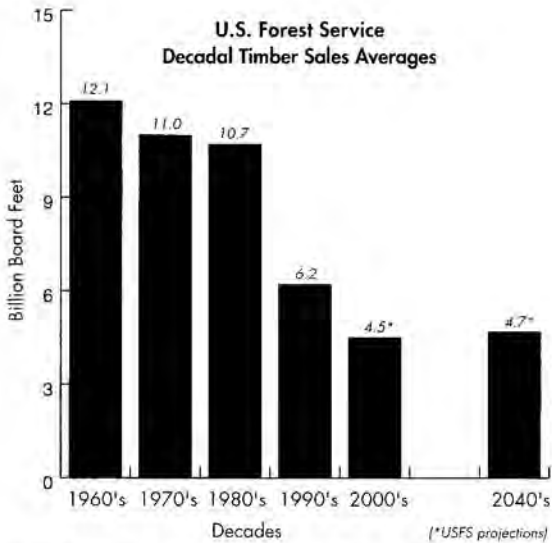
Congressional and agency direction on concessions management will have a huge impact on wilderness and its availability to a significant portion of the public. For example, for those choosing to enlist the services of an outfitter or guide, including many experiencing wilderness for the first time, and members of special populations, such as the disabled or low income, wilderness is often available only through for-profit and nonprofit concessionaires. Concession reform encompasses two basic issues:

Figure 2

**U.S. Forest Service
Projected Contribution to
Gross Domestic Product in 2000**



\$130,732 (millions, 1993 Dollars)



The Forest Service Program for Forest and Rangeland Resources: A Long-term Strategic Plan. Draft 1995 RPA Program. U.S. Department of Agriculture, October 1995, Washington, D.C.: U.S. Forest Service.

1. Financial returns to the government—what concessionaires will pay for the privilege of operating on public lands.
2. Competition—opening concessions bidding processes to competition.

For years, Congress has tried to pass park-based bills aimed at the large concessionaires in an effort to increase revenues for the national treasury. It appears the 105th Congress—ending in October 1998—will indeed pass a parks bill subjecting large concessionaires to open competition, but exempting outfitters.

excludes outfitters in their parks concessions bill, the agencies may move to shorten permit terms and institute fee bidding. This could have several impacts:

1. Increase agency revenues and also make managers more dependent on fees from outfitters.
2. Cause the agencies to re-evaluate fee exemptions for “institutional” groups such as scouts and camps.
3. Increase costs for outfitted wilderness users and wilderness educators, threatening access for special populations.

That, however, would not close the book for outfitters and guides. A Memorandum of Understanding (MOU) was signed by six agencies in 1995, stating that competition in concessions management is healthy and calling for shorter permit terms and competition in permit renewal for outfitters. Despite a tradition of preference for renewing existing outfitter permits, and in the absence of direction from Congress, we are beginning to see competitive bidding in the permit renewal process. Today, agency policy calls for fees to be subordinate to other factors such as experience and performance, financial capacity, and health and safety records. Competitive bidding, usually through a voluntary increase by the outfitter in their annual franchise fee or percentage of gross revenues, is used as a tiebreaker.

To date, agency action on bidding for permit renewals could be deemed experimental, the proverbial tip of the iceberg. But, if Congress,

4. Destabilize the outfitting industry

Outfitting and guiding are small business operations. Banks are not inclined to loan money to a business that may operate under permit for only two or three years, with no reasonable assurance of renewal. Nor would outfitters have incentives to invest in quality staff and equipment for the long haul, placing industry efforts on performance, resource protection, and user education at risk. This is of great concern to an industry seeking to raise standards and provide quality services.

Recreation Use Trends

Outdoor recreation and recreational use on public lands are on a powerful growth curve. The USDA Forest Service projects recreation visits to increase from 729 million in 1993 to 930 million in 1998 (USDA, Lyons). Between 1983 and 1995, hiking participation grew 94%, to 50 million participants (ORCA).

But raw numbers do not tell the whole story. While more citizens are recreating more frequently, we are doing it closer to home and in shorter intervals. Nestled on the front range of the Rockies is the city of Boulder, Colorado. With a population of just under 100,000, Boulder had:

- 1.5 million visits to the city Open Space program in 1997.
- 1.5 million visits to the city Mountain Parks program (Boulder).

But what about wilderness? Use projections for wilderness are more difficult, because when it comes to dispersed recreation, we simply do not have the data. Solid, field-based data are lacking. And, while the private sector has some data, the outdoor industry cannot separate wilderness use from overall sales trends. They have no way of knowing if a pair of hiking boots will be worn in the backcountry or to a college football game.

Efforts are underway to research and analyze dispersed use. The USDA Forest Service's Southern Research Station, under leadership of Ken Cordell, has published Projections of Outdoor Recreation participation to 2050, concluding:

- A 10% increase in primitive camping through 2050, with the Rocky Mountain and Pacific Coast regions showing increases and the northern region of the country experiencing a 16% decline.
- A 26% increase in backpacking, with growth in the southern, Rocky Mountain, and Pacific Coast regions and a 6% decline in the northern region (Cordell).

Disparities exist even in these projections, and overall recreation trends cannot necessarily be projected into wilderness (see Figure 4). While overall outdoor recreation trends show solid growth lines, demographic trends such as the aging of the U.S. population and the increasing ethnic diversity of the adult population, are interpreted to suggest a decline in the proportion, if not the absolute numbers, of people visiting wilderness areas.

To effectively manage wilderness, we must first know who is using wilderness areas and for what purposes. For example, on Colorado's 54 peaks topping 14,000 feet there were an estimated 200,000 summit attempts in 1997 (CFI), a 300% increase between 1986 and 1996; and a solid majority of Colorado's fourteeners are in designated wilderness areas. Should the 3,000-plus visitors to some of the peaks on a given summer weekend be counted as true wilderness users and applied against wilderness quotas? The objective here is not to dismiss the impact on the wilderness resource or malign agency use data, but to point out another of the many policy concerns facing managers. If wilderness is about primitive recreation and solitude, do you close the fourteeners, alter your philosophy, or allow for zoning in wilderness areas to accommodate differing and evolving use? It would appear the USDA Forest Service, in this case, is opting for zoning. Recreation and wilderness staff may allow escalated frontcountry use in wilderness to preserve pristine interior zones in the high country.

Accountability by all Wilderness Users

For resource managers, user accountability is an issue—and an answer. For years, commercial outfitters and guides have been

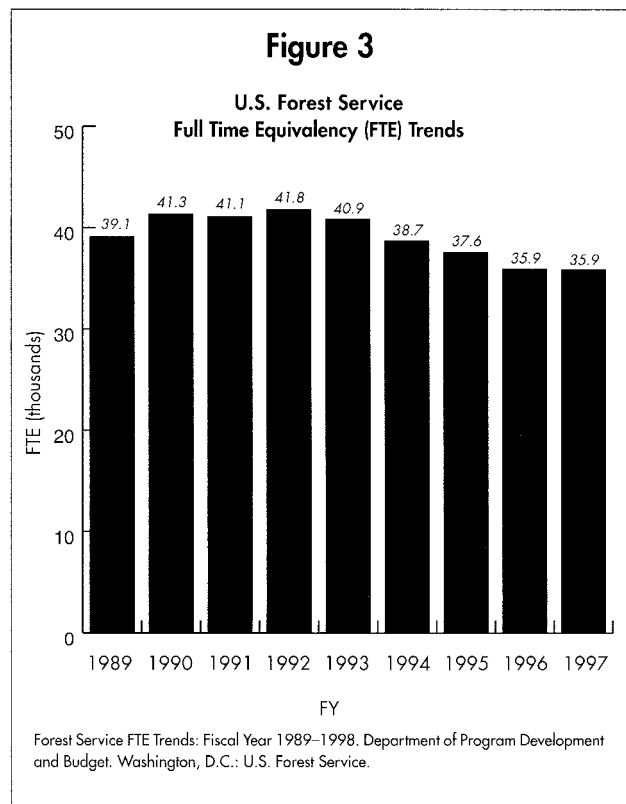
asked to pay fees, secure permits and, through operating plans, file detailed daily itineraries. These administrative procedures will increasingly be applied to other users. Land managers simply will have no choice because of the need for revenues and the need, in some places, to reduce use by controlling access.

Herein lies the problem. When agencies want to cut use, they cannot reach their capacity goals solely through limits on the outfitted—and thus permitted—public. When managers need more revenues, they cannot just keep raising permit fees for outfitters and wilderness educators. Managers will have no choice but to register and collect fees from all users, including the general public and “institutional” users (scouts, church groups, university recreation programs, etc.). With few exceptions, the public and institutional users have had free rein on public lands (i.e., no need to register, no limits on itineraries, and no fees—in short, no accountability). This has also meant limited opportunities to be educated by resource managers on the need to protect and promote our public lands and wilderness, and/ or help do the wilderness work through volunteer partnerships.

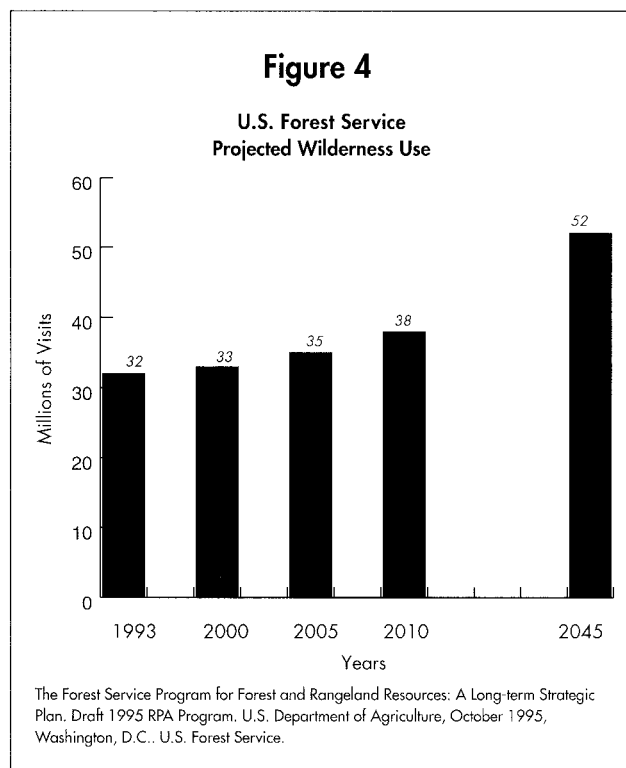
The agencies know, and most of these users know, that they must join the system as accountable wilderness users. A daunting task, but the future of wilderness depends on it. It is the only way to achieve future carrying capacity quotas, achieve significant and sustainable user fee revenues, and ensure that all wilderness users are full partners in protecting wilderness areas.

Wilderness Philosophy and Management

In 35 years, roughly 105 million acres of U.S. wilderness has been designated. However,



under the current, more restrictive climate for wilderness designation in Congress, the agencies have turned their attention to management, with attendant changes in wilderness philosophy, administration, and management.





Partnerships: Outward Bound Patrol building trail in Colorado. Photo courtesy Colorado Outward Bound School.

rapid ascension of ecosystem management, wilderness areas are being viewed as cornerstones from which the agencies can manage “larger landscapes to ensure the protection and integrity of natural and biological processes.”

Administration

Efforts are underway to formalize, streamline, and coordinate wilderness management across agencies:

The USDI National Park Services National Wilderness Steering Committee called for a formal wilderness management plan in all relevant parks by the year 2000.

The Arthur Carhart National Wilderness Training Center and the Aldo Leopold Wilderness Research Center have established national, multiagency efforts on wilderness research, training of line officers, enhancement of wilderness management, and promotion of the resource.

The draft wilderness plan for Joshua Tree National Park calls for a moratorium on placing or replacing any fixed anchors in wilderness.

The USDA Forest Service, in an appeal of an administrative ruling, has banned the use of fixed anchors in wilderness based on Wilderness Act language banning “structures.”

In the evolution and maturation of wilderness management, resource protection and the view of wilderness as an anchor for natural processes and biological diversity now dominate. Coupled with this are increasingly narrow interpretations of the Wilderness Act and promotion of solitude as the wilderness experience value of choice.

Partnering for Wilderness

The Wilderness Act mandates to resource protection, but also to wilderness as a resource people can know and enjoy. To accomplish this dual mission, all users must re-enlist in support of wilderness, working with Congress and partnering with the agencies to give managers the tools to do the job. Core constituencies have special continuing responsibilities to ensure that the full range of wilderness values endures.

Education

In the 1980s, the USDA Forest Service packaged the concept of Leave No Trace (LNT) ethics, but it was a partnership with the National Outdoor Leadership School (NOLS) that brought LNT to the river and the trail. Today, NOLS continues as the primary partner responsible for the development and dissemination of LNT curricula and training modules such as the Masters of Leave No Trace program. Outward Bound is a primary disseminator, introducing over 20,000 students a year to the benefits of LNT practices.

Diversity

In 1997, the Outward Bound system raised over \$2 million in scholarship funds to provide top quality wilderness experiences to U.S. citizens, regardless of race, gender, age, or economic status.

“... if kids aren’t supporting wilderness, neither will Congress ... Congress must hear that outdoor experience and wilderness experience are important to current and emerging generations, important to our values, and ... our economy.”

Philosophy

The 1995 Interagency Strategic Plan signed by the USDI Bureau of Land Management, USDI Park Service, USDI Fish and Wildlife Service, and USDA Forest Service, emphasizes solitude and biological diversity:

“Social values are a fundamental component of wilderness. We need to retain spiritual and psychological values, and guarantee opportunities for solitude and primitive recreation in areas retaining their primeval character and influence.”

With the continuing pressure on numerous species of flora and fauna and the

Management

In the field, use restrictions are evolving:

In the Sierras of California, four wilderness areas on three national forests have combined efforts on a draft wilderness plan reducing pack stock limits and implementing an off-trail group size of eight, matching the group size in neighboring Yosemite National Park.

The San Juan and Rio Grande National Forests in southern Colorado have proposed new “pristine” standards for alpine areas, with trail encounter rates as low as one to four parties in an eight-hour period.

Universal Access

Wilderness Inquiry, a Minnesota-based nonprofit organization offering outdoor adventures for people of all ages and abilities, and America Outdoors, the national association for the outfitter and guide industry, teamed with the USDA Forest Service to produce "Universal Access: Guidelines for Outfitters Operating on Public Lands." This "how-to" manual promotes use by persons with disabilities in public lands outfitting and guiding so the disabled community can also enjoy the full range of values offered by U.S. public lands and wilderness areas.

Building Constituencies for Wilderness

For the wilderness advocate, the question becomes how to support wilderness without loving it to death. The answer lies in a cooperative effort and a collective voice on behalf of wilderness. As a father I know that when it comes to the

natural world, grade school kids in this country can talk about two things: dinosaurs and rainforests. In Costa Rica, I hiked through private, tropical preserves purchased with kids' milk money.

Tip O'Neill, former Speaker of the U.S. House of Representatives, coined the phrase "all politics are local." Trace any political or policy issue to its core, he argued, and you will discover local, grassroots constituencies, and activists. The point is simple: If kids aren't supporting wilderness, neither will Congress. Wilderness has numerous advocacy groups, and from them Congress must hear that outdoor experience and wilderness experience are important to current and emerging generations, important to our values, and important to our economy.

As the new millennium dawns, we must remain vigilant and vocal in our support for wilderness, recognizing that any entity created and nurtured by the

U.S. political system can be altered, broken down, or orphaned by that same system. Powerful coalitions that have worked in unison to designate wilderness can splinter in their efforts to agree about wilderness access, fees, and management. While in certain cases U.S. wilderness may be overutilized or loved to death, the biggest challenge wilderness areas face is building viable constituencies and knowledgeable supporters that work together. **IJW**

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UNIVERSITY OF MONTANA CONTINUES AS IJW SPONSOR

IJW apologizes to the University of Montana School of Forestry and Wildlife for omitting their name from the back of *IJW*. University of Minnesota is one of *IJW*'s stalwart sponsors and supporters, providing a healthy financial contribution each year and support-

ing the efforts of faculty member Wayne Freimund as *IJW* Executive Editor for Electronic Communications. Our heartfelt apology to Dean Perry Brown, and our thanks for his graciousness and understanding over this unfortunate omission.

—John C. Hendee, *IJW* Editor-in-Chief

System in Peril

A Case Study of Six Siberian Nature Preserves

By David Ostergren



Article author David Ostergren.

After the collapse of the Soviet Union in 1991, the Russian Federation inherited a broad network of zapovedniki, which are strictly protected nature preserves. In contrast to North American wilderness, zapovedniki were created to conserve biodiversity, monitor ecological conditions, and preserve natural areas for scientific research. They can also provide conservation training, environmental education, and knowledge necessary for regional projects (Federal Law ... 1995; Sobolev et al., 1995; Nikiforov 1995). Zapovedniki

are essentially wilderness areas with highly restricted access, dedicated for scientific research.

The concept of zapovedniki was proposed in 1908 (G. A. Kozhevnikov). Preserved for research, the natural areas are free from all economic activity (Kozhevnikov 1908). Established in 1916, fluctuations in the size of the zapovedniki system reflect changes in national preservation policy. Periodically, lagging political support resulted in the elimination of some preserves (Pryde 1977; Weiner 1988; Boreiko 1993, 1994). After each reduction, the system recovered. It now contains 95 zapovedniki protecting approximately 76.5 million acres (31 million hectares) (RCN 1997). Since 1991, the system has grown almost 40% (an unprecedented 26 zapovedniki were added). At the same time, federal funding to each preserve was cut by 60-80%. The governments inability to fund the system jeopardizes one of the world's finest protected area networks (Grigoriew and Lopoukhine 1993; Krever et al., 1994).

Research Area

The six zapovedniki in this study represent the broad ecological spectrum of Siberia, an area with an intense continental climate featuring warm, moist summers and bitterly cold, dry winters (Bonan and Shugart 1989). The research area stretches about 3,000 kilometers from the Arctic Ocean to Mongolia, roughly following the Einisei River drainage basin. Continuous permafrost underlies the northern arctic tundra and extends discontinuously into the taiga, creating cool, moist soil

conditions and sphagnum moss bogs. The two northern zapovedniki, Taimir and Putoransky are within the Central-Siberian physio-geographic region. To the south, mountains rise to above 14,000 feet (4,000 meters) and the four zapovedniki, Altai, Stolby Sayan-Shushensky and Katun are classified in the Altai-Sayansky mountain, physio-geographic region. Ecosystems represented by the southern preserves include the taiga, various forest types up to 5,500–6,000 feet (1,700–1,800 meters), some mountain steppe in the river valleys, hollows and plateaus, and subalpine and alpine meadows to 9,100 feet (2,800 meters) (Knystuatas 1987) (see Figure 1).

Methodology

Central Siberia is the location of the study's zapovedniki. Until 1992, foreigners had been restricted from the area, and limited information was available. Importantly, the six preserves selected for study include three distinct historical time periods, and have different landscapes, sizes, and biosphere reserve status (see Table 1). This case study is primarily exploratory and descriptive because of the considerable uncertainty that existed about program operations, goals, and results. Exploratory studies also help identify questions and improve measurement constructs used in later studies (GAO 1990). The research strategy was to review the literature and travel to several zapovedniki to develop questions and assess the study's feasibility. Once these steps were accomplished, site visits were used to collect information from each zapovednik. The lack of preliminary information limited the ability to hypothesize causal relationships (Yin 1994).

