INTERNATIONAL

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Front cover photo of the Drakensberg Mountain Wilderness in South Africa and inset photo of bushman pictographs in Lesotho, southern Africa, both © 2000 by Vance G. Martin.

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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EDITORIAL PERSPECTIVES

Protecting Mountain Wilderness

BY ALAN EWERT

Go forth into the mountains
and get their good tidings;
Let the winds blow their freshness into you;
And the storms their energy.
—John Muir

Muir had it right! Good things can happen to people when they visit the mountains. Given their remoteness, lack of agricultural development, and often, inclement weather, much of the world's wilderness and many undeveloped landscapes are in or close to mountains. Mountain landscapes account for approximately 20% of the world's acreage and are home to at least 10% of the world's population. While their remoteness and extremes in climate protect them from the level of human development experienced in lower regions, mountains are being developed and exploited. The human tendency toward growth and expansion coupled with the "bank" of natural resources in mountainous areas (hydrologic, mineral, and harvestable resources) exacerbate the pressures on mountain locales.

Inevitably this pressure also occurs in areas with wilderness designation. Whether an area is a de facto wilderness or an officially designated mountain wilderness, increasingly they are exposed to a variety of threats to ecosystem integrity, resiliency, and cultural heritage. These threats are not just economic in nature, but also include overuse and impacts from tourism and recreation. For example, Denniston (1995) reports that visitation to the European Alps exceeds 100 million visitors per year and that ski resorts in Colorado divert two to three times the amount of water for making snow compared to 10 years ago.

Mountain wilderness is increasingly the last bastion of ecosystem protection. That is, since these areas were the last to be exploited and developed they are less damaged and, hence, should be the first to be protected. But as Bader (2000) notes, wilderness-based ecosystems, even in the mountains, can be ineffective in preserving species or other ecosystem components unless they are large enough, represent "effective" contiguous blocks, and are properly managed.

This issue of the *International Journal of Wilderness* is dedicated to wilderness in mountainous areas, particularly those areas outside of North America. Maretha Shroyer and her colleagues discuss the issues and challenges facing the Kgalagadi Transfrontier Park in Africa. William Bainbridge provides a synopsis of mountain wilderness areas in South Africa and a historical account of the wilderness management movement. Franco Zunino describes the mountainous wildlands of Italy, their problems, and management opportunities. Lawrence Hamilton, vice-chair of the World Conservation Union's (IUCN) World Commission on Protected Areas, describes issues and challenges recognized by the IUCN relative to the management of mountain wilderness areas.

ALAN EWERT is an executive editor of *IJW*. E-mail: aewert@indiana.edu.

REFERENCES

Bader, M. 2000. Wilderness-based ecosystem protection in the northern Rocky Mountains of the United States. In *Wilderness Science in a Time of Change Conference—Volume 2: Wilderness within the Context of Larger Systems*, compiled by S. F. McCool, D. N. Cole, W. T. Borrie, and J. O'Loughlin. May 23–27, 1999; Missoula, Mont. Proceedings RMRS-P-15-VOL-2. Ogden, Utah: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 99–100.

Denniston, D. 1995. *High Priorities: Conserving Mountain Ecosystems and Cultures.* Washington, D.C.: Worldwatch Paper: #123.

SOUL OF THE WILDERNESS

To Rekindle Love of the Beautiful in Public Policy and Professional Performance

BY MICHAEL FROME

At the turn of the 20th century John Muir commented on the abundance of wilderness still evident across the North American continent. Now, at the outset of the 21st century, this is no longer the case. Whatever wild country remains is plainly vulnerable to human intervention. I don't mean only wilderness as defined and classified by law. The truth is that *all* places of scenic and natural beauty are being reduced in number and degraded in integrity.

I believe the responsibility of our generation is to see that future Americans enjoy the same opportunities for solitude and the same sense that nature prevails that we have known. Charles Evans Hughes, governor of New York in the first decade of the 20th century (and later chief justice of the Supreme Court), had it right at the dedication of Palisades Interstate Park when he said:

> *Of what avail would be the benefits of gainful occupation, what would be the promise of prosperous communities, with wealth of products and freedom of exchange, were it not for opportunities to cultivate the love of the beautiful? The preservation of the scenery of the Hudson is the highest duty with respect to this river imposed upon those who are the trustees of its manifest benefits.*

President Theodore Roosevelt in that same period expressed virtually the same idea in talking of the big trees of California: "There is nothing more practical than the preservation of beauty," he said, "than the preservation of anything that appeals to the higher emotions of mankind."

We need to believe and echo these words, and to rekindle love of the beautiful in public policy and professional performance. The most important legacy our generation can leave is not a world at war, nor a nation in debt to support a nuclear star-wars system, nor the settlement of outer space, transporting all our worldly problems to the rest of God's universe, nor the breeding of test-tube babies and robotic drones. Our most precious gift to the future is a point of view embodied in the protection of wild places that no longer can protect themselves.

Article author Michael Frome. Photo by J. Eastvold.

I have spent much of my life in the cause of preservation. Once, while in northern Minnesota, I found myself thinking about Arthur Carhart, the pioneer in wilderness protection. During the period he worked for the Forest Service as a landscape architect, from 1919 to 1923, he was dispatched to the Superior National Forest, in Minnesota, with directions to prepare a plan for recreation development. His bosses wanted to build roads to reach every lake and to line the shores with thousands of summer homes. Carhart, however, recognized that the area could be "as priceless as Yellowstone, Yosemite, or the Grand Canyon—if it remained a water-trail wilderness." He persisted, won support, and laid the basis for establishment of

what we now call the Boundary Waters Canoe Area Wilderness.

Shortly before Carhart left, Sigurd Olson arrived on the scene. Over the years Olson would stand in meeting halls urging that natural values be protected from assorted mining, dam building, logging, and motor boating. It wasn't easy, and sometimes he was treated to scorn and derision. Carhart later paid tribute to Olson for leading a small group, which held, as he said, "a thin line of defense protecting this exquisite wilderness until help could rally to save it."

What was it they found worth defending? Based on my experience, I call it the feel of freedom above all else. Freedom from crowds, cars, and mechanical noises. Freedom that comes from doing for one's self, without dependence on technological support. Freedom in nature, derived from being among creatures that get up and fly when they want to, or run, swim, wiggle, dive, and crawl, all admirable modes of self-propulsion. In the northern Minnesota wilderness I feel free to pick and savor wild blueberries; free to swim in cool waters, cool and dark, almost as pure as in the days of the Chippewa Indians.

Wilderness is an embodiment of freedom. The Wilderness Act (TWA) of 1964 is an extension of the charter handed down by the Founding Fathers with its guarantee of life, liberty, and the pursuit of happiness. We need to safeguard the sources of freedom, challenge, and inspiration. The Constitution is recognized as a sacred document guaranteeing freedom of expression, though it requires continual testing and defending. Wilderness is equally sacred, in my view—a living document of land and people. Wilderness I equate with freedom from want, war, and racial prejudice, and the freedom to cultivate one's thoughts in one's own way.