Information was gathered through formal interviews, official documentation, and passive observation. Structured, open-ended interviews in Russian allowed each director to emphasize the conditions and problems unique to their zapovednik. Interviews were recorded. Preliminary interviews were essential to ensuring rapport and good communication. These informal interactions were several days prior to the formal interviews. They were pre-arranged as local conditions allowed. With the exception of the Taimir Zapovednik each director was interviewed.

Documentation proved more difficult to acquire than interviews because of the very limited access to copy machines. The added problem of paper, ink, and electrical shortages exacerbated the difficulties. Documentation included management

strategies (c. 1982), site addresses, periodic government forms and directives, violation penalty updates and reports, and research agreements. The most valuable document for the study (as well as any long-term research on a zapovednik) was called the "Chronicle of Nature." The chronicle is an annual publication supplying long-term, systematic observations and records of activity. It documents research findings and also includes descriptions of the preserve, meteorological data, and reports on guard patrols and violations (Shuarts and Volkov 1996).

Seven to ten days was spent on each preserve. As the zapovednik area and its facilities were toured, informal dialogue was recorded, as were observations of the preserves and their facilities. Informal interactions with zapovednik employees and scientists allowed a broad assessment of the facilities.

Findings: Profiles of Six Central Siberian Zapovedniki

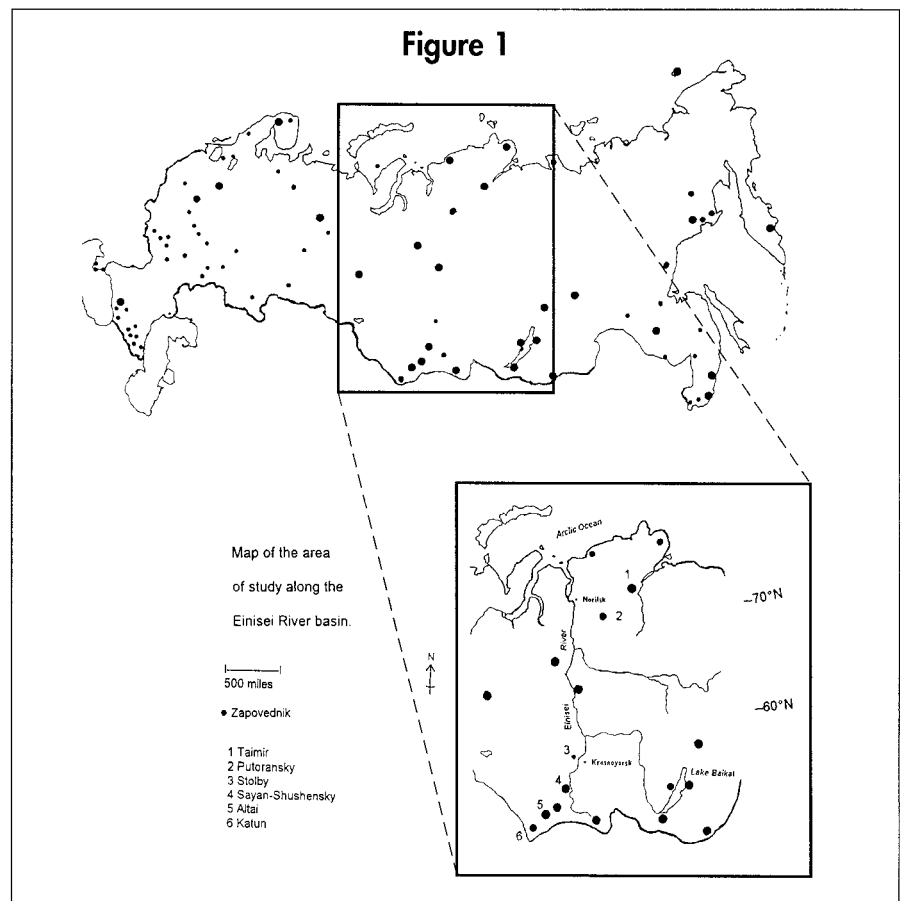
Each zapovednik represents a unique ecological and social situation. Each had varied management approaches to achieve zapovednik' goals of preserving natural ecosystems and pursuing ecological research. In the discussion that follows, a brief sketch of each preserve will highlight the context and challenges for each zapovednik. The overriding problem noted by each zapovednik director was lack of funding.

The Old Guard—Preserves Established in the 1920s and 1930s

The Stolby and Altai zapovedniki are the oldest in the study. They are well established and have the strongest tradition for management and dealing effectively with new challenges.

Stolby Zapovednik (1925)

Located on the outskirts of Krasnoyarsk, a city of nearly one million, the Stolby is unusual because of its 7,400-acre (3,000-hectare) "tourist" zone. Two hundred thousand annual hikers, bird watchers, and rock climbers visit the area's "pillars" of granite. Stolby historically has had



support from artists, influential citizens, city administrators, academia, and the general public (Poderezhina 1994). A small zoo of indigenous animals on the preserve is being considered for conversion into an environmental education center. In Director Alexei V. Knorre's opinion, the disintegration of the Soviet Union exacerbated pre-existing management and resource problems. His main concern is a serious lack of staffing. While armed hunters poach elk on the perimeter of the zapovednik for both food and income, the director is unable to retain border inspectors because of poor pay and difficult living conditions. Fortunately, most of the preserve is unaffected by people and their activities. In Director Knorre's opinion, the zapovedniki system should not be increased. Meager resources should be spent on existing preserves.

The director sums up new funding strategies by stating that "the prospects for future financing are—vague." Nonetheless, the director and staff remain optimistic. New sources, such as funding from the local city administration, may prove as stable as the federal funding

source. A recent innovation is year-to-year "carry over" funding authority for both research projects and capital improvements. This allows management to consider and fund long-range resource and management strategies. An added bonus appears to be that the attempts to redesignate the zapovednik as a national park have failed. This means federal support for the preserve will continue.

Research includes the effects of air pollution from nearby industrial centers on the kedr-fir (*Pinus sibirica-Abies sibirica*) forests and some of the first Russian studies on the environmental impacts of recreational use. An unusual benefit from being near a large city is that the preserve is able to use the skills of unemployed scientists seeking a means to make ends meet. This has resulted in increased research on air and water quality, soil productivity, and plant and animal population dynamics.

The Altai Zapovednik (1932)

Eliminated by Khrushchev in 1964 and re-established in 1968, the Altai zapovednik borders the shores of Lake

Table 1

Zapovednik	Latitude Longitude	UNESCO Status	IUCN Classification	Year Established	Area Hectares
Altai	51.06° N 88.42° E	None	35-Altai- Highlands	1932 and 1968	881,238
Stolby	55.00° N 92.00° E	None	35-Altai	1921 local 1925	47,200
Sayan- Shushensky	52.00° N 91.51° E	Biosphere Reserve	35-Altai	1976	390,368
Taimir	74.00° N 98.32° E	Biosphere Reserve	26-High Arctic Tundra	1979	1,781,500
Putoransky	69.00° N 94.00° E	None	27-Low Arctic Tundra	1990	1,887,300
Katun	49.20° N 86.15° E	None	35-Altai Highlands	1992	150,079

Source: Adapted from Grigoriew, P. and N. Lopoukhine, 1993; the Directory of Zapovedniki of the Ministry of Protection of the Environment and Natural Resources, 1993; and 1995 data collected by author.

Teletskoya and ranges in elevation from 1,430 feet (436 meters) at the lake, to 9,800 feet (3,000 meters) in the southern steppe. In the south, near the Mongolian border, is the mountainous home of the Argali Sheep (*Ovis ammona L.*) and Snow Leopard (*Uncia uncia Shr.*). The entire preserve is zoned for the preservation of and ecological research on mixed forest, subalpine and alpine vegetation types, as well as wildlife.

Resource management problems include habitats damaged from sheep grazing, subsistence hunting by indigenous people, and poaching for the illegal animal parts trade. Social pressures include an attempt in 1993 by regional officials to divide the zapovednik into zones for mining and logging, a national park, and strict preservation areas. A coalition of employees, regional nongovernment organizations, scientists, and local citizens

defeated the initiative. Staffing remains critical as research staff are lost to higher paying jobs. Director Sergei Erofeev believes that the zapovednik will collapse in 2–5 years if present conditions persist. His personal dedication to strict preservation for research makes the shift to ecotourism unlikely during his leadership tenure. His opinion is that “the tourists will carry the zapovednik away in the tread of their boots.” Alternative funding sources include the remote possibility that the regional government will financially support them. A grant from the World Wildlife Fund is creating a promotional video to raise funds from regional, national, and international sources. As evidence of weak political support for the zapovednik, a 40% tax was imposed on this grant by the regional government.

The Altai is simultaneously developing strategies for research and enforcement. To reduce damage by grazing, subsistence hunting, and poaching, Director Erofeev would like to see increased research activity sponsored by national and international research organizations. Ranger patrols in the future will focus on education and generating support rather than armed enforcement. Even government officials have been sport hunting illegally on the zapovednik; although this problem was creatively resolved through publishing offenders’ names in the news.

Table 2

Current Problems for Zapovedniki	Emerging Strategies for Funding, Research and Enforcement
<ul style="list-style-type: none"> • More difficult to hire qualified personnel. • Attrition of personnel to more lucrative jobs. <ul style="list-style-type: none"> • Increased poaching by neighbors to augment food or income. • Pressure to harvest timber, or initiate mining. <ul style="list-style-type: none"> • Increased trespassing for firewood, mushrooms and berries. • Destruction of critical habitat by illegal grazing. • Creation of new zapovedniki without funding. <ul style="list-style-type: none"> • Lack of federal, regional, and local political support. • Shortage of food, fuel, and supplies. • Employees are engaged in gardening or animal husbandry instead of patrols and research. • Reduction or elimination of helicopter access for research and border patrols. • Universities are unable to support research. <ul style="list-style-type: none"> • Inability to monitor endangered species and pursue poachers. • Directors allocate more time to raise alternative funding. 	<ul style="list-style-type: none"> • Developing innovative, nontraditional strategies for management. • Increased contact with the international scientific community with opportunities for publication. • Increased contact with international land management agencies. • New guidelines allow for flexible budget implementation. • Broader involvement in community based environmental monitoring. • Refinement of the environmental impact statement process. <ul style="list-style-type: none"> • Increased contact with national and international NGOs. • Increased environmental education.

Preserves Established in the 1970s

The Sayan-Shushensky and the Taimir were established in the 1970s. They are both part of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Man and Biosphere (MAB) Reserve Programme (Sokolov 1981). This is an international series of preserves designed to act as global climate monitoring stations. The research demands associated with the biosphere program are more encompassing than those of traditional zapovedniki. Research includes the monitoring of conditions outside the preserve. These two zapovedniki have had a tradition of extensive research support and access to helicopters (e.g., 150 flights per year). Helicopter use is currently five flights per

year. Federal funding has decreased nearly 80% from Soviet-era levels.

Sayan-Shushensky Zapovednik (1976)

The Sayan-Shushensky acts as a buffer for the reservoir that lies along its north-eastern boundary. The reservoir dam and the zapovednik were established at the same time. In creating the preserve, the Soviet government forced the Tuvinci people off ancestral lands. The ensuing land rights issue created management problems that are yet to be resolved. The Tuvinci people, from the neighboring Tuva Republic, are permitted to visit a sacred stream in the southwest, but otherwise are not allowed on the zapovednik.

The preserve's remaining research agenda includes human communities, wildlife, atmosphere, and the hydrology of the alpine and mountain taiga ecosystems. The zapovednik is located in the Sayan Mountains at altitudes from 1,770 to 9,000 feet (540 to 2,770 meters). Sixty percent of the preserve is forested and a significant part of the area from 5,900 to 7,900 feet (1,800 to 2,400 meters) is sub-alpine and alpine meadows. Areas of mountain steppe exist above 6,560 feet (2,000 meters), but are increasingly rare due to grazing activities outside of the zapovednik.

Director Alexander G. Rosolov believes the disintegration of the USSR illuminated a general apathy about the protected areas. His foremost management problem stems from grazing and hunting activity by neighboring communities. Staffing remains a problem because border inspectors are unable to live on low or nonexistent wages.

The zapovednik is developing new funding and research strategies by turning to the local and regional authorities. Chief scientist Dr. Valary A. Stakheev believes that the research shift to practical topics, such as monitoring air pollution, is a positive step toward redefining the role of zapovedniki as a community resource. The zapovednik welcomes collaborative research projects with international universities and organizations.

With the disappearance of four employees in the fall of 1995 (still unexplained at the time of this article), managers responded by creating a team

of armed guards to patrol the contentious border. The guards are mostly ex-military personnel, and several are Cossacks dedicated to the protection of Russia's borders. Although they are trained for conflict, the guards depart from Soviet-era practices by adopting an educational response for shepherds "straying" into the protected area.

Taimir Zapovednik (1979)

The Taimir preserve is located far above the Arctic Circle, three hours by helicopter from the closest village. Besides protecting the northernmost forest in the world, the tundra ecosystem is the reintroduction site for musk ox (*Ovibus moschatus*). It also is home for migrating reindeer. Although vast (4.2 million acres, 1.7 million hectares) and remote, the preserve has several guard houses on its perimeter. The zapovednik guards were cut off from their supplies when helicopter support was eliminated in 1992. To continue their jobs the guards bargained with Aeroflot crews to ferry them needed supplies. In return the guards spend time catching and salting fish, which the Aeroflot crews sell in larger cities.

The director, Iury M. Karbanov, has organized several research expeditions through Russian universities and international agencies. In 1996, the size of the zapovednik was increased by 32%, and the preserve was added to the UNESCO Man and Biosphere Programme.

The New Preserves— Established in the 1990s

The Putoransky and Katun preserves were created just as the Soviet Union collapsed. Their goals include a high standard of research and protection for the resource. While they lack historic financial support or perks, such as helicopter access, they are also free to seek new financial solutions. Ecotourism and an outreach environmental education program are two examples of their innovative strategies.

Putoransky Zapovednik (1990)

The remote (4.6 million acres; 1.88 million hectares) Putoransky Zapovednik protects mountain-tundra habitat and fits into a larger system for migrating birds,



Two biologists walk through the lower elevation forest of the Altai Zapovednik. The forest is dominated by the Siberian pine (*Pinus Siberica*).

reindeer, and the polar fox. The steep, lichen- and grass-covered terrain is ideal habitat for the endangered Putoransky bighorn sheep (*Ovis nivicola borealis*). Traditionally there is little contact with the central administration except for budgeting reasons. This preserve is under extraordinary financial duress. Director Vladimir V. Lareen suggests that the problems result from establishing the preserve just as the USSR was collapsing.

Five research and administrative employees work with three guard outposts to attempt the impossible; they are trying to monitor and protect one of the largest preserves in the world. Fortunately, poaching is a rare problem because of the zapovednik's remoteness. It is located 160 miles (250 kilometers) from Norilsk and few people live adjacent to the territory. The main research problem is the reindeer herds shifting their migratory path onto territories that are being considered for mineral exploration and extraction. Like other zapovedniki, research helicopter flights dropped from about 25 in 1991 to 5 in 1994. This has forced researchers to

spend extended periods in remote locations. Some research focuses on the effects of the smelting plants in Norilsk. Lichens and moss are showing trace heavy metals in the path of prevailing winds. The staff are also cultivating research agreements with agencies in circumpolar nations (e.g., the U.S. Fish and Wildlife Service and the U.S. Forest Service), as they seek new funding sources. Additional strategies include limited ecotourism in some of the more spectacular mountainous areas, and guided hunting and fishing expeditions in areas bordering the preserve. Federal, regional, and local financial support is unlikely in the near future.

borders mixed boreal forest types at lower elevations to give the preserve a rich range of biodiversity.

The Katun lacks any tradition of federal financing or political connections. Illegal poaching, combined with grazing, is stressing the Argali sheep population, and thus the Snow leopard. An immediate problem for the preserve is an inadequate record of the health and number of endemic sheep populations.

The zapovednik boasts a new director trained in forest management, Alexander V Zateev. The administrative staff also includes two research scientists and twelve rangers who protect the border. Potential sources for funding include

oldest preserves (est. 1920–1930) are keeping their traditional strategies. They both have data that spans six decades, which may be useful in assessing global climate changes. The goals of the zapovedniki established as biosphere reserves are inclusive of the surrounding communities and integrate the zapovedniki into the global MAB program. The preserves of the 1990s are under the greatest financial stress—and yet, they are using the most creative strategies to reach both local and international communities. Although the study was limited to Central Siberia, reports from across Russia indicate similar trends for all zapovedniki (Williams and Simonov 1995; Pryde 1997). Director Vsevolod Stepanitsy of the Federal Department of Zapovedniki and Dr. Evgeny Shuarts, director of the Biodiversity Conservation Center, confirm that zapovedniki throughout Russia are using a wide range of strategies to solve financial problems (1995 personal comm. with author).

Law enforcement in these areas is weaker than during the Soviet era. Political upheaval has changed social expectations at the same time the demand for converting resources into cash has skyrocketed. The negative consequences for Central Siberia stem from a 60–80% reduction in the already inadequate funding. However, money is only part of their problem. How they have to get funding is a problem in and of itself. The shift from federal support to multiple funding sources has resulted in less security while demanding more time from the directors. Furthermore, even as research quality remains high, one wonders how long it can last, as scientists struggle on meager incomes. The number of research projects has been decreasing as it becomes more and more difficult to hire and retain administrative and scientific staff.

Research problems pale in comparison to the destruction of habitat that is resulting from poaching, grazing, and developmental interests. Trespassing for firewood, mushrooms, and berry collecting is growing. Added to the increased pressure to harvest timber and to extract minerals for financial gain, the challenge to protect critical habitat seems impossible. Zapovedniki are unable to retain staff and support research, much less

The next few years of dedicated scientific work, innovative management solutions, and international support will determine if the world's largest protected area system will survive ecologically and politically intact.

Katun Zapovednik (1992)

The Katun River has long held potential for hydroelectric development. In 1990, there was an environmental movement that opposed any dam development. Protesters marched in St. Petersburg and sent 80,000 letters to Moscow. After a commission declared the dam uneconomical and an environmental nightmare, the dam was postponed. One result of the protests was the establishment of the Katun Zapovednik. A local nongovernment organization is still lobbying to establish a national park that would surround and buffer the zapovednik.

Located in a poor region of Russia, the Katun Zapovednik is located in the southernmost portion of Siberia abutting the borders with Kazakhstan, Mongolia, and China. The preserve extends through the Altai mountains to the peak of Belukha Mountain at 14,779 feet (4,506 meters), protecting habitat for the Argali Sheep (*Ovis ammona L.*) and Snow Leopard (*Uncia uncia Shr.*). Steppe habitat

ecotourism and adventure recreation. Russian and foreign climbers occasionally stray onto the preserve territory with negligible impact. For a slight fee, rafters spend one or two nights rafting the Katun River, a Class 5 river. The staff believe that well-regulated activities can expand with little or no impact on indigenous species. In a departure from Soviet-era techniques, scientists Leonid and Vera Bailagocov have initiated an aggressive environmental education outreach program. The prevailing philosophy is that school children will grow up appreciating the value of zapovedniki, and that they will share this education with their parents. Preliminary results show a change in local attitudes about the environment.

Conclusions

Each of the six zapovedniki in this case study were established in different eras. This has influenced management philosophies, traditions, and techniques. The

protect threatened habitats and species.

Not all of the changes in the zapovednik system are bad. In fact, staff seemed generally optimistic. Director Rosolov, from the Sayan-Shushensky Zapovednik, observed that Russia is a large country with vast resources and a well-educated population. Social and economic problems will eventually be solved and the government will once again re-emphasize the role of zapovedniki (personal comm. with author 1995). The directors and their staffs are already responding to the difficulties of management in a new era. Highlights include nontraditional funding strategies,

increased contact with the international community, and broader involvement in the community to emphasize environmental education.

Even with these positive changes, however, the international community must remain aware of the plight of the zapovedniki. A preserve system of international standing is at risk. Despite this, two zapovedniki were created in 1997. At best they can only be considered "paper preserves" until the financial situation improves. The next few years of dedicated scientific work, innovative management solutions, and international support will determine if the world's larg-

est protected area system will survive ecologically and politically intact. **IJW**

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[Editor's Note: Wilderness therapy programs, which provide emergency intervention and treatment of primarily adolescents with substance abuse and other problem behaviors, are growing steadily. Perhaps up to 30 wilderness therapy programs provide the most intensive group among 500 "wilderness experience for personal growth" programs nationwide. This excludes commercially outfitted wilderness recreation programs, adventure camps, and youth organizations such as Boy Scouts. Clearly the use of wilderness for healing and personal growth is a big enterprise, one important to humanity, and a growing challenge to wilderness stewards and wilderness program leaders. This article by Rob Cooley explains wilderness as a healing resource for adolescents with problem behaviors, served by his organization, Catherine Freer Wilderness Therapy, in more than 40 trips per year. The *International Journal of Wilderness* will continue to feature articles on the use of wilderness for personal growth as an emerging trend and value of wilderness.

—John C. Hendee, *IJW* Editor-in-Chief

Wilderness Therapy Can Help Troubled Adolescents

By Rob Cooley



Article author Rob Cooley and his son.

On the way to my doctoral degree in counseling psychology, I browsed through sociobiology and anthropology and wrote a dissertation on how hunting-and-gathering cultures occupy the natural human econiche. I argued that a better understanding of human roles and behaviors in that niche could help modern therapists understand their clients' basic needs and problems. That was radical stuff back in 1977, and I was unable to convince my doctoral committee that it had any relevance to counseling. But I did convince myself while writing my dissertation, and

it has guided much of my counseling work. It also has contributed to my starting a wilderness treatment program for adolescents ten years ago.

Wilderness Is Our Cradle and Childhood

It is not surprising that modern man—once far enough removed from outdoor living not to feel threatened by brief returns to it—has found wilderness such a source of solace, spiritual contact, and healing. For genetically, wilderness is our cradle and childhood. It has shaped us into the beings we are, as surely as our individual early years shape our personalities. Returning to it we feel ourselves reattaching to our roots, our natural state of being; “going home” to a situation where our

essential emotions, behaviors, needs, and spiritual strivings make far more sense than they can in our urban worlds. As with most returns home, the feelings are, if all goes well, mostly positive and renewing, but not without ambivalence. Wilderness serves to remind us of our essence and to clarify how we have changed and individualized, adding new levels of (we hope) mature sophistication and independence since leaving our childhood home, while losing the comfort of our easy, unconscious attachment to home.

This rich social-psychological matrix with wilderness has proven valuable for renewal to many individuals since the Romantic era of the early 19th century. It has enriched our modern culture with a growing awareness of our deep attachment to nature even as we veer ever further from tribal hunting-and-gathering ways.

For troubled adolescents in wilderness treatment programs, this awareness is especially valuable. Living outdoors in small groups led by adults in their 20s and 30s, they experience something very close to the lives of adolescent youngsters throughout our preagricultural evolution. Once participants have gotten past feeling simply deprived of their urban comforts and afraid of the unknown dangers of the wild, they settle into a sense of security and archetypal “rightness” from which they can reach to explore what the new/ancient world of wilderness has to offer. Outwardly this includes meaningful exercise, hunger for nourishing foods, and freedom to be a human child. Inwardly wilderness offers access to the essential meanings of human life, as revealed both by the natural world and by their inner archetypal lives, and on that foundation it offers an examination of how their personal lives and values fit with the underlying structures

of humanness. Probably all of us who are reasonably reflective experience some of this when we spend a week or more living simply in wilderness. But for an adolescent, who is in the process of constructing a sense of his/her identity, who is wondering about the broader meanings of life and culture, and who is also experiencing substantial difficulties in navigating the adolescent passage into adulthood, the impact of wilderness time is far more powerful.

Making the Wilderness Magic Work for Adolescents

For the wilderness setting to have maximum benefit, several factors are necessary. On one hand, the young people must feel challenged and somewhat at risk, as any band of young hunting or gathering apprentices over the last few million years of history would have felt. On the other hand, participants within this setting must feel secure that they are supported and are being taught how to manage competently and comfortably in it. Otherwise, the specific wilderness magic will not work. If the experience is only an endurance contest or is felt as significantly punishing and depriving, they may learn some useful behaviors (which they may also learn in a traditional hospital in-patient setting), but they can neither relax into this homecoming nor can they reach their roots to discover their true spiritual nature and capacities. If the experience is too easy, however, similar to a summer camp episode, they may learn some camping and social skills and some natural history, but they will not pop out of their suburban behaviors and assumptions to experience the deeper realities offered them by the wilderness.

The youngsters must also feel confidence in their adult leaders. They must know that these men and women are wise in the ways of the woods and of young humans, that they are firmly in control of the situation and are warmly nurturing, that they are dedicated to the well-being and good teaching of their young charges. Beyond human safety and comfort within the environment, "secure" does not mean "safe," exactly. Life in the wilderness and in the inner emotional/archetypal world is never wholly safe. Life becomes embraced in a wilderness set-

ting that comes to be familiar and manageable—just as the youngsters' inner lives are explored and made conscious, their currents identified, and the tools for their understanding and managing are learned. For example, coming to the point of being able, on a dark and damp Oregon evening, camped alone by a huge ancient fir amid the myriad, small, but now known and no longer frightening noises of twilight forest, to kindle a fire, to make light and warmth and a source of hot, nutritious food. This is virtually identical to the process of remembering, say, early sexual abuse and exploring later depression and self-destructive teenagers' attitudes and behaviors. This is coming to understand how those things relate to each other, and how one can manage one's life in new ways that are warm and nurturing rather than cold and frighteningly self-destructive. It is mastery of the darkness, using new knowledge and available resources, to create light and safety that is useful.

These adventures of the young into the dimly known provide the outer work of coping adequately with the wilderness environment. They support the inner work of nurturing that personal adult flame of consciousness that enables us to see and to manage, and to usefully employ those inner forces, which are our gifts from our eons-long heritage as natural, spiritual beings. As they gain these twin masteries, many of the young people on these trips come to feel not only more confident, but more truly safe than they have felt for years. For now their safety is consciously in their own hands.

Finally, to be fully effective, such programs must provide education and counseling that enable their clients to become aware of just what it is that they



... for an adolescent... experiencing substantial difficulties in navigating the adolescent passage into adulthood, the impact of wilderness time is far more powerful.

are experiencing, to reflect on it, and to consider how to apply it to their future lives. An experience of required behavior change is helpful. But an experience of self-understanding based on new knowledge, and assistance toward insight leading to intentional choices to take personal responsibility are far more so. Thus, mastering life in the wilderness can provide the keys to mastering life in modern society, but only if the participant is guided toward understanding how to use those keys.

Development of Wilderness Treatment Programs

Many outdoor treatment programs have developed in the last 25 years, which, building on the bases of adolescent outdoor experience provided by the Boy Scouts, camp experiences, and Outward Bound, have extended the rich experience of "touching our roots" into specifically healing modes for youngsters who need this voyage of discovery far more than do healthier young people. These

programs vary substantially. Many programs provide weekend to three-week experiences in outdoor activities aimed at developing self-confidence and teamwork. Outdoor base camps in the southern United States expose adolescents to living simply for 6 to 18 months in large tents out in the woods, where they are in tune with the weather, with no electrical distractions or comforts and must cook and warm themselves with wood fires. Western wilderness treatment programs generally provide three- to eight-week experiences of backpacking, mostly in jeep-track areas but some of them in roadless and wilderness areas.

The clients in such programs at first were delinquent children paid for by public agencies, primarily “at risk” youngsters thought to be well on their way toward long-term detention. The hope with these young people is that they can learn enough self-management of their behavior and their emotions (particularly anxiety and anger), and enough social skills including trust of authority, to keep themselves out of juvenile jails. In the last 15 years many programs have developed to serve private pay clients with behavioral and drug-related problems. These children generally are not violating the law in serious enough ways to get the attention and services of juvenile authorities, nor are they sufficiently emotionally disturbed to qualify for hospital treatment in this era of cost-control. What they have in common is self-destructive behaviors—failing in school or dropping out, serious drug abuse or addiction, destructive sexual promiscuity, running away, and defiance of parental and community authority—plus refusal to cooperate with out-patient treatment and community programs that might help them. Parents of such children, having no recourse to legal or medical settings and having failed to obtain sufficient community help to stop their children’s course of self-destructive behavior, must choose between letting them go to life “on the street” or placing them in private programs, prima-

rily residential drug treatment, special schools, or wilderness programs: In the last five years some insurance companies have tentatively concluded that wilderness programs are often more effective and less expensive than the alternatives and have been willing to pay for wilderness treatment when significant drug abuse issues would otherwise require payment for hospital or residential drug treatment. A few outdoor programs on the leading edge are providing true psychotherapeutic treatment for adolescents with serious emotional disorders, particularly major depression and post-traumatic stress disorder, who would otherwise be served in psychiatric hospital settings.

How Many Are Served by Wilderness Therapy

Wilderness therapy is not an organized field yet, and it is more difficult to estimate use-figures than for, say, Whitewater river use. A conservative estimate, which surely omits dozens of programs, would be 10,000 public and private clients per year, generating around 330,000 user-days and \$60 million in revenue. This figure includes only adolescent wilderness treatment, meaning programs that have specific treatment purposes and active field participation or at least clinical supervision by professional therapists. It does not include youth adventure camps or personal growth programs for which an estimate of 500 programs has been developed by the University of Idaho Wilderness Research Center (Friese et al., 1998.) Given reasonable support from our land management agencies, outdoor and wilderness therapy should grow into the preferred paradigm for (at least) adolescent treatment of many problem behaviors and one of the major uses of our public lands and wilderness areas. Securing access to and nondegrading use of wilderness and related public lands for treatment and personal growth programs will be a challenge for all parties, but the effort reflects discovery of an emerging value of wilderness for humankind.

Wilderness Will Benefit

Wilderness stands to benefit as much from this new use as do the young clients who voyage into it. Wilderness treatment makes perfectly clear the underlying value to our culture of wild areas, which is less obvious in adult recreational and youth camp use. Wilderness has the potential to provide a kind of essential healing through a partial return to our natural human econiche, which cannot be provided in any other way. While wild areas have other important uses, such as to preserve habitats, species, and healthy aquatic systems, it is crucial for their long-range preservation that our culture fully grasp how meaningful they are for humans too—not just for casual recreation, but for basic healing and renewal that are vital to our success as a human community. **IJW**

ROB COOLEY grew up on the McKenzie River in Oregon, where he learned to row a McKenzie boat at age four and did his Boy Scout camping in what was then the “Three Sisters Primitive Area.” In college summers, he set chokers for small logging outfits and built backcountry trails for the U.S. Forest Service. He earned a Ph.D. in counseling psychology from the University of Oregon in 1979. Since then he has specialized in family and adolescent therapy, at Oregon’s child protective services agency and in private practice, while taking summers off to run a whitewater rafting outfit. In 1988, he combined his outdoor and therapy interests in founding Catherine Freer Wilderness Therapy Expeditions, a 3-week adolescent program with a strong therapy emphasis, which is licensed in Oregon for both chemical dependency and mental health treatment. He can be contacted at Catherine Freer Wilderness Therapy Expeditions, P.O. Box 1064, Albany, Oregon 97321, USA. Telephone: (541) 926-7257. E-mail: cfwte@proaxis.com.

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EXCERPTED FROM THE RIVER'S WEB OF LIFE

By Arielle Cooley, Age 16

My ... day on the river sometimes begins before the sun has risen above the canyon rim. I row hard in the mornings to keep warm. As the world warms, I relax and drift with the current, dipping and pulling my oars in tranquil repetition. This is where my thoughts wander with greatest freedom and spontaneity, about nature and people, stories, songs, and poetry. Many small canyon lives unfold around me in a camouflaged panorama. A pair of dragonflies lands on my hand, glittering green, gold, and purple in the sun. A quick fish skips up, snaps at a bug, and falls back to its dark waters. Deer move softly through the sand and sage of the river's edge, mountain goats leap with abandon up and down the canyon ledges, and lazy herons pull themselves through the hot, heavy air.

It was on the river that I first came to understand why Indian cultures of the Northwest (and elsewhere) were so dependent on wild creatures for food and shelter, of course, but more importantly, for psychological wholeness. We as humans learn by example. I think that nearly every important problem in life can be illuminated, if not solved, by watching the river and its web of life. You are not the center of the world.

Companionship is important. The essentials of life are very simple—elaboration is superficial. Always be aware. Don't deny fear—it could save your life. Everything depends on everything else, bound together by the smooth serene rope of the river as it winds forever through the cracked and timeworn landscape.

In the evening, just before sleep, my mind ranges wider. As I lie wrapped in the warming embrace of a sleeping bag, thoughts of the day drift and dance through my memory to a background of rich, black sky strewn with star clusters, heavy solid mountain forms, and quiet river ripples. Compared to the unchanging vastness around me, the quick constant changes of my life seem like skitters and splashes on the surface of the earth's everlasting oldness. My own questions, dilemmas, or frustrations shrink into perspective beside the big questions posed by the silent rock, sand, and sky: Why are we here? How did this happen? When will we end? The turtle-slow advance of science has barely begun to answer such questions; fairy tales, myths, and religions offer pleasing but uncertain explanations. The stars were the only witnesses, and they twinkle tantalizingly but never tell.

TO THE UNSEEABLE ANIMAL

My Daughter:
"I hope there's an animal somewhere
that nobody has ever seen. And I hope
nobody ever sees it."

Being, whose flesh dissolves
at our glance, knower
of the secret sums and measures,
you are always here,
dwelling in the oldest sycamores,
visiting the faithful springs
when they are dark and the foxes
have crept to their edges.
I have come upon pools
in streams, places overgrown

with the woods' shadow,
where I knew you had rested,
watching the little fish
hang still in the flow'
as I approached they seemed
particles of your clear mind
disappearing among the rocks.
I have waked deep in the woods
in the early morning, sure
that while I slept
your gaze passed over me.
That we do not know you
is your perfection
and our hope. The darkness
keeps us near you.

Taken from *Farming: A Hand Book* by Wendell Berry. New York and London: Harcourt Brace Javanovich, 1967.

Defining Characteristics of U.S.A. Wilderness Experience Programs

By Chad P. Dawson, Jim Tangen-Foster,
Gregory T. Friese, and Josh Carpenter

Abstract: The use of wilderness for recreational and educational programs is exemplified in the concept of wilderness experience programs (WEPs), and it is emerging as an important wilderness management issue. The defining characteristic of WEPs is the central role of wilderness to the program experience and delivery. WEPs can be classified into three general types based on their primary aim: personal growth, education, and therapy and healing. These types represent areas on a continuum and provide a framework to better understand the program delivery methods used, goals, and use of wilderness.



Chad P. Dawson with his son in the High Peaks Wilderness of New York State. Photo by Chad P. Dawson.

MANY TYPES OF USERS and user groups travel to and through wilderness areas to participate in different recreational and educational activities. Research on types of adventure recreation, outdoor pursuits, WEPs, and user-groups is necessary to manage the experience and the resource within the guidelines required under state and federal wilderness preservation systems (Ewert 1989; Krumpe 1990; Watson and Williams 1995; Ewert and Hollenhorst 1997).

One rapidly emerging user-group involves challenge, adventure, reflection, and other experiential activities that are conducted in wilderness areas. Recent years have seen the emergence of a large number of programs and a wide range of methods designed

to develop human potential utilizing activities in wilderness and natural environments. These programs have been called wilderness programs, outdoor experiential, outdoor leadership, vision quest, wilderness therapy, and other names. The growth in the number of these programs available nationwide, as well as the number of participants involved, is projected to continue into the near future (Hendee and Brown 1988; Easley et al., 1990; Krumpe 1990; Hendee 1994; Hendee and Martin 1994; Friese 1996; Friese et al., 1998[1] and 1998[2]).

Growth in the numbers and diversity of such programs, coupled with increasing demands on natural environments, necessitate a more rigorous and systematic means of describing WEPs. Based on a national study, we propose a model for characterizing and classifying the methods and goals of WEPs. Our model addresses the need of resource managers to iden-

tify programs that require wilderness to achieve program goals and those that do not require wilderness.

The purpose of this study is to use a continuum to classify WEPs and characterize their program aims, themes, methods, goals, and time spent operating as a WEP in wilderness areas. Such a classification serves to inform wilderness managers about WEPs and to identify how their programs differ in the use of wilderness.

Defining WEP Characteristics

WEPs are defined as including three criteria: (1) provides experiences and activities (e.g., recreational and educational) that are dependent on wilderness settings or conditions (i.e., similar to those defined in the 1964 Federal Wilderness Act); (2) provides experiences and activities that are consistent with wilderness use and involve primitive recreation and travel (e.g., nonmechanized or nonmotorized travel); and (3) provides experiences and activities that include interpersonal and intrapersonal activities that enhance personal development, intervention, education, leadership, or therapy (i.e., experiential programs that provide personal skills and technical skills that are dependent upon or enhanced by a wilderness setting), (Friese 1996).

A WEP can include educational, personal growth, therapy, healing, or other developmental goals such as environmental stewardship. Some of the more well known WEPs include Outward Bound, the National Outdoor Leadership School, and the Wilderness Education Association. WEP providers include commercial operations, college programs, youth groups, religious organizations, and special interest groups. The defining characteristic of WEPs is the central role of wilderness to the program experience and delivery. A central mission of WEPs is the development of human potential. By this criteria, programs that use wilderness but are limited to skills instruction, outfitting and guiding, or adventure travel are not considered to be

WEPs. Technical skills instruction may be an integral part of a WEP, but such activities are secondary to the developmental goals. The ways in which programs work to develop human potential are varied but all involve activities such as climbing, ropes courses, or expedition travel, and post-activity discussion, which is usually facilitated by instructors or guides. Such discussion is commonly referred to as processing, debriefing, transferring, or applying meanings to “real life” issues and experiences.