I have asked different kinds of people, at all stations of life, what wilderness means to them. They made beautiful statements, usually simple yet lofty and profound, which I believe can be summarized in the following two excerpts:

> *You get away from your tradition and lifestyle in a wilderness and you find out in a hurry who you are and what you're capable of, what are the real issues in life. What really frightens you will come to the surface.*

> *Wilderness is necessary. It represents that part of America that once was and always will remain. We don't have to be like the Europeans. We don't have to wish for that type of land representation. We'll have it. Wilderness is forever.*

The very idea of wilderness enriches my body, mind and spirit, but it also elevates me to look beyond my own wants and needs. The American tradition has sought the transformation of resources; TWA, however, stimulates a fundamental and older tradition of relationship with resources themselves. A river is accorded its right to exist because it is a river, rather than for any utilitarian service. Through appreciation of wilderness, I perceive the true role of the river, as a living symbol of all the life it sustains and nourishes, and my responsibility to it.

Thus I feel that we need a revolution of ideals and ideas—a revolution of ethics to sweep the United States and the world, because the same forces are at work everywhere. We must alter the superconsumptive lifestyle that makes us enemies of ourselves, a lifestyle that confuses a standard of living with quality of life. That kind of revolution begins with the individual, inside oneself, with one's own ecosystem, finding the unity of body, mind, and spirit, and reaching out to others to do the same.

We are now paying the price for industrial progress with its overdevelopment and overconsumption, flirting with our own inevitable Bhopal or Chernobyl or some other toxic disaster. But the most serious effect is in the psychology of people. How sad that we should accept alienation from the Earth; that we should even countenance talk of "acceptable risk" in terms of hazardous production materials, or "acceptable change" in terms of wilderness use.

Critics sometimes demand to know of me, "Well, exactly how much wilderness do you need?" While recognizing that it can't all be wild, I feel reluctant to answer; what counts more is whether each succeeding generation must settle for an increasingly damaged world, reflected in degraded, circumscribed living. I can't juxtapose resource commodities against wilderness when the great value of wild country lies in its freedom, challenge, and inspiration.

I believe the feeling to conserve is deep-rooted in the minds and hearts of people, more than the urge to exploit and degrade. We need to spark the positive. "To do good works is noble," wrote Mark Twain. "To teach others to do good works is nobler, and no trouble." Government and, indeed, all institutions are what we want them to be. It all begins with thee and me. I see the movement to protect and preserve ever strengthening until it succeeds.

But we have a long road to travel to realize the promise of the promised land. I've learned that even the experts understand very little about wilderness reserves: of how to manage and interpret wilderness so it will always be wild; of its abundant benefits to society; of how to apply the lessons of wilderness to make the whole Earth a better place to live.

Wilderness areas are not playgrounds, nor theme parks, but sanctuaries, meant to be forever.

TWA has proven successful, insofar as furnishing the techniques for preservation of large tracts of federal lands. From that foundation a few states have developed their own initiatives in protecting wild places. Now there is great opportunity and need for the states to do more, and for local communities to identify and to provide statutory protection for smaller tracts still in a relatively untouched state. Nature belongs where people live, not as something remote or beyond reach.

Wilderness, however small or large, wherever it may be found, is the sacred place for renewal and healing, where the words *education* and *recreation* take on different meaning. A psychologist might prescribe a wilderness experience because of its freedom from evidences of critical or harmful human actions, or to find release from stress through stillness and solitude in the primeval. There are no social values to conform to; it is classless—all parties become essentially equal, benefiting from cooperation rather than competition. The individual acquires a sense of scale, conceding there is something larger and longer-lasting than anything he or she has known before and feeling that he or she belongs at the bosom of a much greater whole—and at peace.

"The one thing in the world, of value, is the active soul," wrote Emerson. "This every man [and woman] is entitled to; this every man [and woman] contains within him [and her], although, in almost all men [and women], obstructed, and as yet unborn." As in the ancient sacred places of all religions, as in the sacred sites that hold meaning still to Native Americans, wilderness evokes the active soul, freeing it to respond to the Earth as alive, poetic, dramatic, musical. Wilderness breaks down artificial barriers between people bred to believe they are different from each other by reason of class, color, race, or gender; wilderness is teaching, real teaching, through which the physically and mentally disabled learn to overcome limitations, and the abled learn to think differently about competency. But, of course, in a sacred place all life is sacred, and the humblest are holy and blessed.

Wilderness areas are not playgrounds, nor theme parks, but sanctuaries, meant to be forever; they are priceless time capsules for tomorrow that we are privileged to know and enjoy today. By that I mean a wilderness is ideally suited to exercise the body in a test with nature, stimulate the mind with new learning, and challenge the spirit of the individual to connect with something larger than himself or herself, and more lasting than all the mechanization of life and work at home.

As evidence, I cite the experience of Mark Wellman and the lessons from it. Mark was an accomplished California mountaineer who broke his back in a climbing accident in 1982 and was left without the use of legs. He lost direction in his life, lived in pain, loneliness, and shattered dreams—until he found his new beginning in Yosemite. Living and working in the park, Mark pushed himself to see as much as humanly possible in a wheelchair. He advanced bit by bit, building his upper body, ultimately making history in 1991 when he and a partner climbed the 3,500-foot granite face of El Capitan. Then two years later he pulled himself to the summit of Half Dome, though it took 13 days to make it. "I've always believed that true adventure involves discovering things about yourself as you edge ever closer toward the boundaries of your personal limits," Mark wrote later. "I learned plenty about myself on El Capitan and Half Dome."

Overuse and misuse clearly deplete the visible physical resource that people care about, but it does something to the invisible spirit of place as well. Native Americans have that ancestral sense, honoring the Earth and life as divine gifts. Here on the Northwest Coast where I live Native people for centuries have sought the giant cedar, hemlock, and Douglas fir of the cold rain forest, not simply for canoes and longhouses, but as source of a sacred state of mind where magic and beauty are everywhere. In *The Vanishing American*, Zane Grey's hero, Nophaie, most loved to be alone, out in the desert, "listening to the real sounds of the open and to the whispering of his soul." Grey wrote that nature was jealous of her secrets and spoke only to those who loved her. The Rainbow Bridge, just north of the Arizona-Utah border, curving upward to a height above 300 feet, once was a sacred destination for religious pilgrimage, reached by toil, sweat, endurance, and pain, proving to the pilgrim that the great things in life must be earned. That makes sense even to the European mind, for as Jung wrote, "There is no birth of consciousness without pain." Now, by contrast, however, the impounded waters of Glen Canyon Dam have made painless visits possible, via boat on the reservoir

called Lake Powell to the Bridge Canyon landing, then walking about one mile. Surely some element of critical value—the sense of connecting with spirit—is lost.

Although sacredness sustained in wild places cannot provide a quick fix for the ills of society, it can bring new understanding at a very personal level. Society divides by economics, race, and religion, gender and sexual preference, and by physical ability. Much of the time people feel separate and fearful, as children of different gods, of greater and lesser gods. Wilderness evokes the unity and wholeness of creation, a community of brothers and sisters all kin, all equal, sharing in common origin, common destiny.

I learned this anew in 1992 in the Boundary Waters of Minnesota, traveling with Wilderness Inquiry, a nonprofit group that mixes people with and without disabilities; I mean that participants include wheelchair users, deaf, blind, and mentally retarded. Wilderness on our trip became more than a physical or intellectual experience, but also a place to think differently about physical competency and accomplishment. We worked on potentials rather than limitations while paddling, portaging, doing camp chores, and sharing songs and sunsets. Committed climbers and kayakers may prefer wilderness where they expose themselves to physical risk—that may be their sacred space—but when people of mixed ability live, work, and play together, they expose themselves, too, learning to rise above the barriers of modern society, and to recognize that every life has meaning to it.

In sum, the wilderness experience leads beyond the world of aggression, beyond history, beyond science. This type of experience is still available for me, but I recognize that I must meet the sanctuary in the wild on its terms, rather than on my terms or those of my own mechanistic society. I appreciate that we need to walk lightly, *more* lightly, and, hopefully, to learn that the gods walk on every road and every road is sacred.

MICHAEL FROME is an author, educator, and tireless guardian of the environmental commons. Former Senator Gaylord Nelson of Wisconsin declared in Congress: "No writer in America has more persistently and effectively argued for the need of national ethics of environmental stewardship than Michael Frome." He lives in Bellingham, Washington, USA. E-mail: mfrome@aol.com.

Chad Dawson and Steve Hollenhorst Named IJW Co-managing Editors

Chad Dawson. Photo courtesy of Chad Dawson.

The *International Journal of Wilderness* editorial board has named Dr. Chad Dawson of the State University of New York (SUNY) at Syracuse and Dr. Steve Hollenhorst of the University of Idaho as co-managing editors. Dawson will be responsible for overall content of *IJW,* including article acceptance. Hollenhorst will be responsible for the Wilderness Digest section of each issue and wilderness stewardship articles. Both Dawson and Hollenhorst have served *IJW* as associate editors during its six years of publication. John Hendee, current managing editor, will continue as editor-in-chief.

Steve Hollenhorst. Photo courtesy of Steve Hollenhorst.

Professor Dawson teaches recreation and wilderness courses in the College of Environmental Science and Forestry at SUNY. He also guides graduate students in wilderness recreation management research. He has traveled extensively in U.S. wilderness and has participated in wilderness research studies. He is co-author with John Hendee of the forthcoming 3rd edition of the textbook *Wilderness Management: Protection and Stewardship of Resources and Values*.

Dr. Hollenhorst is professor and head of the Department of Resource Recreation and Tourism at the University of Idaho. Formerly at West Virginia University, he regularly leads field courses to wilderness and protected areas in the United States and around the world. Dr. Hollenhorst's teaching and research interests are in wilderness and protected area policy and management. Short news articles for the Wilderness Digest can be sent to stevenh@uidaho.edu.

Wildlands in the Northeastern United States

BY CHRISTOPHER MCGRORY KLYZA

Wilderness protection and management in the United States often focuses on the West where four federal land management agencies control over half the land in 13 states. In contrast, these same agencies manage about 2% of the land in the nine states of the Northeast. This difference in ownership explains the low amount of federally designated wilderness in the Northeast states, only 205,000 acres. Nevertheless, federal ownership and wilderness is important in the Northeast. Furthermore, several of these states have significant state wildland and wilderness programs. Following is a brief review of the nine states.

New York

New York includes one federally designated wilderness. In the Adirondack and Catskill Parks, there are 1.26 million acres of state wilderness and combined with wild forestlands (which cannot be harvested or developed) the amount of protected wildlands rises to 2.9 million acres, or 9.5% of the state. New York State established the Adirondack and Catskill Forest Preserves in 1885 to protect these lands and added a "forever wild" clause to the New York Constitution in 1894. There are 17 wilderness areas in the Adirondacks totaling 1,071,590 acres, five of which exceed 100,000 acres. Canoe and primitive classified lands receive virtually the same protection as wilderness (72,049 acres). Wild forests (1.2 million acres) add to the wildland landscape. The Catskill Park has both wilderness (118,000 acres) and wild forest areas (155,000 acres). The protected wilderness and wild forest in the Adirondack and Catskill Parks are the core of a potential wildlands system of the Northeast.

Avalanche Lake in the High Peaks Wilderness of the Adirondack Mountains, New York State, USA. Photo by Chad Dawson.

Pennsylvania

Allegheny National Forest has two designated wilderness areas. Pennsylvania state forests total nearly 2.1 million acres, primarily in north-central Pennsylvania. The state has an administrative wild areas program (110,000 acres) on these forests where existing roads may remain open and timber harvesting for forest health and wildlife habitat improvements are permitted. The state park system totals over 283,000 acres, and there are 1.4 million acres of game lands throughout the state. More wildlands, in north-central Pennsylvania, would be an important link to the wilderness of the Catskills and Adirondacks to the north, and to the central Appalachians to the south.

Maine

Federal wilderness in Maine totals less than 20,000 acres in two areas. Baxter State Park is the largest wilderness in the Northeast outside the Adirondacks and covers nearly 205,000 acres with most managed as wilderness (176,139 acres). Maine has two remote recreation roadless areas on its public reserved lands, totaling roughly 13,000 acres. The Allagash Wilderness Waterway (nearly 23,000 acres) in northern Maine was

created by the state legislature and added to the National Wild and Scenic River system. However, the Allagash Wilderness Waterway protective land corridor is narrow and augmented by regulations in a half-mile corridor on each side of the river. Northern Maine is a potential core of wildness in the Northeast, especially because of the possibility for public acquisition of vast amounts of private land.

New Hampshire

New Hampshire has four federal wilderness areas totaling over 100,000 acres and the highest level of federal ownership of any state east of the Rocky Mountains (over 13%) due to the White Mountain National Forest. The state owns relatively little public land. The White Mountain National Forest can serve as an anchor for wildlands recovery, and emphasis must be placed or connecting it to other Northeastern wildlands to the east and west.

Vermont

Six wilderness areas in the Green Mountain National Forest total nearly 60,000 acres. State conservation lands, totaling 310,000 acres, are classified primarily as state forests, state parks, and wildlife management areas. Vermont wildland and wilderness help connect New York areas with those in New Hampshire.

Despite the common conception of the Northeast as being entirely developed, significant wildlands exist in the region.

Massachusetts

Massachusetts has one federal wilderness. The state has a wildlands program on its 535,000 acres of state lands. This program is an administrative classification on state forest and state park lands. The backcountry areas in the program, primarily for primitive recreation, total roughly 6,000 acres.

New Jersey

New Jersey has two federal wilderness areas. The Pinelands National Reserve covers over 1 million acres, nearly one-quarter of New Jersey. The Reserve is a joint federal-state-local regional open space planning project with a core preservation area of 368,000 acres where little new development is allowed. State conservation lands total over 600,000 acres.