Historical Development of WEPs

The early WEPs, such as the Outward Bound-type programs that emerged in the United States in the 1960s, emphasized the benefits of overcoming reasonable challenges away from the securities of civilization to build character and cure helplessness (Newman 1980). The challenging activities and confidence-building goals of Outward Bound became a model for wilderness programs. By the 1980s, another type of program emerged, which focused less on challenge and adventure and more on the contemplative and stress-release benefits of wilderness. These programs were based on a longstanding and widely held belief that wilderness experiences enable an escape from the stresses and complications of civilization (Nash 1992). Many of these programs borrowed on the vision quest or rite of passage rituals of indigenous people, seeking to heighten participants’ awareness through extended solos, fasting, or ritual behavior in natural settings (Brown 1983; Foster and Little 1984). Although some of the activities of challenge and vision quest programs were different, the goals and instructional methods were often similar. Both program types had personal growth as a primary aim and active experience processing as a method.

WEPs have evolved from several philosophical backgrounds. For example, the early Outward Bound program philosophy was that the “mountains speak for themselves,” which implied that the developmental benefits were inherent from the course experience, such as climbing a peak, without secondary debriefing and processing by instructors. Later, the Outward Bound philosophy came to embrace

briefing and debriefing course activities to enable greater transfer or application of the experiential lessons. Students were encouraged to think about the accomplishment or teamwork metaphors related to the climb. This technique of processing is termed the “conscious use of metaphor” (Bacon 1983 and 1987).

In an attempt to better understand current WEP organizations, Friese (1996) proposed that there were three primary aims of WEPs: (1) personal growth—expanded fulfillment of participant capabilities and potential, including empowerment, spiritual renewal, motivation, self-esteem, confidence, teamwork, or social skills; (2) education acquisition of knowledge, skills, and experiences to change behavior, increase and enhance understanding, enjoyment, appreciation, or preservation of nature; and (3) therapy and healing—participant therapy or recovery from addiction, disability, illness, abuse, or socially unacceptable behavior. Friese (1996) proposed a WEP continuum (see Table 1) from “wilderness is a teacher” to “wilderness is a classroom” based on three primary WEP program aims and nine reported program methods used in 1995. This continuum is helpful in characterizing the diversity of WEPs.

Management Considerations for WEPs

WEPs providers use state and federal wilderness areas, as well as other primitive

Table 1—The Wilderness Experience Program Continuum

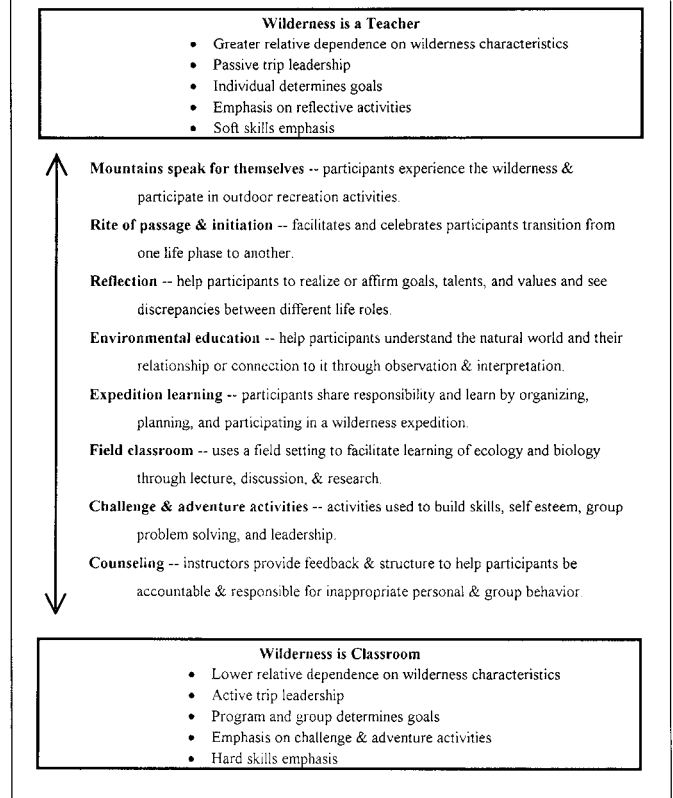


Table 2—Themes and Methods by Which Organizations Deliver Wilderness Experience Programs

Themes & Methods to Achieve Primary Aim	Personal Therapy & Healing			Total
	Education	Growth	Percent	
<u>Wilderness is a Teacher</u>				
Mountains speak for themselves ^a	20	7	0	12
Rite of passage & initiation ^a	3	35	6	18
Reflection	9	19	0	13
<u>Wilderness is a Teacher & is a Classroom</u>				
Environmental education ^a	46	13	0	26
Expedition learning	19	14	0	22
Field classroom ^a	15	3	0	8
<u>Wilderness is a Classroom</u>				
Challenge & adventure activities	20	33	31	28
Conscious use of metaphor	6	14	6	10
Counseling ^a	2	15	63	14

^aSignificant difference between the three organizational groups. Chi-square > 7.9, 2 df, p < 0.05.

Table 3—Goals for Participants in Wilderness Experience Programs

Goal Types and Goals for Participants	Personal Therapy			Total
	Education	Growth	& Healing	
Percent				
Wilderness-Related Goals				
Transfer wilderness experience learning to life ^a	88	93	63	88
Increase responsible wilderness behavior ^a	97	75	44	81
Develop outdoor skills ^a	82	70	38	72
Promote advocacy & action for wilderness ^a	58	30	6	40
Personal Development Goals				
Increase confidence ^a	70	86	94	80
Assume responsibility for self & choices ^a	66	89	88	79
Learn to work with others	67	71	88	71
Enhance decision making skills	64	69	81	68
Develop group problem-solving skills	66	59	75	64
Enhance communication skills	58	63	75	62
Enhance goal setting abilities	45	52	75	51
Increase spirituality ^a	30	62	31	45
Health-Related Goals				
Therapeutic assessment of client needs ^a	3	21	94	21
Participant rehabilitation or recovery ^a	8	15	69	17

^a Significant difference between the three organizational groups: Chi-square > 7.8, 2 df, p < 0.05.

areas, for outdoor adventure, education, therapy, and for other reasons. WEP recreation activities range from hiking, backpacking, canoeing, and camping to higher risk activities such as rock climbing, Whitewater rafting, and solo travel across a wilderness area. WEP activities vary widely depending on program goals and may include leadership activities, group therapy techniques, or fasting and

are and how to manage them has been documented (Krumpe 1990; Gager 1996), but general descriptive information about WEPs is limited (Friese 1996).

Methods

In 1995, Friese (1996) compiled a nationwide list of 699 WEPs in the United States. He then conducted a study to develop a program classification scheme based on the main aim or goal of the program and methods used to achieve them. The study had a 69% mail survey response rate. The preliminary study by Friese was designed to characterize WEPs and was not a census and did not include college and youth programs (e.g., Boy Scouts) that are not mainly oriented toward wilderness experiences. The sample of

vision questing. Some WEP activities are done in groups and some individually. The implications of WEPs operating in wilderness areas include resource impacts (e.g., large group campsites occupied for extended periods cause more vegetation and soil impacts than small groups of individuals traveling through a wilderness), interactions with other users (e.g., group size and competing for limited or preferred campsites), and wilderness management considerations (e.g., requirements for group or outfitter permits, risk, and safety issues). Wilderness manager concerns for understanding what WEPs

330 WEPs used in the mail survey for this study was based on the respondents to the previous study who met the criteria listed above as a WEP. This study expands on and tests the concepts proposed by Friese (1996) in his preliminary assessment of WEP programs. The mail survey for this study was developed by the authors based on the results of Friese and other published literature noted above (Bacon 1983, 1987). The mail survey was designed and implemented in 1996 using a technique described by Salant and Dillman (1994) and modified to use only one reminder letter. Chi-square statistical tests were conducted to ascertain whether WEP types would report different responses in themes and aims, goals, dependence on wilderness characteristics, and percentage of trip or program time spent in wilderness.

Results and Discussion

Of the initial sample of 330 WEP organizations sent a mail survey, 179 were returned (54%) after one reminder letter was sent.

WEPs have increased in number in the last 20 years, and some evidence of that is seen in how long organizations have been offering WEPs. The number of years operating as a WEP is as follows: 1–5 years (16%), 6–10 years (22%), 11–20 years (31%), 21–30 years (17%), and 31 years or more (14%). Only 43% of all organizations are founded solely to offer WEPs.

The organizations offering WEPs categorized their organizational structure in a variety of terms that are not mutually exclusive (i.e., they can respond to more than one category). The percentage distribution for five categories of organizational structure is as follows: not-for-profit religious or educational organization (42%); educational college, university, or independent school (27%); corporation (15%); business—sole proprietorship (15%); and business—partnership (4%).

Most results were analyzed based on the primary aim of the organization and some WEPs were not able to state one single primary aim due to their organizational complexity. Only 155 of the returned surveys indicated their organization's primary aim. The percentage distribution of the primary aims

Table 4—Wilderness Experience Program Dependence on Wilderness Characteristics

Dependence on wilderness characteristics ^a	Personal Therapy &			Total
	Education	Growth	Healing	
Percent				
Highly dependent	61	76	50	67
Moderately dependent	24	16	25	21
Somewhat dependent	15	8	25	12
Not at all dependent	0	0	0	0
Total	100	100	100	100

^a No significant difference between the three organizational groups: Chi-square > 6.3, 4 df, p > 0.05.

among organizations included in this analysis were: personal growth (47%), education (43%), and therapy and healing (10%).

This study attempted to further test Frieses proposed WEP classification by asking the same type of primary aim and method questions of WEP organizations. The results in Table 2 indicate that the conclusions of Friese are supported with: (1) the educational-oriented WEPs most often reported using wilderness as a combined teacher and a classroom; (2) personal growth-oriented WEPs most often reported using wilderness as a teacher or wilderness as a classroom; and (3) therapy and healing-oriented WEPs most often reported using wilderness as a classroom. Two concerns for this approach were reported by Friese (1996) and were verified in this study: (1) many WEPs reported using two or more methods and could not report that just one main method was used (i.e., columns in Table 2 total more than 100%); and (2) specific classification is difficult for a significant percentage of WEPs due to multiple aims and methods. For example, only five of the nine methods had statistically significant differences when comparing which WEP types used each method.

WEPs were asked to indicate which of 14 goals for participants were used to achieve the primary aim of their organization (see Table 3), and multiple goals were often indicated by respondents. These results also support the idea of WEPs forming an overlapping continuum since a majority of WEPs from all three primary aim categories reported that six to eight personal development goals were part of their programs for participants. Similarly, three to four of the wilderness-related goals were reported by a majority of education and personal growth WEPs as part of their programs, and over one-third of therapy and healing WEPs reported three of the goals as part of their programs for participants. Finally, the two health-related goals were reported by a majority of therapy and healing WEPs. Even though 9 of the 14 methods had statistically significant differences when comparing which WEPs planned for each goal across the three primary aims, there was wide distribution of goal utilization by the WEPs

within each primary aim WEP. Like the method types reported in Table 2, the goals for participants represent a continuum with no WEP type working exclusively within one goal type.

The very definition of WEPs indicates the strong relationship with wilderness and the seeming dependence on the wilderness resource for program existence and delivery. A more direct measure of dependence on wilderness was reported by the WEPs in their self-rating of their program dependence on wilderness characteristics to deliver their program successfully. The majority of all three types of WEPs (67% in total), reported that the wilderness resource was necessary for program delivery by rating their WEP as somewhat to highly dependent on wilderness characteristics (see Table 4). Only a minority of WEPs reported that their program was somewhat dependent on wilderness characteristics and none reported not at all dependent. No statistically significant differences were found between the three WEP types and the three levels of dependence on wilderness characteristics.

The majority of educational WEPs reported that they spent 50% or less of their total trip or program time in wilderness areas (see Table 5). The majority of therapy and healing WEPs reported that they spent 50% or less of their total trip or program time in wilderness areas, but a notable number (31%), reported spending 76 to 100% of their total trip or program time in wilderness areas (see Table 5). The majority of personal growth WEPs reported that they spent 31% or more of their total trip or program time

in wilderness areas (see Table 5). The reported range of wilderness use was very wide (see Table 5) and reflected the diversity of programs offered and variety of means for program delivery. For example, some educational programs spend

Table 5—Percentage of Total Trip or Program Time Spent in Wilderness

Percentage of total trip or program time ^a	Education	Personal Growth	Therapy & Healing	Total
	Percent			
0 to 10%	26	10	25	18
11 to 30%	27	12	19	19
31 to 50%	15	23	19	19
51 to 75%	16	26	6	20
76 to 100%	16	29	31	24
Total	100	100	100	100

^a Significant difference between the three organizational groups: Chi-square > 16.4, 8 df, p < 0.05.

The percentage distribution of the primary aims among organizations included in this analysis were: personal growth (47%), education (43%), and therapy and healing (10%).

considerable time in a classroom setting to prepare for the wilderness experience, while some experiential programs for personal growth focus on immersion in the wilderness activities. Statistically significant differences were found between the three WEP types and five levels of reported percentage of use in a wilderness area.

The majority of WEPs reported that their programs were moderately to highly dependent on federally provided wilderness areas. The variation is partially related to the geographic proximity of WEPs to federally designated wilderness areas across the United States. The reported percentage for each level of dependence on federally designated



Participants in WEPs develop personal skills through group activities and sharing the wilderness adventure. Photo by Chad P. Dawson.

wilderness was: highly (27%), moderately (29%), somewhat (26%), and not at all dependent (18%). No statistically significant differences (Chi-square > 1.6, $p > 0.05$) were found between the three WEP types and four levels of reported percentage of dependence on federal designated wilderness areas.

Conclusions

This study has empirically demonstrated (see Table 2) what Friese (1996) proposed based on his preliminary assessment of WEPs (see Table 1), that WEPs can be classified into general types based on: (1) three primary aims of personal growth, education, and therapy and healing; and (2) nine program methods. The survey data generally support the WEP continuum with some variations in the percent utilization of the nine program methods. However, it is important to note that these types and their methods of program delivery represent a continuum and provide a framework to better understand different WEPs. These three WEP types and the continuum of aims and program delivery methods they represent are one indication of the many dimensions of WEPs that are providing complex programming for participants in wilderness settings.

WEPs provide many human benefits to participants (e.g., healthy bodies and sound minds) and are an important use of wilderness (Hendee and Brown 1988; Easley et al., 1990; Krumpke 1990; Hendee 1994; Hendee and Martin 1994),

particularly if they support the preservation of our wilderness resources for present and future generations. Krumpke (1990) and Gager (1996), have cautioned that wilderness managers need to understand WEPs and their benefits and impacts. These study results suggest that not all WEPs can be approached with the same informational materials to foster a better appreciation of wilderness as a resource,

appropriate wilderness use and user behavior, and the need for wilderness protection and management. The following brief summary suggests some differences between the three types of WEPs.

Educational WEPs—Managers may be able to promote environmental and wilderness stewardship to educational WEPs fairly directly because of their use of environmental education as a theme (46%), their goals of increasing responsible wilderness behavior (97%), and promoting advocacy and action for wilderness among users (58%). Their use of wilderness for environmental education and emphasis on wilderness-related and personal development goals places them in the middle of the WEP continuum, which indicates they are interested in wilderness as a teacher and as a classroom. Educational WEPs represent 43% of all WEPs and have a strong educational interest in wilderness. This allows managers to use traditional informational materials to explain the need to protect and manage wilderness as an important resource.

Personal Growth WEPs—Managers may be able to promote environmental and wilderness stewardship to educational WEPs with some limitations such as their minimal use of environmental education as a theme (13%), their moderate-to-low use of wilderness-related goals such as increasing responsible wilderness behavior (75%), and promoting advocacy and action for wilderness

among users (30%). Their use of wilderness for rite of passage and initiation and challenge and adventure activities plus an emphasis on personal development and wilderness-related goals, place them across the middle range of the WEP continuum, which indicates they are broadly interested in both wilderness as a teacher and as a classroom. Personal growth WEPs represent 47% of all WEPs and have stated interest in wilderness (i.e., highest reported percentage dependence on wilderness characteristics and greater percentage of trip or program time in wilderness than other WEPs), so that managers can use fairly direct informational materials to explain the need to protect and manage wilderness as a place for recreational opportunities and personal experiences.

Therapy and Healing WEPs—Managers may have difficulty promoting environmental and wilderness stewardship to therapy and healing WEPs because of their lack of use of environmental education as a theme (0%), their low reliance on wilderness-related goals such as increasing responsible wilderness behavior (44%), and promoting advocacy and action for wilderness among users (6%). Their use of wilderness for counseling and emphasis on personal development and health-related goals places them on the “wilderness as a classroom” end of the WEP continuum, which indicates they are more interested in wilderness as a setting. While only 10% of the WEPs reported being in this category, their orientation will require unique informational materials to explain the need to protect the wilderness experience setting for therapy and healing activities (i.e., they may be less interested in protecting wilderness for its own sake or for wilderness as a teacher).

Most WEPs were highly dependent on wilderness characteristics for program delivery, and there was no reported difference between the three WEP types in dependence on wilderness characteristics. Hendee and others (1990) have recommended that wilderness management should favor wilderness-dependent activities and users over those that can be conducted somewhere else. Since WEPs are more dependent on the presence of wilderness characteristics than they are

on federally provided wilderness areas, some WEPs or some WEP trips or portions of programs may be delivered successfully in an area that has wilderness characteristics but is not designated as a federal wilderness area. Krumpe (1990) has recommended that WEPs should be encouraged to use nonwilderness areas if they do not depend on wilderness conditions, if they engage in nonwilderness-dependent activities, or if the WEP use causes disproportionate impacts to the wilderness resource or other wilderness-user experiences. Fur-

ther research is needed to determine the kinds and extent of resource and user impacts for each type of WEP. **IJW**

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How the Public Views Wilderness

More Results from the USA Survey on Recreation and the Environment

By H. Ken Cordell, Michael A. Tarrant, Barbara L. McDonald,
and John C. Bergstrom

Abstract: More than 1,900 people in the United States over age 15 were asked about their awareness of the National Wilderness Preservation System, adequacy of the amount of wilderness protected, and the importance of various benefits or values from wilderness protection. Findings indicate broad support for the concept of wilderness, based mostly on the ecological, environmental quality, and off-site values respondents believe wildland protection provides. Of lesser importance are various forms of on-site use values, including the secondary effect of stimulating income for the tourism industry.

IN *IJW*, VOLUME 4, NUMBER 1, national estimates of the annual number of trips U.S. residents take to wilderness were presented based on analysis of the National Survey on Recreation and the Environment (NSRE) (Cordell and Teasley 1998). The focus of that article was on recreational trips and the people who reported they took trips to areas of the U.S. National Wilderness Preservation System (NWPS). In addition to recreation use, which was the focus of this earlier paper, there are many other values people may attribute to wilderness, including experiential, mental/moral restoration, and scientific (Watson and Landres [in press]). For the most part, however, this expanded list of values remains focused on on-site uses and values requiring one's physical presence in a wilderness for realization of such values.