Connecticut and Rhode Island

These two states have no federally designated wilderness. Connecticut state conservation lands total nearly 210,000 acres. Although roughly 9% of Rhode Island is in public ownership, the parcels are all relatively small. It is unlikely that the Connecticut or Rhode Island landscape will be a significant part of "rewilding" in the Northeast.

Conclusion

Despite the common conception of the Northeast as being entirely developed, significant wildlands exist in the region. In a broad corridor from northern New England, through the Adirondacks and Catskills, and down through central

Table 1—Acreage of public lands and wilderness in the Northeast

States	Federal Conservation Lands	State Conservation Lands	Federal Wilderness	State Wilderness
Connecticut	12,455	209,467	0	0
Maine	172,163	717,069	19,392	188,000
Massachusetts	65,315	533,624	2,420	6,000
New Hampshire	757,378	186,682	102,932	0
New Jersey	98,778	600,409	10,341	0
New York	66,839	4,128,534	1,363	1,261,639
Pennsylvania	644,290	3,753,631	8,938	0
Rhode Island	1,693	58,861	0	0
Vermont	375,936	309,782	59,421	0
TOTAL	2,194,847	10,498,059	204,807	1,455,639

The Great Gulf Wilderness in the Presidential Range of the White Mountain National Forest, New Hampshire, USA. Photo by Chad Dawson.

Pennsylvania, the chance for a large, connected wildlands landscape is real. Such wilderness can be based on existing federal and state lands in the Northeast. A regional strategy for land acquisition, protection, and management could include protecting representative ecological communities, protecting large core reserves where natural processes can largely determine the landscape, creating corridors to connect protected areas, and using easements on private land areas to serve as buffer zones to adjacent ecological reserves or sensitive areas.

More states need to establish wilderness programs such as in New York, which is the only state in the Northeast with a statutory or administrative wilderness program. Additional wilderness could be designated in the Northeast on federal and state lands and, in certain areas, private lands that could be purchased. Lands in the nine Northeastern states could be woven into a more comprehensive approach to wilderness based on designing ecological reserves to protect biological diversity, rewilding lands to wilderness, and a landscape of ecosystem-based forestland management.

CHRISTOPHER MCGRORY KLYZA is professor of political science and environmental studies at Middlebury College, Middlebury, Vermont 05763, USA. E-mail: klyza@middlebury.edu. He is editor of the new book *Wilderness Comes Home: Rewilding the Northeast* (see review in this issue).

7th World Wilderness Congress to Convene in South Africa

The 7th World Wilderness Congress (WWC) will convene in Port Elizabeth, Eastern Cape, in South Africa, November 2–8, 2001. Organizers of the event say the focus is Wilderness and Human Communities—The Spirit of the 21st Century, a response to "continuing and mounting crisis that threatens wildland areas and the services they provide to human society."

The WWC will devote the initial two days to a World Wilderness Summit to address alarming environmental reports from the World Resources Institute, United Nations Environment Programme, World Watch, World Wildlife Fund, and others. The summit will include leaders in politics, business, science, education, field management, nongovernmental organizations, and rural development. The agenda is based on enhanced protection for wilderness and wildland areas in Africa and internationally. It highlights the fundamental services these areas provide to all human communities and their irreplaceable biological, economic, cultural, and spiritual benefits. Other action objectives include wildland political initiatives in southern Africa; privately owned wilderness, a model for designating and managing wildlands in perpetuity on private land; a new fund for African protected areas; presentation of new models for effective education and training that enhance wildland benefits for human communities; and shared agendas, developing a wildlands agenda for the upcoming Rio+10 Congress (2002) and the World Parks Congress (2003), also in South Africa.

A four-day Wilderness Working Session will follow with experts and professionals meeting with the public on a range of targeted subjects, plans, and models. Technical and Science Symposia meet in the afternoons. Finally, the Cultural Program will run through every day, including the International Environmental Film Festival (a judged competition), the award-winning AGFA Wildlife Photography Exhibition, and other ethnic and contemporary entertainment, music, and exhibitions.

Local wilderness areas, private protected areas, and national parks will be the venue for on-site trips and discussion sessions. Participation is limited to 800 delegates.

For more information contact Kathleen Du Bois, e-mail: info@worldwilderness.org. Or stop by the website at www.worldwilderness.org.

Wilderness Management in the Kgalagadi Transfrontier Park

BY MARETHA SHROYER, MARTIN ENGELBECHT, and ODUMELENG KAKETSO

Abstract: The Kgalagadi Transfrontier Park (KTP) is unique, as it was the first transfrontier park in Africa and the only park in South Africa where wildlife still migrate in herds. The KTP combines South Africa's Kalahari Gemsbok National Park and Botswana's Gemsbok National Park into a single ecological unit. The Kalahari is a harsh and unforgiving wilderness. This article highlights wilderness management strategies, suitable for a harsh environment, where natural processes are still able to follow a natural cause, without the interference of human beings.

Introduction

The Kgalagadi Transfrontier Park (KTP) comprises 3.62 million hectares of predominantly pristine wilderness, where wildlife can move unrestricted and undisturbed. The absence of human-made barriers, except to the west where the international boundary with Namibia is demarcated by a fence, and in the south where a fence partially separates the KTP from private farms, provides an area large enough to maintain two ecological processes: the large-scale nomadic and migratory movements of wild ungulates; and unrestricted predation by large mammalian carnivores (National Parks Board et al. 1997). Until recently, some Kalahari lions have not had contact with modern humans, and researchers found interesting behavior patterns displayed by these lions (Dr. Paul Funston, pers. comm.). The single-most important factor for this phenomenon in 2000 is the vast size of the conserved area, almost twice the size of Kruger National Park.

The reason for the high degree of naturalness in the park is the harsh conditions. There is no surface water, and temperatures vary greatly—from –15°C on winter nights to 42°C in the shade on summer days when the ground-surface temperatures exceed 70°C. The groundwater of the Kalahari tends to be highly mineralized (South African National Parks [SANP] 1999). Survival in these conditions is difficult, and vegetation and wildlife have adapted special strategies. Survival strategies in this waterless environment with extreme temperature fluctuations include animals being predominantly nocturnal versus diurnal, the implementing of energy-saving strategies, and evolutionary adaptations.

Subgroup of Suricate (*Suricata suricatta)* on the alert for possible sources of danger. Photo by Piet Heymans.

Tourists to the KTP should be well prepared. Management has structures in place to safeguard visitors, providing they stay on the tourist road network. Should unauthorized travel

An adult male lion. Photo by Piet Heymans.

on remote patrol tracks by an unsupported vehicle encounter mechanical problems, chances for survival are slim. The same applies for managers under these conditions.

Although the Botswana and South African wildlife authorities have cooperated in the management of the two parks since 1948, it was only in 1998 that this agreement was formalized. In April 1999 Botswana and South Africa signed a bilateral agreement undertaking to manage their two adjoining parks, Gemsbok National Park in Botswana (28,400 km^2) and Kalahari Gemsbok National Park in South Africa (9,591 km^2) as a single ecological unit to be known as the Kgalagadi Transfrontier Park. This agreement was signed by then President Mandela and President Mogae. The South African Parliament ratified the agreement in September 1999.