To be more comprehensive, off-site, nonuse values should also be considered as part of the full value of wilderness (Walsh and Loomis 1989). Off-site values include a range of potential benefits that can accrue to people whether or not they ever enter wilderness. The 1995 NSRE included a 13-item wilderness value scale (WVS) that covers a range of on-site and off-site wilderness values (Haas et al., 1986). This paper examines the U.S. public's ratings of the relative importance of these 13 wilderness values. People's knowledge of the NWPS and their opinions about the current size of the system are also studied.

Study Design

The NSRE was a telephone survey of a random sample of more than 17,000 noninstitutionalized persons over the age of 15 throughout the United States. Of this overall sample, a subsample of approximately 1,900 was asked a series of questions specifically about wilderness. Among the wilderness topics addressed were questions about awareness and adequacy of the size of the NWPS. Analysis of the NSRE wilderness subsample provided overall estimates for the national popula-

tion, as well as estimates of awareness and perceptions of adequacy of the system by east-west region of residence, three age groups, metropolitan vs. rural place of residence, and white vs. nonwhite races. In addition to comparisons of wilderness values, item by item, a Varimax rotated principal components analysis was run on the data to explore whether the 13 items in the WVS could be described as a smaller number of wilderness value factors. The multiple-item factors that resulted were subsequently used in multiple regression analysis to see how they were related to differences among survey respondents in age, race, gender, education, employment, and other individual and household characteristics.

Results

Analysis of the NSRE showed that 44.4% of the U.S. population over age 15 reported that they knew of the existence of the NWPS. For all respondents the purpose and real extent of the NWPS was clarified when they were asked the following question: From what you know about areas set aside under the Wilderness Act of 1964, do you think that the amount of designated wilderness is not enough, about the right amount, or too much?

<i>Response Item</i>	<i>Percentages</i>
Not enough	55.7%
About the right amount	29.3%
Too much	2.5%
Not sure/Don't know	12.5%

Percentages aware of the NWPS and percentages indicating their feelings about adequacy of the existing amount of protected wilderness were compared between respondents across selected demographic characteristics. The results of these comparisons are shown in Table 1. From these comparisons

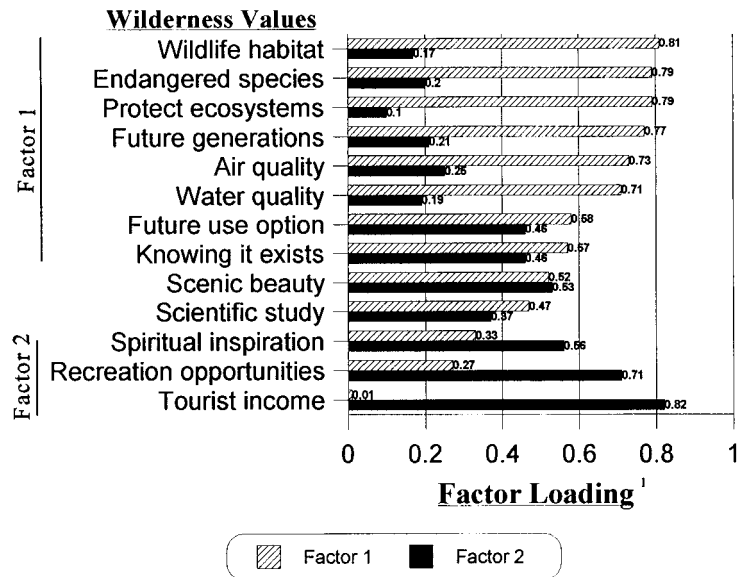
there appears to be a slight tendency for more western residents and whites to be aware of the NWPS, although the percentages shown in Table 1 were not significantly different. Significantly higher proportions of persons over 30 years old (especially those over 55) did report being aware of the NWPS ($p=0.05$ using chi square as the statistical significance criterion). In feelings about adequacy of the amount of wilderness currently under protection, slightly greater (although not statistically significant) percentages of metro and eastern residents and of whites indicated there is not enough acreage in the current system. As with system awareness, age was significant, ($p=0.05$); however, the majority of persons 55 or under indicated there is not enough wildland protected in the NWPS and a much higher percentage of persons over 55 (relative to those 55 or under) felt that the amount of acreage currently in the system is about right.

Wilderness Values

To introduce the WVS to respondents, the following wording was used: "Wilderness areas have many different values for different people. For each value I will list, please tell me whether it is extremely important (=1), very important (=2), important (=3), slightly important (=4), or not important (=5) to you as a value of preserving wilderness and primitive areas." Table 2 presents the percentage of respondents who indicated they considered it either a very important or extremely important value of wilderness and percentages of respondents who considered each not important. Also shown in Table 2 are means and standard errors for the 5-point importance scores for each of the 13 items in the WVS. (The test for internal consistency—reliability coefficient—indicated the WVS, as used in the NSRE wilderness sample, was highly reliable in performance, Cronbach's alpha=0.90.)

Exploratory factor analysis was run to see if the 13-item value scale could be reduced to a fewer number of dimensions (factors) based on similarity of response on WVS items. Factor analysis was conducted with SPSS/PC (Norusis 1994) and the principal components analysis method (with Varimax rotation to gener-

Figure 1—Loadings on Two Orthogonal Factors from the 13 WVs Items Using Principal Components Analysis with Varimax Rotation



ate uncorrelated factors). Missing cases were excluded using pairwise deletion, leaving a sample size for each item ranging from $n=1902$ to $n=1939$. Factors with eigenvalues greater than 1.0 were retained (see Figure 1).

By retaining items with factor loadings of .50 or larger, two factors, "Wildland protection" and "Wildland

utilization," were defined. Two items, "use of wilderness for scientific study" and "providing scenic beauty," could not be assigned definitively to either of these factors. In the case of scientific study loadings were below .50 on both factors, the criteria selected for retention. In the case of scenic beauty item loadings on the two factors were about equal, thus scenic

Table 1—Percentage of Americans Aware of the National Wilderness Preservation System

Demographic Characteristics	Percentages of Respondents		
	Aware of the NWPS	Feeling about amount Not enough	About right
Metro resident	44.2	56.9	27.9
Rural resident	45.2	52.0	34.0
Eastern resident	42.7	56.3	28.0
Western resident	49.9	53.7	33.3
Age 16-30	31.8	63.6	25.7
Age 31-55	48.3	57.2	27.6
Age over 55	57.1	38.3	39.4
Race is white	45.5	56.4	28.7
Race is nonwhite	37.6	51.3	32.9
All Americans over 15	44.4	55.7	29.3

Table 2—Percentage of Americans Indicating “Very or Extremely Important” and of Respondents Indicating “Not Important” and Mean Score with Standard Error of Each of 13 WVs.

Wilderness Value ¹	Percentages of Respondents		Mean (and Standard Error, E-02) ²
	Very or Extremely Important	Not Important	
Protecting water quality	78.9	1.7	1.77 (1.94)
Protection of wildlife habitat	78.6	2.6	1.81 (1.98)
Protecting air quality	78.0	2.6	1.79 (2.03)
For future generations	76.9	2.0	1.84 (1.96)
Protection for endangered species	73.7	4.9	1.92 (2.23)
Preserving ecosystems	66.5	7.0	2.14 (2.34)
Scenic beauty	59.7	5.4	2.18 (2.19)
Future option to visit	59.4	7.7	2.24 (2.37)
Just knowing it exists	56.1	6.4	2.23 (2.26)
For scientific study	46.3	14.1	2.55 (2.40)
Recreation opportunities	48.9	10.1	2.46 (2.22)
Providing spiritual inspiration	43.2	18.3	2.62 (2.65)
Income for tourism industry	22.8	41.1	3.33 (2.77)

¹ The reliability coefficient (Cronbach’s alpha) for the WVS was 0.90

² Value scores ranged from “extremely important” = 1 to “not important” = 5.

beauty could not be assigned to either (Hatcher 1994). The wildland protection factor explained 47.4% of the total variance; the wildland utilization factor explained 9.7% of the variance.

Value Differences Among Social Strata

To look for associations between the resulting factors and demographic characteristics of the respondents who scored the 13 WVS items, a stepwise multiple regression was conducted in SPSS/PC (Norusis 1994), with pairwise deletion of missing cases. A number of demographic variables were added to the age, gender, and residence variables described earlier. These included: (1) number of vehicles owned by the household (ranging in the data set from zero to 25); (2) highest grade of education completed (on a scale running from 1 equaling 8th grade or less to 7 indicating some graduate school); (3) hours of leisure time per week (ranging from zero to 167 hours); (4) age (16 to 99 years); and (5) total family income (1=less than \$5,000 to 11=more than \$150,000). In addition, the following dichotomous variables were included: gender (0=female, 1=male), race (0=nonwhite, 1=white), employment (0=no, 1=yes), retired (0=no,

1=yes), student (0=no, 1=yes), full-time homemaker (0=no, 1=yes), and awareness of the NWPS established by Congress (0=no, 1=yes). A significance level of $p=.01$ was used to determine importance, due to the large sample size involved.

Overall, this regression analysis revealed very little relationship between demographic characteristics and weighted scoring across items that loaded on each of the two WVS factors. None of the 12 demographic variables or NWPS awareness were significantly related to the factors at the 0.01 significance level. The total amount of variance explained for each of the two factors (“wildland protection” and “wildland utilization”) was 0.02.

Discussion

The topic of “protecting wildlands” in the United States inevitably includes discussion or debate about the degree to which the public may or may not support such protection, particularly the addition of acreage to the NWPS. Those opposed will usually assert that the public does not support such wildland protection, especially wilderness preservation, and that the system is set up to benefit an elite few. Those favoring wildland protection, including protection through wilderness

preservation, often argue that broad public interests are being served by setting up the NWPS and that the majority of the public supports it. In this paper we have looked first at the degree to which the public reports knowing that the NWPS exists, and second, we have examined the values the public ascribes to wilderness.

Results from the recent NSRE indicated that a surprisingly high 44.4% of Americans over the age of 15 were aware of the NWPS. We speculate that some number among those indicating they were aware of the system might not, in fact, actually understand the NWPS as it was defined in the Wilderness Act of 1964. However, there is obviously some form of “brand” recognition among many in our society with reference to the designated U.S. NWPS.

In addition, when wildland preservation and wilderness are discussed, there are often speculations about how the U.S. taxpayer feels about the amount of area this country has designated for protection as wilderness. The debate between jobs and “locking up” natural areas is almost assuredly one that most people have encountered in the media and thus should have some knowledge about the basic arguments. If not exposed through coverage pertaining to wilderness per se, certainly most have been exposed to the debate over protection of wild areas for a variety of reasons (e.g., to provide habitat for the spotted owl). Thus, we believe that most people have some background for evaluating the status of protected wilderness. While being surprised that 44.4% of the public report they are aware of the NWPS, even more surprising is that almost 56% feel we don’t yet have enough protected wilderness, while an additional 29% feel the amount protected is about right as it stands. Only 2.5% feel we have designated too much wilderness for protection.

The public seems, in general, to support the concept of wilderness. The benefits from wilderness they (we) particularly seem to value include protection of water quality, protection of wildlife habitat, protection of air quality, protection to pass natural lands along to future generations, protection of endangered species and their habitats, preserving plant and animal ecosystems and

genetic strains, protecting scenic beauty, having the option to visit an area in the future, and just knowing it is there. These were the aspects of wilderness protection that over half of the respondents indicated were either very important or extremely important. Particularly important to respondents were the first five values listed above which three-fourths of respondents rated as very or extremely important. Providing a source of income for tourism, personal/spiritual inspiration, and having natural areas for scientific study were the value items with the highest percentages of respondents indicating slight to no importance.

Based on the principal components analysis, it is evident that our sample of the U.S. public saw in the 13-item WVS two basic dimensions of value of the NWPS. The first dimension is wildland protection. This dimension (factor) includes eight of the nine value items listed above as being most important to the majority of respondents (the exception being scenic beauty). The resulting wild-land protection factor includes protection of air and water quality, habitats, ecosystem functioning, as well as existence, option, and bequest values (Walsh and Loomis 1989). The second value dimension is wildland utilization. This factor focuses on direct benefits associated with on-site use through recreation or scientific study or through the secondary economic effects of recreation use as tourism income to businesses. Many fewer respondents cited wildland utilization as a value of wilderness than cited wildland protection as a value.

Conclusions

Better understanding of the public awareness of the NWPS, feelings about the adequacy of total area currently protected as wilderness, and the values they hold with regard to wilderness should help

public land managers and groups with interests in wilderness preservation to better understand where the U.S. public stands on wildland protection. While some may argue that the respondents did not really understand what they were being asked and that they were uneducated about the issues, we cannot ignore the importance of what this study seems to show. It indicates broad, more-than-majority, support for wildland protection based on ecological and environmental protection and on intergenerational altruism values or benefits. It seems not to show that the U.S. public supports wilderness for self-serving and economic reasons. This broad support holds across rural/urban, eastern/western, and some different racial segments of society, and if the observed differences among age groups are in any way predictive of the future, this support may be even more pronounced among future generations.

Is the public uninformed of the details of the issues on both (or all) sides of the wilderness preservation question? Yes, for most respondents, more than likely. Does being uninformed of the details mean that one's opinions or preferences don't count? Not in the United States! Indeed, not in most of the rest of the world. For ages we have heard some within the natural resources professional community argue that the public is uninformed, and important decisions should, therefore, be left to the professional who does understand. Fortunately, that form of management is fading and being replaced by one that starts and operates on the principle that "stakeholders" must be integrated into natural resources decision making, including legislation that considers wildland protection measures and designations.

The findings in this paper indicate that the stakeholders in the wilderness

debate are spread broadly throughout the public, indeed, not limited to an elite few. Across income, education, lifestyle, gender, race, employment status, and age groups, there were no statistical differences in the values people ascribe to wilderness. Protection of wilderness seems to be widely supported across people with very different livelihoods and lifestyles. There are possibly, however, other social factors that would help explain why people hold differing views on the values of wilderness. A useful line of research would be to broaden studies to include social-psychological variables, such as preferences for wilderness designation, past wilderness behaviors (experience-use history), and related environmental conservation perceptions and behaviors. In addition, looking at political orientation variables (such as voting patterns), might add to our understanding of peoples' different value orientations toward wilderness. **IJW**

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Social and Economic Benefits of a U.S. Wilderness Experience Program for Youth-at-Risk in the Federal Job Corps

By Keith Russell, John C. Hendee, and Steve Cooke

Abstract: Wilderness Discovery (WD), a seven-day wilderness experience program designed to empower and strengthen the skills and motivation of youth-at-risk in the Federal Job Corps, was tested in 46 trips at four Federal Job Corps Centers (JCCs). Student journals and exit interviews showed that Job Corps students learned valuable lessons from WD: (1) that they said they would use to improve communication with other students and authority figures; (2) a more positive attitude toward Job Corps; and (3) a sense of accomplishment. WD participants were matched with control groups revealing that WD reduced early terminations 35% at Curlew JCC in 1993, and an average reduction of 23% at three centers in 1994. Steering committees at each center came to consensus on many positive benefits of WD, which were then linked to five critical variables in a benefit/cost model developed for Job Corps by Mathematica (1985). Based on all the study evidence, modest adjustments of 1%, 3%, and 5% were made in critical variables of the model to simulate potential economic benefits which exceeded costs of WD, as an adjunct to Job Corps. This analysis and framework helps document the idea that in designing a wilderness program around desired outcomes, in this case reducing early terminations and enhancing employability of JCC students, and designing analysis of these outcomes, wilderness experiences may be justified for economic reasons.



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FOUNDED IN 1964, the U.S. Federal Job Corps is a billion dollar annually funded program aimed at alleviating the severe employment, education, and social problems faced by disadvantaged youth—especially those who live in poverty areas. The major goal of the Job Corps is to prepare unemployed, high school dropouts for future employment. This is accomplished by providing the opportunity to live at one of more than 130 residential centers nationwide for up to two years. At no cost to them, enrollees (students), receive room and board, health care and dental

services, and may take classes to obtain a high school equivalency certificate (GED), receive vocational training, and develop social skills needed to secure and hold a job.

Although students can stay in Job Corps for up to two years, many leave the program early or are terminated for disciplinary reasons before completing their educational and vocational training. Those students completing Job Corps are more likely to get a job. And social benefits from participating in Job Corps are positively correlated with length of stay in the

program (Navarro and Associates 1990; Mathematica 1985). Thus, reducing early termination rates, increasing education and vocational training completion rates, and otherwise enhancing student performance are Job Corps priorities.

Wilderness Discovery

A seven-day backpacking program called Wilderness Discovery (WD) was designed and implemented at four participating Job Corps centers from 1993 to 1995 to address these problems (Hendee and Russell 1996; Russell and Hendee 1997). WD was specifically designed as a low-risk, low-stress, soft-skills (in contrast to adventure-challenge) program that allowed students time for reflection on their role in Job Corps, their life, and their future (Pitstick et al., 1993; Pitstick 1995). Students shared in cooking and camping chores, frequently convened in community circles to share feelings and decision-making, kept a journal, and spent periods of time alone to reflect. In addition to these soft-skill activities, participants complete some trail maintenance together to show respect for the wilderness.

The theoretical notion is that by increasing the self-esteem and sense of personal control of participants, which are effects reported in studies of wilderness experience programs and especially those serving youth-at-risk (Friese et al., 1996), that students would be more likely to remain in Job Corps, complete their educational and vocational training, and secure and

maintain employment upon completion of Job Corps.

Research Question and Methods

Benefit/cost analysis addresses program efficiency by systematically comparing the benefits received with the costs of the various resources invested in a program (Sassone and Schafer 1978). The very nature of wilderness experience programs such as WD are difficult to evaluate using this methodology due to many non-measurable benefits received by the participants (Latess 1988). To address this limitation, we utilized the existing benefit/cost model developed by Mathematica Policy Research Inc. (1985) to assess the economic efficiency of Job Corps. Simulating the model's valuation methodology, we explored the potential increases in net social benefits possible from WD as an adjunct to Job Corps, particularly through WD's ability to reduce early termination (Russell 1996).

Based on theoretical lines of reasoning, and the expert judgments of Job Corps staff serving on WD steering committees, and utilizing a benefit/cost model generated by Mathematica Policy Research Inc. (1985), the following research question was addressed: What are the projected net social benefits of WD as an adjunct to the Job Corps program? Four types of data were collected and analyzed: (1) student journals, (2) exit interviews, (3) termination rates of student participants compared with nonparticipants over a four-month period, and (4) consensus judgements of focus groups of Job Corps staff who served on WD steering committees at each center.