Cheetah (*Acinonyx jubatus),* male. Photo by Piet Heymans.

Kalahari Landscape

Many atlases refer to the Kalahari as a desert, but strictly speaking it is a semi-arid savanna. The sand is colored a rich Venetian red by an iron oxide layer that persists due to lack of rain, and was deposited by the wind into long, roughly parallel northwest/southeast dunes. These dunes are stabilized by vegetation in the park. After a heavy rainfall, water is held for a limited period by permanent calcareous pans.

Dryness is the distinguishing feature of the Kalahari. Nowhere in the entire KTP is there any natural surface water. The two rivers defined on maps, the Nossob and Auob, are somewhat of a misnomer, as they are both normally dry. It is only in years of particularly good rains that the Auob yields a limited flow of surface water. The Nossob flows once every 50 years.

The sand mantle of the conservation area in the Kalahari basically displays two distinguishable landscapes (Van der Walt and Le Riche 1999). A virtually dune-free, regular undulating landscape with abundant trees is encountered east and north of the Nossob River. To the west and the southwest the sand is arranged in a parallel dune pattern throughout, some 800 kilometers in length and 100 to 200 kilometers wide, with grass being the predominant vegetation. The northwest orientation of the parallel dunes reflects the origin of prevailing winds that were instrumental in their formation.

The Wilderness Concept in the KTP

The wilderness concept in the KTP differs from the general U.S. criteria in terms of zonation, access, and related recreational activities in that wilderness and nature conservation are managed in an integrated manner. In the KTP, four-wheel drive vehicle trails and rustic camps are acceptable in wilderness zones. The rationale is that, due to the remoteness and harsh environment, the area would be inaccessible to visitors without motorized transport, and if visitors are excluded from the major portion of the park, the park cannot be financially sustainable.

On the other hand, not classifying the vast natural landscape as wilderness, as a result of four-wheel drive vehicle trails, is an oversight. The Kalahari truly is a wilderness where the human footprint has been negligible over the years, mainly because it is so difficult to survive in this harsh environment. The only people who have managed to survive here are hunter-gatherers: the San who entered the area approximately 4,000 years ago and the BaKgalagadi who arrived about 2,000 years ago (SANP 1999).

The impact of sand tracks and gravel tourist roads are negligible, negative impacts on the wildlife in this large area. The major negative impact is small animals and birds occassionally getting killed on the roads. The benefits of roads to wild animals are that they provide tracks of cleared areas with good visibility for both predator and prey species and road verges provide habitat for ground squirrels, yellow mongoose, rats, mice, snakes, geckos, and birds.

Should unauthorized travel on remote patrol tracks by an unsupported vehicle encounter mechanical problems, chances for survival are slim.

Wilderness Qualities and Tourist Infrastructure in the KTP

In the large pristine wilderness areas of the KTP there are no roads, fences, windmills, survey beacons, or any human modifications. Only natural sound is present, and these areas are free of air, water, and soil pollution. Surrounding the pristine wilderness are areas with sandy tracks, mainly used for patrol purposes, and graveled tourist roads, mainly on the periphery of the park or along riverbeds. Artificial water holes are present throughout the park. These artificial water points were sunk to support livestock farming before the park was proclaimed in the 1931 (SANP 1999). These water points are presently maintained to prevent water-dependent antelope such as the blue wildebeest from following their natural migration route southward for water, now blocked by fences on the boundary of the park.

Tourist roads are graveled and routed to incorporate artificial water points, visited by water-dependent wildlife species and migratory and resident birds. Many birds are able to drink the salty water with no detrimental effect on their health, as they excrete excess minerals through orbital salt glands. Furthermore, water holes provide excellent game-viewing in a predominantly wild terrain.

Zoning of the KTP

The zoning scheme includes four types of areas (National Parks Board, et al. 1997):

1. **Special protection area.** This category is characterized by the absence of human-made structures and all forms of tourism. Access is limited to staff and approved researchers.
2. **Wilderness or low-use zone area.** Ungraded tracks for four-wheel drive vehicles and rustic camps to accommodate people on tracks are permitted. A field ranger accompanies all groups, and visitor numbers are limited. Off-road driving is restricted. Ungraded tracks will be monitored for the first year to ensure the environmental impact is acceptable. Thereafter, a three-year monitoring plan will be followed. A minimum of two vehicles is permitted to ensure safety in case of breakdowns.
3. **Natural Environment or medium-use zone area.** Normal tourist roads and a three-kilometer strip on either side of the road falls into this category.
4. **Visitor services or developed areas.** This category comprises rest camps, administration buildings, information centers, and tourist infrastructure and facilities.

Buffer areas adjoin the conservation area. In the southeast of the KTP, wildlife management areas form a buffer zone between wilderness areas and Botswana landowners. A contractual national park, managed jointly by the Mier and San has been proposed on the southwestern boundary; land-use issues are currently being discussed.

Two subadult lions engaged in playing, an important activity for developing survival skills in adulthood. Photo by Piet Heymans.

Adult Lioness (*Panthera leo)* and subadults at water hole. Photo by Piet Heymans.

Wilderness Management Strategies

The management strategies for wilderness zones in the KTP are summarized below.

- **Water points.** The existing water points will be maintained, but no additions will be made. The effect of *piomes* (induced impact on artificial water points) is continually monitored.
- **Buildings and construction.** Conventional tourist camps or personnel accommodation will be excluded. Rustic camps, limited to four-wheel drive vehicle users, and simple research camps are permissible.
- **Roads and tracks.** All existing graded service roads may be used,

Open tree savanna on the undulating plains with camelthorn *(Acacia eriloba)* and sourgrass (*Schmidtia kalihariensis)* the dominant species. Photo by Noel van Rooyen.

but no additions will be made. Only the tourist roads and the road along the western border are graded. Boundary roads are reserved for antipoaching, with some exceptions. Off-road driving is restricted. Four-wheel drive vehicle trails are on ungraded tracks. Night driving is restricted to existing roads.

- **Borders and fences.** Existing fences along the park border will be maintained. No other barriers will be erected, although Botswana would like to extend their fence line in the south in order to curtail movements of stock-raiding lions.
- **Fires.** Natural fires (lightning-induced fires) are allowed to take their natural course, but are monitored and only controlled if neighboring properties and/or infrastructure are threatened, or when sensitive riverine vegetation communities are endangered.
- **Resource utilization.** No harvesting of wood, grazing of cattle, or removal of natural products is permitted in wilderness areas.
- **Wildlife management.** Wildlife is monitored for disease, but a "no-interference" strategy is followed. In general terms, animals are predominantly disease-free with a low occurrence of mange and rabies. In instances where rabies is suspected the animal is destroyed and samples sent in for analysis. Carcasses are burned.
- **Problem animals.** Predators such as lion, cheetah, leopard, caracal, and spotted hyena pose a threat to livestock of farmers living adjacent to the park. KTP management does not pay for loss of domesticated animals in South Africa or Namibia. In Botswana, payouts are made for stock losses; however, illegal claims are stressing the system and it might change in future. Neighbors are educated concerning the importance of wildlife conservation whenever possible by the SANP Social Ecology Department in South Africa and the Wildlife Conservation Education Division in Botswana.
- **Quarries.** Quarries in wilderness areas are not permitted. All former sites adjacent to the tourist road network will be rehabilitated.
- **Culling.** A no culling wildlife policy is followed. The vast size of the conservation area is conducive to the sustainable occurrences of large numbers of wild animals, numbers which are "self-regulatory."
- **Overflying.** Only official aircraft are allowed to overfly wilderness areas at low altitudes. Other aircraft may overfly (in transit) at an altitude of not less than 2,000 feet above ground. Official aircraft are used for monitoring purposes, for research (radio telemetry), and for game counting purposes.
- **Poaching.** Poaching is not a major problem in wilderness areas due to remoteness and low habitation along boundaries. Regular patrols are undertaken on a continuous basis, and joint patrol with South Africa and Botswana antipoaching units takes place on irregular frequencies.
- **Alien plants.** Prosopis species are under control. Argemone and Salsola species are controlled where possible. All eradication of alien plants is done by hand, without the use of herbicides or pesticides.
- **Malaria.** There is a low frequency of malaria in the park. Other that notifying visitors to take prophylactic medicine, no specific management action is taken.

Bare pan with *Sporobolus* spp. and *Salsola* spp. on the edge. Photo by Noel van Rooyen.

Proposed Tourism Development

In addition to game-viewing in their own vehicles, visitors to the KTP can enjoy night drives with experienced rangers aboard park vehicles, or groups can undertake excursions to rustic camps in wilderness areas with a trained tracker. Tourist infrastructure is predominantly in the South African side of the park, while the majority of the wildlife is in the Botswana side due to the differing habitats. The South

African side consists of Nama Karoo and Arid Savanna biomes (Lovegrove 1993), while the Botswana side has a greater rainfall gradient to the northeast, making the habitat more suitable for sustained use by wildlife.

A need has been identified to improve the linkage between the South African and Botswana sides of the park via a tourist road. This road will have to traverse through pristine wilderness. A road is planned from Mabuasehube in Botswana to the Nossob valley.

Day walks and wilderness hiking trails could be established to provide the adventurous tourist with a "close to nature experience" in difficult-to-survive conditions. A "pack it in, pack it out" policy will be followed, and all participants will have to carry their own water and be accompanied by an experienced ranger as dangerous animals are present throughout the park. A walking trail in riverine areas is under consideration.

Training courses in tracking and field-guiding by experienced Bushman or Mier trackers could provide income-generating opportunities to local people and expand a visitor's knowledge base regarding nature and wildlife.

Environmental Impact Assessments (EIA) are mandatory for all developments on the South African side of the park. Currently, Botswana is not under obligation to undertake EIAs, but all new developments are subjected to approval by the Transfrontier Management Committee.

Proposed Management Initiates for Wilderness Zones

A need has been identified to refine the zonation in terms of categories of wilderness that reflect degrees of wilderness, ranging from pristine to modified, according to international acceptable wilderness classification criteria.

Nowhere in the entire Kgalagadi Transfrontier Park is there any natural surface water.

Conclusion

The KTP is largely wilderness. It is a harsh environment where only genetically strong individuals that are eco-typically adapted to the environment survive. Wildlife species living in the Kalahari are adapted to conditions of drought, fire, and lack of food at certain times of the year.

View of the Auob River with camelthorn (*Acacia eriloba)* and grey camelthorn (*A. haematoxylon).* Photo by Noel van Rooyen.

Traversing the vast distances of the Kalahari on foot is a tough and risky situation, even for experienced rangers, as a result of harsh climatic conditions, lack of water, and the presence of predators. Access to the wilderness is not practically possible without a vehicle for either management or visitor use.

KTP management allows limited access by four-wheel drive vehicles in wilderness zones, unlike the generally accepted standard for pristine wilderness, which excludes motorized access. As a result of the type of landscape, the roads, which predominantly consist of sandy tracks, are only visible from the air and within a narrow margin on either side of a road. With such vast areas under a nature conservation ordinance, the emphasis is on monitoring natural phenomena, with minimal active management strategies employed.

MARETHA SHROYER is an independent wilderness and wildlife researcher. She can be reached at 2 Chudleigh Court, Carstens Street, Tamboerskloof, Cape Town, 8001, South Africa. Telephone and Fax: 27 (0) 21 426 2746. E-mail: shroyer@iafrica.com.

MARTIN ENGELBECHT is the conservation manager at Kgalagadi Transfrontier Park, South African National Parks, Republic of South Africa. Telephone: 054 5612001. Fax: 054 561 2005. E-mail: driese@parks-sa.co.za.

ODUMELENG KAKETSO is a manager in the Department of Wildlife and National Parks, Kgalagadi Transfrontier Park, Republic of Botswana. He can be reached via Tsabong. Telephone: 09267 540221.

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REFERENCES

Lovegrove, B. 1993. *The Living Deserts of Southern Africa.* Vlaeberg, South Africa: Fernwood Press.

National Parks Board, Republic of South Africa, and Department of Wildlife and National Parks, Republic of Botswana. 1997. *Kgalagadi Transfrontier Park Management Plan.*

South African National Parks. 1999. *Kgalagadi Transfrontier Park: Travel Guide.* Pretoria: S.A. National Parks.

Van der Walt, P., and E. Le Riche. 1999. *The Kalahari and its Plants.* Pretoria: published by authors.

Which World? Which Wilderness? or Getting Back to the Right Cronon

BY GENE BAMMEL

Editor's Note

In 1996, in the first issue of the journal *Environmental History*, William Cronon wrote an article titled "The Trouble with Wilderness; or, Getting back to the Wrong Nature." The essay was based on a book edited by Cronon *Uncommon Ground: Toward Reinventing Nature*, and excerpted in the *Sunday New York Tames Magazine*. The article was followed by an equally provocative critique by Samual P. Hays titled "The Trouble with Bill Cronon's Wilderness." The articles stimulated what came to be known as the "great wilderness debate" that has raged in academic, management, and advocacy circles ever since.

To summarize the debate, Cronon "deconstructs" wilderness by arguing that rather than offering an antidote or counterbalance to industrial capitalism and ecological exploitation, wilderness might very well serve the same ends. He reaches this conclusion by emphasizing the bifurcation of nature and culture, or nature and society—an ideological construct—that effectively removed humans from that which we consider nature. The problem Cronon sees in this "construction" of nature are twofold: (1) it denies obvious acts of human management/actions that influence wilderness (e.g., removal of indigenous people, predator extermination, recreation impacts); and (2) it leaves no room for a nature ethic in those places where we do reside. Thus, we are excused to despoil places of non-nature (culture/society) because they have "fallen" and are not worthy of protection. Wilderness gives us false comfort in the belief that there is a pristine "nature" out there beyond our reach. Cronon concludes by calling for an expanded ecological ethic that embraces all places as places of nature, and reintegrates human life into ecological thinking.