Findings: Student Journals

Job Corps students participating in WD were given journals to record their experience during the seven-day backpacking trip. They were given time alone during layover days and after meals when they could think about pressing issues in their lives and record their thoughts. Using content analysis methods described in Strauss and Corbin (1989) we identified the most frequent themes in their "reflective comments," defined as any statement or phrase that related (reflected on), the experiences of

Table 1—Content Themes Analyzed in Student Journals for 1994–1995 WD Participants at Four Jobs Corps Centers

Content Theme	Description	Example
EMPOWERMENT	Expressions of self-confidence, self-esteem, and a sense of personal power to take control and responsibility in one's life	"The group made me a leader and I was at the head and I made sure the trail was safe for everybody to walk on it. I was proud and I felt good because I was not afraid of the edges."
CLARITY	A clear view about some aspect of one's life; a new perspective or insight into problems that were previously ambiguous.	"Now that I look back on my experience out here in the wilderness and how I have a sense of well-being I never had. All my troubles have left me for the time being. It gives more thought to ones dreams, ones future, and to ones self. To me it has been a time of planning, a time of thought of what I want to do with my life."
PEACEFULNESS/HARMONY	References to feelings of peace, serenity, stress release, and harmony often in response to wilderness conditions.	"I realized that time is really no necessity when your in the wilderness. I can't believe how relaxed I am here, I just feel so free."
WILDERNESS/NATURE	Comments about the wilderness, feelings directly invoked by wilderness, and respect for the wilderness.	"I'm very thankful that we are able to have places like the wilderness, to be able to sit where it is peaceful and no one bugs you."
GROUP/INTERPERSONAL SKILLS	Comments about the influence of community and team building activities.	"I think the other people are doing really well for not doing this before. We all stick together and help each other out which usually does not happen at Job Corps which I think is really neat."
METAPHOR	Metaphors about ones life, society, empowerment, communication, and religion.	The picture on the other page is of a mountain scene, I feel I am just like one of the many pine trees in the wilderness just starting to branch out, learning many things and trying to do the very best I can. I feel like there is nothing I can't do at Job Corps.
CREATIVE EXPRESSION	Poems, creative writing that demonstrate insight into personal growth.	Today I watched the water on the rocks. The rocks block the water so the water flows around the rocks. The water and the rocks are working together. We are like the water and the rocks. Some of us are like rocks, and other people have to go around us. But we can work together. We are like the water and the rocks.

WD to the students' situation in Job Corps and their every-day life. Women students wrote more words per trip in their journals than males (average 569 vs. 290) and had more reflective comments (average 2.2 vs. 1.0), (see Table 1).

The common themes revealed in the content analysis of journals reflect the rich insights WD student participants recorded in their journals (see



Job Corps students valued their time in wilderness as a chance to get to know themselves better, reflect on their role in Job Corps, and to set goals for the future.

Table 2—Responses to Selected Exit Interview Questions at the Conclusion of Each WD Trip at Four Job Corps Centers, 1994–1995

Exit Interview Question	Yes	No	Most Frequent Reasons Given by Percent Mentioning
1. Was the experience different than you expected it to be?	93%	7%	<ul style="list-style-type: none"> Hiking more difficult (48%) Enjoyed it more than anticipated (18%)
2. How did you feel about the group and the goals accomplished as a group?	96% (Good)	4% (Bad)	<ul style="list-style-type: none"> Became better acquainted with trip participants (53%) We became like a family (20%)
3. Will you apply something learned on WD to your daily life back at center?	96%	4%	<ul style="list-style-type: none"> More confident and motivated or felt accomplished something (36%) Communicate more openly with others (35%)
4. What benefits are there from visiting the wilderness?	NA	NA	<ul style="list-style-type: none"> Getting away from the stress of life (35%) Learning respect for other people and nature (30%) Time to reflect and know oneself better (11%) Not take things for granted (10%)
5. Is WD a good program for Job Corps?	100%	0%	<ul style="list-style-type: none"> Think about life and role in Job Corps (25%) Get away from stress and think (18%) Positive effect on attitude and motivation (17%) Chance to find self (13%) Chance to see wilderness for persons previously not given the opportunity (12%)

Table 2), and illustrate the power of the wilderness experience in facilitating insights. For example, the empowerment theme reflects a sense of accomplishment. Clarity/insight conveys reflections about their lives, and goals they want to achieve. Group/interpersonal skills reflects enjoyment in working together and the chance to practice the social skills they were learning at Job Corps. These common themes demonstrate that students felt good about themselves, the experience, and the friends they made.

The WD experience provided students an opportunity to achieve success in completing something, for perhaps the first time in their lives. It also allowed the students to practice communication and social skills in working together to achieve common goals, and to immediately see the fruits of their labor such as

in setting up a tarp or cooking dinner. These ideas of student achievement and positive feelings are captured in this quote from a young woman reflecting on her wilderness discovery: "I am setting my dreams on the stars and reaching for all that is in me and I am hoping to find the sunlight as I work at it day-by-day I want it this way. I have learned a lot about myself on this trip. I've discovered what I truly want out of my life and the ways I am going to use to make this happen."

Findings: Exit Interviews

At the conclusion of every WD trip, each student responded to questions about their WD experience in a privately recorded interview with a leader at the trailhead. The interview began with general items and then moved to more direct questions of what particular things

had been learned on their WD trip and how they planned to apply them to their lives at Job Corps.

The interviews were later transcribed and descriptive statistics were tabulated for interview items having objective responses—such as yes or no. Responses that were narrative were content analyzed to identify consistent themes and then analyzed across JCCs using cross tabulations to search for patterns. Responses to the questions are summarized below and in Table 2.

1. WD was different than the students expected (93%). This was true despite a 2-hour pretrip meeting in which the trip was described in detail, fears and expectations were discussed, and an equipment list was distributed. The most frequent reason given was that the hiking was more difficult than expected (48%), followed by statements that they enjoyed WD more than they anticipated (18%). It appears that students were being challenged physically and mentally yet it was much more enjoyable than they had anticipated.

2. A community ethic was established on WD trips. The students said they felt good about their group and the friends they made (96%); giving such supporting reasons as they had become better acquainted with the members of their group (53%); and many said the group had become a family and had achieved group goals (20%). WD leaders and Job Corps staff observed that WD participants were able to communicate in a more open manner and felt comfortable discussing and sharing feelings with other students in their group.

3. WD participants felt they learned valuable lessons they would bring back to the center and apply to their daily lives (96%). Supporting reasons given included they were more confident and motivated after achieving success on WD trips or felt they had accomplished something (36%). Communicating with other students and authority figures in a more open and nonjudgmental manner (35%) was also noted as a lesson learned on WD, and one they would like to apply to their interactions

in the dorm or with Job Corps staff (WD strengthened their self-esteem and confidence).

4. Getting away from the stress of the day-to-day routine of Job Corps was seen by students as the most important benefit of visiting the wilderness (35%). This was followed closely by “learning respect for nature and other people” (30%). Some students noted that the time away was needed to reflect on their lives and to get to know themselves better (11%). They also valued the time as a chance to see more clearly their role in Job Corps, to set goals for the future, and to respect and appreciate nature as well as other things—not to take things for granted (10%).

It appears that wilderness excursions in granting peace and quiet allowed students to return to Job Corps feeling renewed and refreshed. They learned a metaphor of respect and caring for other people as well as the wilderness.

5. All students said WD was a good program for Job Corps (100%). Supporting reasons included: a chance to think about their role in Job Corps and their future (25%); to get away from the stress of Job Corps and provide time to think (18%); positive help for students’ attitudes and motivation (17%); a chance to find themselves (13%); and a chance to see the wilderness for those people who would not otherwise have had the opportunity (12%).

Findings: Termination Data

To address the question “What are the effects of participation in WD on length of stay in Job Corps?” we compared the termination rates of WD participants with a control group of Job Corps students who did not participate in WD. The idea was to see whether participating in WD would result in students staying in Job Corps longer and/or completing their educational and vocational training. We compiled a control group resembling WD participants in gender, age, and length of stay in Job Corps and then used a random number table (Montgomery 1976) to select the nonparticipant control group. This matched list of students (WD partici-

Table 3—Comparison of the Percent Reduction in Termination Rates of WD Participants vs. Controls at Curlew 1994, Timberlake 1994, and Trapper Creek 1994 Job Centers

Job Corps Centers	Percent of Group Terminated		Difference Total	Percent Reduction in Termination Rates*
	Participants	Controls		
Curlew 1993	27%	42%	15%	36%
Curlew 1994	23%	34%	11%	32%
Trapper Creek 1994	33%	40%	7%	18%
Timberlake 1994	27%	27%	0%	0%
Average Percent Reduction in Termination Rate	27.5%	35.8%	8.3%	23.2%

*The termination rates for treatment vs. control were compared statistically using a product multinomial non-parametric model because the data was non-normal. The results suggest a significant statistical difference (p-value <.10) across centers with a p-value of .1083 when the 1995 Timberlake Job Corps Center was dropped from the analysis.

pants and their matched pairs) was then checked for termination status at the end of December, four months after the last WD trip ended.

The 1993 analysis of termination data revealed that at least 4 months post WD there was a 36% reduction in termination rates among WD participants compared to control groups, and an average reduction in early termination rates for Wilderness Discovery participants of 23.2% when 1994 students at Curlew, Timberlake, and Trapper Creek Job Corps centers were added (see Table 3). This collective reduction in early termination rates is lessened by a “no difference” findings at Timberlake Job Corps center which is partially explained by factors unique to that center (see Table 3 footnote).

Furthermore, based on theoretical, empirical (our study results), and practical reasoning, we believe that greater reductions than those demonstrated would be possible if students that were known to be at risk for early termination were selected to participate in WD, and refinements were made in the WD program aimed directly at reducing termination rates. For example,

students with a 30-60 day tenure at Job Corps are known to have a high dropout rate. These dropouts cost the federal government \$100 million dollars in Job Corps expenses annually, with no measurable benefits returned to society from this investment (Navarro and Associates 1990).

Findings: Consensus Expert Opinions from Focus Groups of Job Corps Staff

At the end of the Summer of 1995, the WD steering committees at each Job Corps Center participated in a focus group exercise to evaluate the success of Wilderness Discovery at their respective centers. The focus group exercise contained two rounds of questions: (1) How the steering committees perceived that WD benefited the students who participated in WD compared to students who did not participate; and (2) How the WD steering committees perceived that benefits to students from WD related to real-life social dynamics. We were especially interested in these expert staff opinions linking the perceived effects of WD to variables in the Job

Table 4—Percent Adjustment of Five Benefit/Cost Variables in the Mathematica Policy Research Inc. (1985) benefit/Cost Model in Three Scenarios to Simulate the Effects of WD as an Adjunct to Job Corps.

Benefit Variable	Mathematica Policy Research Inc. (1985) Definition	Multiple Scenario 1	Multiple Scenario 2	Multiple Scenario 3
Variable 1—Employability	OUTPUT PRODUCED BY CORPSMEMBERS	2%	3%	5%
Variable 2--Welfare Dependency	REDUCED DEPENDENCE ON WELFARE	2%	3%	3%
Variable 3--Criminal Behavior	REDUCED CRIMINAL ACTIVITY	1%	2%	2%
Variable 4--Drug/Alcohol Abuse	REDUCED DRUG/ALCOHOL ABUSE	1%	2%	3%
Variable 5--Retention Rate	REDUCED UTILIZATION OF ALTERNATIVE SERVICES	5%	5%	5%

*Multiple Scenario 1 assumes a more conservative increase in the value of the benefit variables, and Multiple Scenarios 2 and 3 increase the benefit variables slightly higher to explore the sensitivity of variables to net social benefits

Corps benefit/cost model developed by Mathematica Policy Research Inc. (1985) so we could assess and simulate whether enhanced student behavior attributed to WD participation could increase Job Corps effectiveness.

We asked the focus groups for their judgments on how they thought participation in WD would enhance the student's future prospects in six topic areas embracing the six critical variables in the benefit/cost model: (1) employment and earnings, (2) reduced dependence on welfare and transfer programs, (3) reduced criminal activity, (4) reduced drug and alcohol abuse, (5) an individuals likelihood to terminate the Job Corps program (termination rate—which implies a reduction in the use of alternative services), and (6) improved social skills and well being (Mathematica Policy Research Inc., 1985).

The following benefit categories emerged in the consensus expert opinions by WD steering committee focus groups conducted at Atlanta, Georgia; Curlew JC in Washington; Trapper Creek in Montana; and Timberlake in Oregon; JCCs at the conclusion of the WD program in 1995, as to perceived benefits to students who participated in WD:

Accomplishment
Appreciation/Exposure to New Experiences
Challenge
Communication
Healthy Environment
Reflection and Introspection
Self-Confidence
Self-Esteem
Teamwork/Cooperation
Trust and Respect for Others and Authority Figures
Wilderness and Environmental Awareness

These categories document benefits to students from participation in WD and support the positive effects we already identified in analysis of student journals, exit interviews, and reduced termination rates. The focus group also identified key social skills learned and practiced on WD trips that are related to future job possibilities, including: (1) communications (both listening and speaking), (2) problem solving, interpersonal, negotiation skills, and teamwork skills, (3) self esteem, (4) goal setting, and (5) leadership. Collectively, these data reinforce the notion that a wilderness experience program enhanced performance by students in Job Corps, and could potentially effect Job Corps' ability to prepare young people

for a more productive life after Job Corps, when they enter the job market.

Applying a Benefit/Cost Model to Wilderness Discovery

The foregoing evidence, including an average 23% reduction in termination rates by WD participants, combined with positive student journal and exit-interview findings, and the post trip enhanced performance of WD participants perceived by Job Corps staff, all suggest positive results from participating in WD. This positive evidence is linked to the Mathematica Policy Research Inc. (1985) benefit/cost model by expert judgments of the WD steering committees of Job Corps staff, supporting the notion that WD is enhancing the mission of Job Corps—to prepare eligible young people for meaningful employment. WD directly targets and develops necessary skills that are needed in the job market, thus enhancing a students employability. These factors form the theoretical basis for potential additions to net social benefits derived from investing in WD as an adjunct to the Job Corps. The theoretical model and its projections are presented in Figure 1.

Simulating Benefits of Wilderness Discovery

Under the assumption that the foregoing study findings support the idea that participation in WD will enhance benefits as outlined in Figure 1, we developed three benefit/cost scenarios with very conservative increases in five benefit variables (1-5%) in the Mathematica Policy Research Inc. benefit/cost model to simulate the effect WD could have on the overall effectiveness of Job Corps (see Table 4). The resulting sensitivity analysis generated new benefit/cost ratios suggesting that slight increases in benefit variables can lead to increased net social benefits attributable to WD as an adjunct to Job Corps (see Figure 2). That is, Job Corps has a documented baseline benefit-to-cost ratio of \$1.46 of benefits returned to society for every dollar invested in the program (Navarro and Associates 1990). Adding WD as an adjunct to Job Corps increases the benefit/cost ratio.

The sensitivity analysis leads to the additional question: Do the total estimated benefits of WD as an adjunct to Job Corps exceed the additional costs of operating the wilderness experience program? To determine if the marginal cost of adding WD to Job Corps (\$367 per student per trip) was less than the additional benefits returned, we utilized the dollar values of benefits used by Mathematica Research Inc. (1985) in their benefit/cost model. After adjusting the benefit/cost model to reflect 1996 dollars, and based on our findings, we simulated benefit variable increases of 1% to 5% to reflect enhanced Job Corps effectiveness in training young people to enter the workforce. These conservative adjustments yielded an increase of \$767 in net social benefits attributable to WD as an adjunct to Job Corps. This means that for every dollar invested in WD, \$1.52 would be returned, based on this simulation and assumptions derived from our study findings.

Discussion: Job Skills for the Future

Social skills developed through participation in WD help students in a variety of social interactions and will make them more employable upon completion of their training—based on findings from exit interviews and consensus opinions of Job Corps staff participating in this study. To further support the theory that WD can enhance Job Corps, and to reinforce our findings, an examination showed how WD is targeting complex social skills required by employers (Law 1994). Following is a list of job skills noted by the Committee for Economic Development (1990) that will be required for young workers entering the labor market in the future: reading, writing and computation; learning to learn; communication—listening and oral; creative thinking and problem solving; interpersonal, negotiation, and teamwork skills; self-esteem and goal setting; motivation and personal career development; organizational effectiveness and leadership.

The highlighted skills were identified as being enhanced by Wilderness Discovery through the analysis of journals, exit interviews and by Job Corps staff. Thus, based on the evidence presented in this

Figure 1—How WD Benefits to Students Perceived by Job Corps Staff Affect the Mathematica Policy Research Inc. (1985) Model and Increase Net Social Benefits.

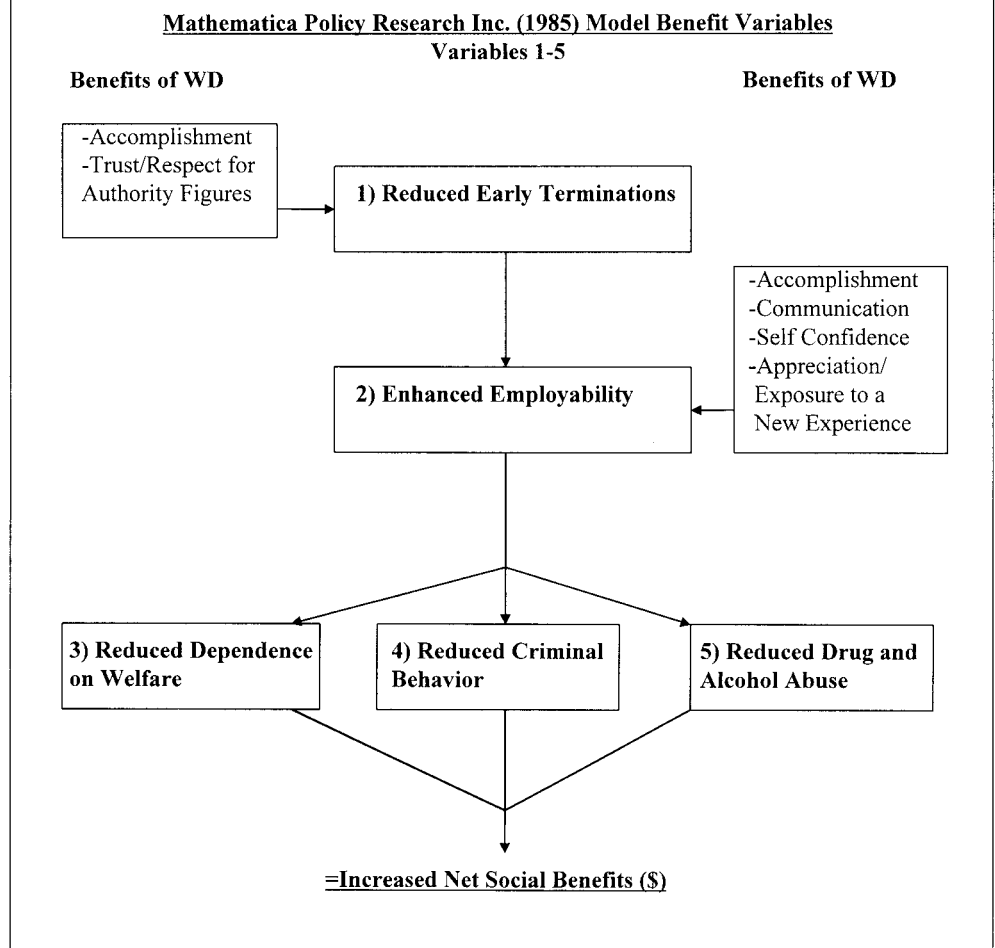
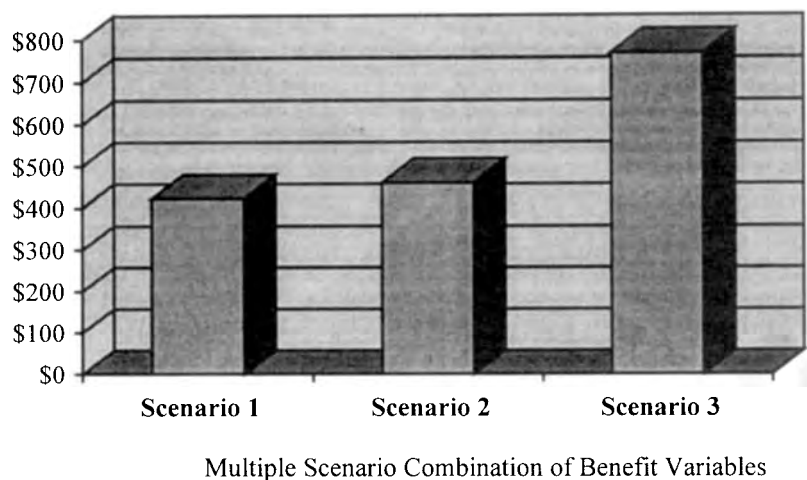


Figure 2—Potential Increases in Net Social Benefits Per Student Per Year Under Three Multiple Combinations of Benefit Variable Increases of 1% to 5%



study, participation in WD could increase students' employability by helping them acquire skills needed for a changing labor market.