Beginning with Hay's critique, Cronon's article has received bitter backlash from ecologists and wilderness advocates who argue that it blatantly ignores the biological reality of wildness (can you socially construct a wild grizzly?) and provides wrongheaded academic support for antiwilderness forces.

In the following article, Gene Bammel takes a philosophical looks at the debate from outside both factions. (See the December 1999 *IJW* for a book review by Greg Aplet of *The Great New Wilderness Debate*, J. Baird Callicott and Michael P. Nelson, editors.)

—Steve Hollenhorst, *IJW* co-managing editor

William Cronon is a heretic. A heretic is usually someone who started out sharing the common, received traditions and then subverted them. Martin Luther was a pious Catholic monk, until it dawned on him that justification was by faith alone, and neither good works nor sacraments made one pleasing to God. Cronon takes the received wilderness doctrine and says that he too is a true believer: he knows the delights of a misty waterfalls in a Sierra canyon, and in the presence of the irreducibility of the nonhuman, he has experienced something profoundly Other than himself (Cronon 1995).

Luther's reformation was successful, in part because of the shortcomings of the official Church, partly because the vision he conveyed was consistent with long-neglected aspects of Christianity, and partly because his insights coincided with the nominalist philosophical perspective of his time. Cronon's appeal derives from his embrace of a worldview—that reality is a social construct—long ignored by wilderness enthusiasts, but which enjoys broad intellectual support today. My critique of Cronon rests largely with this social construction worldview.

The world is a very simple place for those who have only one worldview. Among the happiest people I have ever met have been nomads and Bedouin who enjoyed a very simple, and very absolute worldview. We inhabitants of the modern, Western world are not so fortunate. Whether we realize it or not, we all have, as Walter Truett Anderson (1995) pointed out, four different worldviews, which we slip in and out of, often unconsciously.

Worldview I is the world inhabited by those of us who think we are practitioners of modern science. It is a scientific, rational approach, in which "truth" is found through methodical, disciplined, replicable inquiry. We can for example "know" the actual carrying capacity of an area, the amount of plant and animal life a given area can sustain, without detriment to the biota. Those for whom biodiversity is the primary justification for wilderness regard this worldview as deserving supremacy. For many scientists, this worldview becomes a kind of absolute, because it provides something as close to absolute truth as one can possibly come. The stubborn, irreducible facts of the physical world support this point of view. As Wittgenstein (1999) expressed it, "The world is everything that is the case."

Worldview II is a social-traditional approach, in which truth is found in the heritage of U.S. and Western civilization. Subscribing to this point of view are those wilderness advocates who regard the writings of Thoreau, Muir, and Leopold as almost divinely revealed truth. There is a sacred tradition, a way of doing things, a heritage that deserves reverential awe, and all this is kept alive in the enthusiastic writings found in various popular wilderness journals. On the larger stage, Allen Bloom's book *The Closing of the American Mind* (1987) is an early restatement of the absoluteness of our literary heritage. More recently, Martha Nussbaum, in *Cultivating Humanity* (1997), speaks in terms of reform in liberal education, while really defending the role of tradition in coming to grips with everyday reality.

Worldview III has been called "neo-romantic," because truth is found either through attaining harmony with nature, or through spiritual exploration of the inner self. Anyone familiar with the writings of Gary Snyder will know how perfectly his writings epitomize this approach. Wordsworth is still the model of the neo-romantic, while the writings of those who explore the inner self fill entire sections in bookstores. The masters of the art include Mihaly Csikszentmihalyi, *The Evolving Self* (1993);, James Hillman, *The Force of Character and the Lasting Life* (1999); Ken Wilber, *A Theory of Everything* (2000); and Jon Kabat-Zinn, *Full Catastrophe Living* (1990).

Lastly, *Worldview IV*—the view that Cronon supports—is that truth is socially constructed. This view has been explained best by Thomas Kuhn (1962), who suggested that we all operate within some given paradigm, we have a picture that we apply to reality, that helps us solve our everyday problems. Philosophically, this worldview dates back to Immanuel Kant (1973), who said we never know things-in-themselves; we only know the constructs of things our own mind imposes. (Wilderness becomes a social construct, a picture we impose upon a given reality, to make it comprehensible.)

There are two issues on the front burner. First of all is the philosophical issue of our appropriation of reality. Do I really know things, or do I know only the (social) constructs of my own mind? And more importantly, is there a reality out there that is independent of my judgment, not dependent upon my mind or my presence for its continuing reality? This is a central philosophical issue, and will not be solved in the confines of this article. But it must form the mental backdrop of those who would understand Cronon, his popularity, and the reaction to him.

As in most philosophical debates, there is some truth on both sides. I can make statements about the world that are accurate statements about what is really going on "out there." When I say: "Water boils at 100ºC," I have said something that is true about

Wilderness can also be a source of personal renewal, of spiritual exploration, of personal "at-one-ment" with the nature of which we are a part.

The world is a very simple place for those who have only one worldview.

the world, it is not just a social construct. A roomful of people claiming that water boils at 50ºC will not make it so. On the other hand, there are things that we do make so by agreeing to see them in a certain way. Aestheticians struggle with the statement "Beauty is in the eye of the beholder," because there is a certain degree of "social construct" in terms of what we accept as beautiful. For example, someone may make you a gift of music regarded by the giver as beautiful, but you may find it displeasing. Landscape architects and interior decorators both have certain canons of what is commonly regarded as pleasing, but both acknowledge that "individual tastes" may not cotton to the common canons.

So, what is wilderness? Is there something intrinsically valuable about wilderness? Or is wilderness, as Cronon suggests, a "social construct" that our culture has imposed upon us? Curiously, social constructionists are not relativists. A genuine relativist will say: any view is as good as any other; you are entitled to your point of view, as I am to mine. The relativist says: do not argue religion or politics, because your point of view is relative to your upbringing and current mindset, which is inevitably different from mine. Truth cannot be attained, but agreement can, whether by force, the tyranny of numbers, or the capacity to shout more loudly than the opposition.

Cronon, like other social constructionists, is not a relativist. He believes his statements are "true," and that others, once properly enlightened, will come to share his convictions. In a word, not only are some social constructions of reality superior to other social constructions, some have such usefulness, so much correspondence to the way things ought to be, that they should push away or dissolve other social constructs.

For those who would validate wilderness, its objective reality, its ontological primacy becomes the critical issue. Wilderness, areas that are "forever wild," areas where humans are visitors who do not remain, areas where mining and logging and road building are not permitted, wilderness must have some legitimacy in its own right. It is not just a social construct, not just a historical accident, not just a "landscape of choice for elite tourists," nor just a "place of recreation," but something that should be left as it is, something that has the same right to exist as human beings.