Summary and Conclusions

Positive impacts on self-esteem and sense of personal control are documented as benefits from participation in wilderness experience programs (Friese et al., 1996). Programs for disadvantaged youth, such as Job Corps, might utilize this empowerment provided by wilderness experience programs to facilitate the education, job training, and rehabilitation of youth-at-risk. To support such proposals new studies and new approaches to outcome-based wilderness program design and evaluation are needed.

While the benefit/cost analysis applied to this study is not a new method, its applications to simulate and evaluate the effects of a wilderness experience program as an adjunct to Job Corps is unique. This evaluative framework helps document the idea that in designing a wilderness program around desired outcomes, in this case enhanced employability, and designing an evaluation to address these desired outcomes, wilderness experiences may be justified for economic reasons—not just the enhanced self-esteem of participants. Wilderness experience programs can be strategically deployed to help prepare economically and socially disadvantaged youth for enhanced life prospects by developing their social, problem-solving, and goal-setting skills, as well as enhancing self-

esteem and confidence to help them get and keep a meaningful job. **IJW**

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Wilderness Track Management in Tasmania, Australia

By Tracey Diggins

"The remote mecca of Australian bushwalkers, Federation Peak, stood unclimbed in the Southwest until 1949—it is now visited by hundreds of people annually. The Southwest, as with the world's other wild areas, is a modern Eldorado. The remaining remote and trackless country of the World Heritage Area is currently being visited by the vanguard of what will be a veritable onslaught of visitors in years to come."

—Bob Brown, 1980

"A wilderness area has value independent of whether humans have access to it."

—Naess (as cited in Nash 1990)



Article author Tracey Diggins with Federation Peak, South West Tasmania in the background.

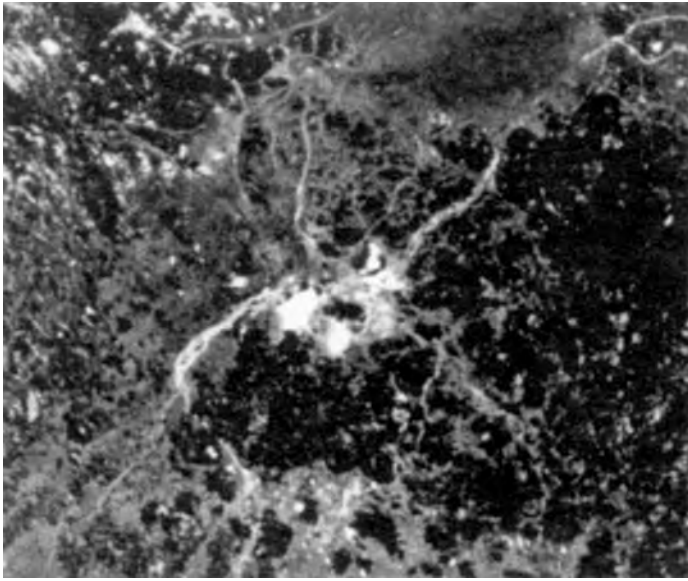
IN 1991, THE WORLD TOURISM ORGANIZATION REPORTED that tourism had become the number one industry in the world. Two of the fastest growing sectors of this gigantic industry are ecotourism and adventure travel. By the year 2000, some 650 million people will visit another country for recreation. In Australia, tourism has become our major export industry with over 2.5 million

visitors in 1992. We aim to attract 6.5 million international visitors by the year 2000. Research by the Australian Tourist Commission confirms that Australia's greatest attraction is unspoiled nature (Figgis 1994). At the same time that we experience such unprecedented growth in demand, wilderness continues to be the "world's fastest disappearing non-renewable resource" (Brown 1994).

In Tasmania, the adventure travel and ecotourism industry focuses on the Western Tasmanian Wilderness World Heritage Area. Historically, it was an area valued only for its hydro-electricity forestry, and mining potential. Today it is an area increasingly valued for the money to be made from tourism enterprises. Under the guise of ecotourism, wilderness resorts, wilderness lodges, and a whole host of nature-compromising enterprises (including proposals for cable cars and other forms of mechanized transport in and across the wilderness) are being developed. The tourist industry has emerged as a major challenge to maintaining pristine wilderness.



The bushwalking "segment" of the industry is no exception. The number of walkers currently venturing beyond the popular visitor nodes on the fringes of Tasmania's World Heritage Area to the more remote zones in the heart of the wilderness is unsustainable. From a growing number of vantage points throughout Tasmania's wilderness, spidery networks of bushwalking tracks show up as white scars. Many of the popular campsites have eroded to bare earth. Sanitation and water quality are problems at some of the more popular destinations. The problems associated with "supply and demand" are



1:5000 scale aerial photograph of High Moor in the Western Arthur Range, South West Tasmania (1995). The striking white patches reveal the extent of the degraded campsites on this once pristine alpine moorland. Unplanned track development is also clearly visible. This damage is caused by a surprisingly low number of visitors. It is estimated that less than 200 people visit this area each year. Photo by Parks and Wildlife Service.

exacerbated by the extreme fragility of this landscape. The vegetation, soil, subsoil and sometimes the bedrock are tremendously fragile. The steepness of the terrain and the poor drainage combine to accentuate the problems.

In many parts of Western Tasmania, long-term damage appears to occur at extremely low-use levels. Evidence from recent controlled trampling trials (DELM 1997) suggests that walkers' pads can start to form on alpine vegetation after as few as 30 tramplings a year over a two-year period. Fewer than 50 tramplings a year may be sufficient to cause eventual vegetation loss and subsequent erosion resulting from water flow. Severe campsite erosion and extensive trampling damage in adjacent areas has occurred in parts of the Western Arthur Range, for example, that has less than 200 visitors a year.

To address this escalating environmental damage, the parks and wildlife service have advocated the need for a comprehensive permit system to regulate overnight walker numbers in Tasmania's Wilderness World Heritage Area (Diggins 1996). When an article detailing this proposal appeared in *Wild*, Australia's leading rucksack sports magazine, it generated plenty of interest—both positive and negative. In the next

edition of the magazine, *Wild* editors published one reader's response under the heading, "The Mother of all Debates" (*Wild*, Autumn 1996). Such Gulf War rhetoric indicates the reactionary nature of the issue, and creates pessimism concerning the likely quality, direction and outcome of the debate.

Proponents of the permit system are repeatedly called to task by those opposing the implementation of permits, for their "exclusionist philosophies" and their "extreme interpretations of wilderness," but the proposal for such a system isn't

new. It was first floated in the (Australian) public domain in the *Tasmanian Wilderness World Heritage Management Plan, 1992*, and in the *Walking Track Management Strategy for the Western Tasmanian Wilderness World Heritage Area (1992 and 1994)*. Both of these documents identified significant environmental damage including erosion, broad scale trampling of vegetation, the ad hoc development of new unplanned tracks, the spread of the root-rot fungus *Phytophthora cinnamomi*, and sanitation problems across a wide range of remote locations within the World Heritage Area. The cause—an unsustainable number of bushwalkers, climbers, cavers, and Whitewater rafters.

Key Findings

Although reporting in detail on the extent of the damage is beyond the scope of this article, key findings detailed in the *Walking Track Management Strategy (DELM 1994)* provide a snapshot of the extent of the environmental problem.

Of the 1,000 kilometers of walking tracks throughout the World Heritage Area, 200 kilometers are heavily eroded to a depth of 25 centimeters or more. Local erosion in many areas is substantially deeper, with some tracks, sited on peat soils, eroded more than 1

and 2 meters. Because peat soils accumulate at rates as low as 1–2 centimeters per century, natural recovery will require thousands of years. Similarly, vegetation (particularly fragile high altitude vegetation) that has been trampled away at hundreds of campsites and along many kilometers of tracks is extremely slow growing. At sites where all the soil has eroded to bedrock, natural recovery will be impossible.

In addition, 100 kilometers of tracks are muddy quagmires and 85 kilometers have multiple braids. At particularly severe sites, as many as 15 parallel tracks cross sensitive vegetation. Research shows that without active management, 400 kilometers of track will substantially erode over the next twenty years. But it is the potential for the development of a further 500 kilometers of new unplanned tracks in the next twenty years, an increase to the existing track network of 50%, that reveals the growing nature of the managers' problem.

Considerable debate continues about regulating access to fragile wilderness areas. But there is still no action from government on the implementation of an overnight walker permit system despite growing evidence about the extent of the environmental damage. As a result, a dialectic exists: (1) Do management initiatives, such as permits and quotas that regulate use of wilderness areas, deny individuals' right of access? Are they the antithesis of the wilderness philosophy, as some users claim? Or, (2) Are these management initiatives merely consistent with a new philosophy that redefines the value of wilderness and wild nature, and that challenges established Western ethics and values?

Ethics are concerned with values—not necessarily what is, but what ought to be. As such, ethics have a distinct guiding action or normative aspect that clarifies the right action in a given situation. By identifying the way in which our modern Western ethical framework regards wilderness and wild nature, and by exploring recent challenges to this dominant framework from environmental philosophers, the dialectic can be understood.

The Value of Wilderness

“The idea that humans are the crown of creation, the source of all value, the measure of all things, is deeply embedded in our culture and consciousness.”

—John Seed (1985)

William Godfrey-Smith (1979) posits the central assumption of Western moral thought thusly: “Value can be ascribed to the non-human world only insofar as it is good for the sake of the well-being of human beings.” He asserts that this central assumption affects our entire attitude towards the natural environment, as reflected in “the sorts of justification which are standardly provided for the preservation of the natural environment” and, in particular, for wilderness.

Leading ecophilosopher, Warwick Fox (1990), concurs with this position, stating that when our attention is “turned to the exploitation by humans of the non-human world, our arguments for the conservation and preservation of the nonhuman world continue to betray anthropocentric assumptions. We argue that the nonhuman world should be conserved or preserved because of its use value to humans rather than for its own sake or for its use value to nonhuman beings.” Whereas Godfrey-Smith (1979) identified four main instrumental arguments generally promoted as reasons for protecting wilderness (i.e., “cathedral,” “laboratory,” “silo,” and “gymnasium”). Fox (1996) greatly expands that list to these nine distinct arguments:

1. The life support system argument—preserve it for reasons of physical well being
2. The early warning system argument—it is an early indicator of ecosystem deterioration
3. The silo argument—it is a repository of potentially valuable genetic information
4. The laboratory argument—it is of particular relevance for scientific study
5. The gymnasium argument—it is good for physical recreation
6. The art gallery argument—conducive to aesthetic pleasure and inspiration

7. The cathedral argument—conducive to spiritual inspiration
8. The monument argument—symbolic or instructional value
9. The psycho-developmental argument—it is essential for healthy psychological development.

Fox (1990) and others have consistently argued that to call for the protection of wilderness and wild nature on these purely anthropocentric terms is limited. It can also ultimately come at a cost because, although this expedient approach results in the occasional “win”, in the long term it is “contributing to losing the ecological war by reinforcing the cultural perception that what is valuable in the non-human world is valuable only insofar as it is valuable to humans.” Deep ecology (Devall and Sessions 1985) calls for a reorientation from a human-centered or anthropocentric position to an ecocentric position. An ecocentric position presupposes that the non-human world as well as the human world has intrinsic value and as such deserves moral consideration.

In the proposal for the introduction of permits to regulate access to fragile



Parks and Wildlife Service officer taking measurements at one of the 400 or so monitoring sites throughout the World Heritage Area. At each site PWS officers gather information including, the depth of erosion, the loss of vegetation cover, the presence or absence of mud and the evidence of water flow. The monitoring program provides the basis for a systematic assessment of the levels, rates of change and distribution of track impacts. Photo by Tracey Diggins.

Local erosion in many areas is substantially deeper, with some tracks, sited on peat soils, eroded more than one and two meters. Because peat soils accumulate at rates as low as 1–2 centimeters per century, natural recovery will require thousands of years.

wilderness, Fox’s claim is supported (i.e., anthropocentric arguments for protecting wilderness will inevitably contribute to maintaining unacceptable ethical frameworks). Open Mind Research Group (1996) conducted a small-scale qualitative study for the Tasmanian Parks and Wildlife Service using a series of small group discussions to explore the attitudes of bushwalkers to the introduction of permits in Tasmanian World Heritage

Areas. On the issue of whether access to wilderness is a right or a privilege the consultants concluded that, amongst Tasmanian participants: The tendency was to consider access to wilderness areas as a right rather than a privilege. Indeed some walkers expressed a rather proprietary attitude, to the extent of suggesting that they almost had special rights of access Not surprisingly, this attitude leads to a reluctance to accept permits and any



A lone bushwalker enjoys the early morning mist on a remote mountain range in South West Tasmania. Will future generations also be able to enjoy this experience?

potential limitation to access to wilderness areas.

Inherent in this prevalent attitude is the notion that the Western Tasmanian World Heritage Area is indeed a vast “gymnasium,” and that the right to recreate, regardless of its environmental consequences, has precedence over the rights of wild nature (which exists primarily to serve human needs.)

This same group of people argue that the introduction of permits and quotas invokes the specter of centralized, controlling government, not unlike that offered by Garrett Hardin’s “mutual coercion, mutually agreed upon” philosophy detailed in his 1968 essay, “The Tragedy of the Commons.” Using rhetoric such as “encroachment on personal freedom” and “gross intrusion into personal space” (Wootton 1996), these vocal self-interest groups continue to successfully undercut these specific measures.

Whereas our issue is track management and loss of wilderness, the renowned historian Lynn White Jr. (1973) used the issue of pollution to illustrate the negative influence of an outdated anthropocentric values framework. He observed,

I have not discovered anyone who publicly advocates pollution.

Everybody says that he [sic] is against it. Yet the crisis deepens because all specific measures to remedy it are either undercut by legitimate interest groups, or demand kinds of regional cooperation for which our political system does not provide. We deserve our increasing pollution because according to our structure of values, so many other things have priority over achieving viable ecology [The problem with] our

structure of values [is that] a man-nature [sic] dualism is deep-rooted in us Until it is eradicated not only from our minds but also from our emotions, we shall doubtless be unable to make fundamental changes in our attitudes and actions affecting ecology.

Despite the dominant attitude of proprietary ownership amongst Tasmanians, the Open Mind consultants also found that “there was common agreement amongst Melbourne bushwalkers, shared by a minority segment of Tasmanian participants,” that access to a wilderness experience is a privilege and that “this privilege must not be over-used and may require some compromises to be made.”

Conclusion

The anthropocentric view of wilderness promotes the value of wilderness for human-use and enjoyment. Naturalness and the rights of nature are of less importance than maximizing direct human-use. The concept of carrying capacity holds little weight. The ecocentric view emphasizes the maintenance of natural systems, if necessary at the expense of human uses and recreation. Many people still support the notion that wilderness should be

managed primarily for its utilitarian values, particularly recreation.

While “regulations for regulations sake have no place in Tasmania’s wilderness or indeed in any wild area” (Bell 1996), regulations to maintain wilderness quality are needed—to benefit wild nature itself. Godfrey-Smith concludes that our philosophical task is:

to provide adequate justification, or at least clear the way for a scheme of values according to which concern and sympathy for our environment is immediate and natural, and the desirability of protecting and preserving wilderness self-evident. When once controversial propositions become platitudes, the philosophical task will have been successful.

On the issue of permits and the intrinsic values of wilderness, our philosophical task is clearly incomplete. We may well still see the day when permits are introduced, but it is likely to be on the grounds of “wise use” and “intergenerational equity” inherent in the wilderness preservationist position, rather than as a result of the radical shift in values required by the ecocentric perspective. That shift, which must be made to solve the broader and most urgent problems of the current ecological crisis, is yet to occur. The dimensions of this task are noted somewhat wistfully by William Godfrey-Smith: “Extensions in ethics have seldom followed the path of political expediency.” **IJW**

TRACEY DIGGINS has worked as a wilderness activist for over 15 years. She was director of the Wilderness Society (Australia) education from 1986–1992 and education officer for Tasmania’s Parks and Wildlife Service Walking Track Management Team from 1995–1998. She is currently the Education Program Director for the Pembina Institute for Appropriate Development. She can be contacted at Box 7558, Drayton Valley, T7A 1S7, Alberta, Canada. Telephone: (403) 542-6272. E-mail: traceyd@pembina.org.

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NOMINATIONS ACCEPTED: "EXCELLENCE IN WILDERNESS MANAGEMENT RESEARCH AWARD"

REPLY DUE: JANUARY 29, 1999!!!

The *International Journal of Wilderness* is proud to announce that our executive editors will participate in the selection of this year's recipient of the USDA Forest Service's "Excellence in Wilderness Management Research Award." The objective of this award is to recognize excellence in an individual or team wilderness research accomplishment that directly benefits the wilderness resource in the United States.

Employees of the federal and state governments, other private or public organizations, and private individuals are eligible to receive this award. The award is based on the nominee's ability to identify management implications of the research, the creativity and innovation used in the research, effectiveness of research accomplishments in addressing wilderness management issues of critical importance, effectiveness in commu-

nicating research results to management, and, where appropriate, evidence of importance given to the interaction between the physical, biological, and social components of the wilderness resource.

To submit a nomination, include (1) a cover sheet including the nominee's name, organization, address, and telephone number (with equally thorough information on the person making the nomination); and (2) a narrative that describes the research project or series of projects and addresses each of the award criteria listed in the paragraph above. The narrative may not exceed two single-space pages. Supplemental documentation may be included. Nominations can be sent to Chris Ryan, Forest Service Representative, Arthur Carhart National Wilderness Training Center, 20325 Remount Road, Huson, Montana 59846, USA. Fax: (406) 542-4196.

Announcements and Wilderness Calendar

- **USDA Forest Service Bans Use of Fixed Anchors for Climbing in Wilderness**
- **DeVlieg Wilderness Research Fellowship Established at the University of Idaho, USA**
- **Helicopter Ban in Alaskan Wilderness Upheld by USDA Forest Service**
- **Alan Ewert Fills Endowed Chair at Indiana University**
- **USDA Forest Service Chief Mike Dombeck Highlights Wilderness in Message on Conservation Leadership**
- **The Arnold Bolle Scholarship**
- **1998 Arnold Bolle Scholarship Award Recipient: Peter Newman, Suny-ESF**
- **Conference: International Symposium on Society and Resource Management**
- **Letter to the Editor**

USDA Forest Service Bans Use of Fixed Anchors for Climbing in Wilderness

On June 1, 1998, the USDA Forest Service announced that it had banned the use of "fixed anchors" for climbing in designated wilderness in the national forests. The decision culminated nearly a decade of study and discussion of this contentious issue.

Based on a review of a decision made by the Intermountain Regional Forester, the policy prohibits the placement of permanent anchors, bolts placed in drilled holes, or pitons or slings to be left in place on any climb inside USDA Forest Service wilderness. The use of temporary "protection" (e.g., the use of cams, chocks, temporarily placed pins and slings) would not be prohibited. The policy only applies inside wilderness. It appears to closely match the proposed policy of the USDI Bureau of Land Management.

"This decision clarifies our application of national policy to the issue of fixed anchors," said Robert Joslin, Deputy Chief of National Forest System lands. "It demonstrates our commitment to the integrity of the wilderness resource and is in keeping with both the spirit and legislative intent of The Wilderness Act. At the same time, it does allow for rock climbing in wilderness that is done in an environmentally sensitive manner." The full text of the announcement and an associated question and answer document can be found at: <http://www.fs.fed.us/news/19980601.html>.

DeVlieg Wilderness Research Fellowship Established at the University of Idaho, USA

The Charles DeVlieg Foundation of Detroit Michigan has established the Charles DeVlieg Wilderness Research Fellowship

at the University of Idaho (UI). "This fellowship will support the critical need for new knowledge about how fish and wildlife populations function in wilderness and in environments less disturbed by human activity," said George LaBar, head of the UI Department of Fish and Wildlife.

Doctoral candidate Katherine Strickler, the first recipient of the DeVlieg Wilderness Research Fellowship, is studying the presence of nesting American Dippers as an easily measurable indicator of water quality. She will gather baseline data from the wilderness and then use this information to develop a scale that will allow managers to use the dipper as an indicator of stream health in managed forests.

The DeVlieg Foundation has also established an endowment to support the DeVlieg Award for Fish and Wildlife Research in Wilderness, a competitive annual stipend for graduate student research projects at the University of Idaho.

The Charles DeVlieg Foundation was formed by Charles DeVlieg, founder of DeVlieg Machine Company in Detroit Michigan, and his son, Charles R. (Bud) DeVlieg. The foundation is now carried on by their family. Janet DeVlieg Pope, granddaughter and daughter of the two Charleses the foundation is named for, serves as the foundation's vice president.

"My grandfather built a company from nothing in Detroit in the 1920s, held on through the depression, and then designed the JIGMIL, which became the prototype for more than 4,500 machines built between 1941 and 1993," Janet said. "He talked my father into coming to Detroit and joining him in the family business," she added. "My dad loved the wilderness and he loved fishing. He particularly enjoyed fishing Michigan's Au Sable River," Janet said smiling. "I think my grandfather gave dad wise advice when he said, 'Let tool making be your

vocation and use the money you earn to pursue your passion. Be a forester in your leisure time.”

“The value of wilderness is the long-term perspective it provides,” Janet said. “Wilderness provides baselines that can help improve our quality of life everywhere. The DeVlieg Foundation is proud to support wilderness research.”

Helicopter Ban in Alaskan Wilderness Upheld by USDA Forest Service

The USDA Forest Service’s Washington, D.C., office announced that Gloria Manning, associate deputy chief for the National Forest System, has upheld the decision to keep helicopters out of USDA Forest Service wilderness areas in Alaska. She denied an appeal by TEMSCO Helicopters, Inc., a commercial helicopter operator, of the decision originally made by Alaskan Regional Forester Phil Janik.

The commercial helicopter companies had pushed the agency to allow the establishment of hundreds of helicopter landing sites inside a number of Alaskan Wilderness areas. The refusal by the USDA Forest Service to allow such uses has been greeted with great relief by the Department of Interior, which feared the implications such use would have in other Alaska National Interest Lands Conservation Act areas. The greater wilderness community is delighted.

Alan Ewert Fills Endowed Chair at Indiana University

Dr. Alan Ewert, *IJW* executive editor, recently joined the faculty of Indiana University’s Department of Recreation and Park Administration, as the Patricia and Joel Meier Endowed Chair of Outdoor Leadership. Alan brings to the Outdoor Leadership faculty position an extensive history of both practical and professional expertise in the areas of natural resources and outdoor leadership. With more than a hundred publications and presentations to his credit, Dr. Ewert is recognized as an international leader, teacher, and researcher in the outdoor recreation and outdoor leadership fields. For the past four years, Dr. Ewert has been serving as the program chair of Resource Recreation and Tourism at the

University of Northern British Columbia in Canada (UNBC). Prior to his tenure as chair at UNBC, Dr. Ewert served for six years in the USDA Forest Service, first as a project leader of Wildland Recreation and Urban Culture at the Forest Fire Laboratory in Riverside, California, and then as branch chief of Recreation, Wildland and Urban Forestry Research in Washington, D.C.

USDA Forest Service Chief Mike Dombeck Highlights Wilderness in Message on Conservation Leadership

July 1, 1998, on the 100th anniversary of Gifford Pinchot’s (the first chief), first day on the job as a USDA Forest Service employee, Forest Service Chief Mike Dombeck, emphasized wilderness in a message to his employees on conservation leadership. Following are excerpts from Chief Dombeck’s letter:

To me, a conservation leader is someone who consistently errs on the side of maintaining and restoring healthy and diverse ecosystems even when—no, especially when—such decisions are not expedient or politically popular. A highly diversified society increasingly demands that our stewardship results in a legacy of healthier landscapes.

For example, our proposed suspension of road construction in roadless areas will help us (the Forest Service) develop not only a science-based long-term road policy but one that also reflects the values that society places on wild places, old growth, wilderness, and on intact and unfragmented landscapes.

We need to do a better job talking about, and managing for, the values that are so important to so many people. Values such as wilderness and roadless areas, clean water, protection of rare species, old growth forests, naturalness—these are the reasons most Americans cherish their public lands.

For example, twenty percent of the National Forest System is wilderness, and in the opinion of many, more should be. Our wilderness portfolio must embody a broader array of lands—from prairie to old growth. As world leaders in wilderness management, we should be looking

to the future to better manage existing, and identify potential new, wilderness and other wildlands.

We have a real opportunity to employ our science and professionalism and lead the debates on use, management, and conservation of natural resources. But we must step out in front of these issues instead of serving as a wrestling mat for interested groups. If we do not become more flexible and adaptable in responding to conservation issues and social demands, we will become less relevant as time passes.

First and foremost, we must be loyal to our land ethic. In fifty years, we will not be remembered for the resources we developed; we will be thanked for those we maintained and restored for future generations.

IJW congratulates Forest Service Chief Mike Dombeck for this leadership position on wilderness and conservation of public lands.

—John C. Hendee
IJW Editor-in-Chief

The Arnold Bolle Scholarship

A Society of American Foresters’ (SAF), Arnold Bolle Wilderness Management Scholarship was established in 1994 within the SAF Wilderness Management Working Group. An annual award is made to a qualified student who promotes and perpetuates understanding of the wilderness resource within the forestry profession.

The scholarship honors Arnold Bolle, a public servant, practitioner, and teacher of natural resource stewardship, who devoted his professional and personal life to shaping national resource policy for nearly half a century

1998 Arnold Bolle Scholarship Award Recipient: Peter Newman, Suny-ESF

Peter Newman, a graduate student in forest resources management at the State University of New York College of Environmental Science and Forestry (SUNY-ESF), is the winner of the SAF Arnold Bolle Wilderness Management Scholarship

for 1998. Newman was selected to receive the scholarship because of his deep dedication to wildlands protection. "He has been, is, and will be a strong teacher and advocate for and about wilderness. He will continue Bolle's tradition of leadership in natural resource stewardship," said Dr. Chad Dawson, Newman's major professor in SUNY-ESF's master's program in forest resources management.

In May 1999, Newman will defend his theses, "The Human Dimensions of the Wilderness Experience in the High Peaks Wilderness Area." He focused his studies on wildland protection and the interferences of an expanding population, societal tendencies toward overconsumption, and growing competition for natural resources. According to Newman, "Those who wish to protect wildlands must be able to communicate with people

of various disciplines, including biological sciences, economics, and political science—all mixed with a general understanding of humans and how we function individually and as a society."

Congratulations, Peter, and thanks for your continued work in wilderness stewardship!

Conference: International Symposium on Society and Resource Management

Date and Location: July 7–10, 1999 in Brisbane, Australia

Theme: The application of Social Science to Resource Management in the Asia-Pacific Rim

General Information: This is an interdisciplinary symposium dedicated to the study of sustainable relationships

between natural resources and society. Planned activities include keynote and plenary addresses; paper presentations; organized panels and dialogues; film, video, and poster sessions; workshops; and professional field trips.

For more information contact Sally Brown, Symposium Coordinator, Institute of Continuing and Tesol Education, University of Queensland, Brisbane, Queensland, 4072 Australia. Telephone: 61 (0) 7 3365 6360; fax: 61 (0) 7 3365 7099. E-mail: sally.brown@mailbox.uq.edu.au. Website: <http://www.geosp.uq.edu.au/issrm99>.

Sponsors: Griffith University, University of Queensland, and the University of Wisconsin-Madison.

Letter to the Editor

Grazing in Wilderness—A Necessary Compromise

Dear Editor,

To Demi Jones, who objects to our research that provides some insights on how to improve the management of grazing and reduce user conflicts caused by grazing in U.S. wilderness areas.

We agree in part with you when you say "if it is grazed, it ain't wild." Pure wilderness would certainly not have commercial livestock grazing.

Non-conforming uses like grazing, commercial outfitting, or water impoundments do not conform to the spirit of wilderness as it is described in section 2 of our 1964 Wilderness Act. They became legal uses by virtue of their existence prior to the designation of an area as wilderness. Their continuance was part of a democratic decision-making process involving local people and it resulted in the designation of considerably more wilderness than if such areas had been excluded from our U.S. National Wilderness System. Once we accepted the trade-off for having a larger system (had we not compromised we might well have had no system at all!), but with portions of some wilderness areas having these non-conforming uses, we were directed to manage them to minimize their impact on wilderness character and the wilderness experience.

Just as our research looks at the perceptions of users regarding the number of acceptable encounters with other

wilderness users, visitor-caused impacts, aircraft overflights, adjacent land uses, and so on, we wish to understand perceptions about grazing. All such studies are geared to help managers improve the wilderness experience and protect wilderness values.

Respectfully,

George N. Wallace
Colorado State University

Editor's Note: The U.S. National Wilderness Preservation System was created with the Wilderness Act in 1964 and that provided for several "nonconforming but allowed uses," including grazing where it was an established use prior to the act, or an established use in other areas subsequently designated as wilderness. The grazing compromise helped make the U.S. wilderness system possible, but contributes to the need for continued management through which impacts on wilderness are minimized.

—John C. Hendee, Editor-in-Chief

Book Reviews

Zulu Wilderness: Shadow and Soul by Ian Player. 1998. Fulcrum Publishing, Golden, Colorado. 326 pp., \$21.95 (paperback), USA. (Signed limited edition, hardcover, \$200.)

Drink a good bottle of South African wine as you read this book: the experience is not dissimilar. It is a flavorful read, as sudden as it is lingering, with a distinctive nose (of the African earth), and a clean finish. Like a good Cape wine, it is a mélange of history, people, nature, and spirit.

One's appreciation of a good wine is heightened by an understanding of its history, the passions it has generated, and the vision it suggests. So it is with *Zulu Wilderness: Shadow and Soul*, as author Ian Player relates the personal story of his 45-year friendship and working relationship with the remarkable Zulu elder, Magqubu Ntombela. (When you say, Ma-koo-boo, don't forget to click your tongue on the "koo".) Their relationship and their achievements create a story inseparable from their nation's history, its challenges and its promise, and is a superb environmental chronicle.

Player focuses the complicated forces of South African history through the simple lens of a relationship between two men. The author is educated but self-made, and shaped yet troubled by the racial politics in which he lives. He is a man on a quest to find himself and to make his mark on the world. Ntombela, on the other hand, is a respected Zulu elder of the old order, unable to read or write but possessed of a shining, innate intelligence and extroverted personality, who is at peace with himself and at home on his land. Theirs is an unlikely but compelling story, formulated in the rough-and-tumble of post-World War II South African apartheid, but forged in the African veld.

Ever a man of context, the author provides ample background on the cultures and politics of South Africa through carefully crafted vignettes of his own experience. He reaffirms that history and politics are actually about people, and as people change, so do nations. This message is both emphasized and epitomized by the moving, hand-written endorsement of the book provided by President Nelson Mandela.

But the most pervasive aspect of this book is wilderness. Magqubu was born and raised in what ultimately became the

Mfolosi Game Reserve and wilderness area. Ian's life was inalterably transformed by his experience of wild Africa. Their work together was in the wilderness, and this is where the book is at its best. The stories emerge one after the other, unhurried, with images so rich and well sculpted that the reader feels the bird call, smells the heat, and hears the camp fire. Across the weft of people and politics pass a parade of lion, hyena, jackal, leopard, impala, and more. The tapestry of nature is rolled out, painted with the passions and persuasions of the players who fight for the future of wild Africa. The chapter titles themselves punctuate the narrative with archetypal messages, and hint of the author's commitment to the importance of psychological transformation: "Crossing the White Mfolozi," "Journey to the Snake," "The Last Days."

Ian Player's occasional self-deprecation and continued embellishment of Magqubu's extraordinary qualities skirts on an evocation of the "noble savage," but is pulled back from this brink by the occasional, all-too-human anecdote, or by a good belly-laugh (such as from the story of pulling the white rhino out of the mud). All in all, this is the story of two men from opposite backgrounds, persisting through the polarized politics of racism, fighting the foibles and frailties of the human condition to achieve friendship, to rise above provincialism and cultural chauvinism, and to positively affect the course of national and global nature conservation.

Finishing a good bottle of South African wine is bitter-sweet. For a short time, one has been immersed, in an encompassing experience. Its taste lingers and its mystery grows within you, but it is gone. One can only hope that the vintage was bountiful. The good thing about *Zulu Wilderness: Shadow and Soul* is that you can indulge in it again, and drink its images as often as you'd like. Like a good vintage, it will mature, its qualities strengthen, and its message persist.

(Reviewed by Vance G. Martin
UW Executive Editor [International].)

Inner Passages Outer Journeys: Wilderness, Healing and the Discovery of Self by David Cumes. 1998. Llewellyn Publications, St. Paul, Minnesota. 194 pp., \$12.95 (paperback), USA.

The therapeutic effects of wilderness have been extolled by nature writers for over a century, but have yet to be fully embraced by the mental health profession. However, more and more psychologists, therapists, counselors, and doctors are

beginning to see the power and embrace the use of wilderness as a valuable source for personal growth and healing. This is evidenced by the steady rise in number of wilderness programs for troubled youth and those with physical and mental disabilities,

and the emergence of disciplines grounded in ecology such as wilderness therapy, ecopsychology and ecotherapy to name a few. As mental health professionals continue to seek innovative approaches to dealing with a growing number of mental health issues, wilderness will be looked to as more than just a place of aesthetic beauty and recreational opportunity, but also as a source for mental and physical healing and spiritual renewal.

David Cumes, M.D., in his book *Inner Passages Outer Journeys*, attempts to create a bridge between the cognitive and empirical way in which we understand wilderness and the mystical and spiritual world of hunter-gatherer cultures who have maintained a spiritual connection to the natural world. This bridge, Cumes hopes, will help illustrate how wilderness can be used not just for therapeutic means, but also as an end to achieving a higher sense of self. He begins his story by describing growing up as a boy in urban South Africa, and the strong attachment he held with the South African outback and its mysterious inhabitants, the San Hunter-Gatherers. The stories of the San people are inspirational and illustrate how the San, through their harmonious relationship with the natural world, have a profound understanding of their inner self, which in turn confers on them a sense of wholeness. Cumes came to the conclusion that this wholeness was perpetuated through the absence of ego-driven rituals and customs

and their quest to realize a higher sense of self. It is at this point that Cumes begins to explore how a realization of this sense of wholeness is possible using the wilderness medium.

Paralleling the journey one would take into the wilderness in search of his true self, Cumes maps out his life journey and how he came to know "wilderness rapture." Wilderness rapture, as defined by Cumes, occurs when we come into contact with our higher selves while in wilderness through an intense and powerful inner journey. This inner journey is juxtaposed to the outer journey with which Cumes believes most of us are safely ensconced. He states that we go to wilderness not to discover our true self and to achieve wholeness, but rather, we are driven by an external need to master left brain tasks like ice-climbing, kayaking, bird-watching, or fishing. This goal oriented, ego-affirming behavior is an obstacle to understanding our true selves and becoming whole and healthy. Citing the works of Maslow, Carl Jung, and Eastern philosophies, Cumes believes the drive for the higher self is primary and omnipresent, even if subconscious in all of us, and whether we follow a spiritual path or not.

Therefore, by not acting out this unconscious desire, we are in search of meaning in our lives. Culture attempts to define us through consumerism, whether it be the clothes we wear or the car we drive, which in turn, provide

meaning in our lives. It is here, Cumes believes, that we move further from the source of our true sense of self, the natural world, or wilderness.

It is at this point in the book that Cumes begins to borrow and describe a number of Eastern philosophies that help illustrate "a map" of how to achieve wholeness in wilderness. In doing so, Cumes becomes repetitive and loses the reader at times. The descriptions of the various Eastern religious practices are vast and complicated. The story with which Cumes was careful to weave in the beginning of the book becomes lost in a tangle of theories and religious epitaphs that lead the reader too far away from the book's main premise. Despite these weaknesses, *Inner Passages Outer Journeys* is a sound attempt at describing a process and feeling that is difficult to translate into a language and culture that is just now beginning to see the capacity of wilderness to heal and restore the mind and body. By creating a map that helps illustrate the connection between wilderness and our true sense of self, Cumes has written a book that people can use to venture on their own inner journey into wilderness. Whether this journey will lead to a recognition of a higher self and a feeling of wholeness is left up to the reader to decide. **IJW**

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