And with that reference to human beings, we come back to Immanuel Kant, as both the ultimate originator of this strange idea of the social construct, and as the author of a potential solution to the problem. Kant says you must treat persons as ends in themselves, and never as mere means. In this regard, Kant is as guilty as the rest of the Western tradition in supporting human exceptionalism—that humans are somehow not just a part of nature, but superior to it. But, having established that there is something in nature that must be treated not as a mere means, but as an end in itself, why not extend that concept to include something like wilderness? I propose that we conceive of wilderness as an area that must be treated as an end in itself, and not as mere means. Since wilderness is not a person, persons must act as guardians of wilderness, much as someone might be "appointed" a guardian for someone unable to engage in self-care. And this brings me to my second point. Writers as diverse as Christopher Stone (1974) and Martin Heidegger (1949) have pointed out that human beings are in some sense the shepherds of being, because perhaps trees and other natural objects do have "standing," legal rights, objective legitimacy in the real world.

Is wilderness a social construct? Yes it is, but it is also an objective reality that can be appropriated by various scientific disciplines. It is also subject to the interpretations that our traditions have placed upon it, and the Thoreauvian vision helps many not only to understand wilderness, but to come to grips with their lives amidst an urban civilization that has gone global, yet seeks succor from wild nature. Wilderness can also be a source of personal renewal, of spiritual exploration, of personal "at-one-ment" with the nature of which we are a part. Cronon is right on many issues, and there is a great deal of admirable subtlety in his expression of his point of view. It is in the initial assumption that wilderness is only a social construct that he goes astray. Aristotle (1987) is still the master of objective realism, of affording a primacy to the world "out there" that our minds really know. I do not know what he would make of our modern, Kantian notion of social construct. I think he would be unhappy with anyone who thought that was the only approach to reality. Aristotle was fond of saying: "A small mistake in the

beginning is a great one in the end." Not to realize that we have many approaches to reality is no small mistake; it is the tumor that spreads its malignancy over any attempt to make "social constructionism" the only way to view reality.

It is a little known fact that Martin Luther was invited by the Catholic Church to the Council of Trent in 1545, an invitation that Luther did not accept. Had he done so, the valuable correctives of the Protestant Reformation might have been incorporated into the main body of the Church, and the great schism might have been avoided. The heresy that Cronon spreads has much to offer wilderness advocates, for there is a sense in which wilderness is a "social construct," it is in a way what we make it out to be. But we must also be aware of the realist response: what we make it out to be is limited by the shortcomings of our understanding of what the thing-in-itself really is.

Philosophy perpetually renews itself by returning to its roots and anchoring itself in reality. The same must be said about all our reflections about wilderness. Muir and Thoreau, Leopold and Zahniser and Marshall, all offer us helpful incentives to grasping what wilderness "really" means. But there is no substitute for the experience of the thing-in-itself. What I experience, and what I want future generations to be able to experience, and the intrinsic value of biodiversity, is no mere social construct, no mere "resource," but the anchor and bedrock of reality. Perhaps, like the heresy of Martin Luther, the heresy that William Cronon spreads will be a useful corrective, bringing us all back to a more accurate understanding of the wilderness that is the substrate of our biological existence. In every orthodoxy, heresy serves a useful function. It brings the true believers back to the authentic bedrock of their belief and practice. Perhaps Crononism will serve the same useful function.

GENE BAMMEL is a West Virginia University professor emeritus and president of the Sage Program at the University of Arizona.

REFERENCES

Anderson, Walter Truett, ed. 1995. *The Truth About Truth*. New York: Penguin/Putnam.

Aristotle. 1987. *A New Aristotle Reader*, edited by J. L. Ackrill. Princeton University Press.

Bloom, Allan. 1987. *The Closing of the American Mind*. New York: Simon and Schuster.

Cronon, William. 1995. The trouble with wilderness; or, getting back to the wrong nature. In *Uncommon Ground: Toward Reinventing Nature*, edited by W. Cronon. New York: W. W. Norton.

Csikszentmihalyi, Mihaly. 1993. *The Evolving Self*. New York: Harper-Collins.

Heidegger, Martin. 1949. *Existence and Being*. Chicago: Regnery.

Hillman, James. 1999. *The Force of Character and the Lasting Life*. New York: Random House.

Kabat-Zinn, Jon. 1990. *Full Catastrophe Living*. New York: Dell.

Kant, Immanuel. 1973. *Critique of Pure Reason*, edited by N. Kemp Smith. New York: Macmillan.

Kuhn, Thomas. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

Nussbaum, Martha. 1997. *Cultivating Humanity*. Cambridge, Mass.: Harvard University Press.

Stone, Christopher. 1974. *Should Trees Have Standing? Toward Legal Rights for Natural Objects*, Los Altos, Calif.: Kaufmann.

Wilber, Ken. 2000. *A Theory of Everything*. Boston: Shambhala.

Wittgenstein, Ludwig. 1999. *Tractatus Logico-Philosophicus*. Translated by C. K. Ogden. New York: Dover.

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striking similarity between rhetoric of Stalin's Plan for the Great Transformation of Nature and the modern Wise-Use Movement? Do Western environmentalists realize that "wildlands," "reserve networks," and other conservation jargon originated independently in Soviet Russia a half-century ago? What motivated local party officials to protect nature reserves from "takings" by the central Politburo? In the end, did the Russian paradigm of closed ecosystems *(biocenoses)* benefit or hinder nature protection?

A Little Corner of Freedom confirms that wilderness and other forever-wild protections are not aberrations of Western culture. The previous century of Russian nature protection also hints at a radically different model for wilderness, a vision fixed in ecological functionalism. Russian *zapovedniki* offer a remarkably fresh defense of wild places rooted in the "what" and "how" of ecosystems ecology. This book will not resolve the quandary posed by the "does nature need people?" or "do people need nature?" polemic. But it could prompt some lively debate.

Reviewed by J. CHRISTOPHER HANEY, Ecology and Economics Research Department, The Wilderness Society, 900 17th Street, NW, Washington, D.C. 20006, USA. Telephone: (202) 429-2641. FAX: (202) 420-3958. E-mail: jchris_haney@tws.org.

Hikers' Perspectives on Solitude and Wilderness

BY TROY E. HALL

Abstract: The role of user encounters in shaping a wilderness experience and sense of solitude was investigated in Shenandoah National Park using open-ended interviews with 117 groups of hikers. Among those feeling that they had had a wilderness experience, 44% said the lack of encounters contributed to this sense, while 52% of those who did not have a wilderness experience cited crowding or encounters. The majority reportedly experienced solitude, although many said solitude only occurred at times or places during the hike.

Article author Troy Hall. Photo courtesy of Troy Hall.

The Issue of Wilderness Solitude

Wilderness managers today are embroiled in debates over providing solitude in wilderness. The 1964 Wilderness Act (TWA) declares that wilderness must provide outstanding opportunities for solitude or primitive and unconfined recreation. In the past, when wilderness provided low-density recreation, meeting this requirement was not difficult. However, as use has increased, solitude has become a contentious goal, with polarized debate about the proper course of action. For example, the Mount Baker Snoqualmie National Forest received national attention and criticism over plans to reduce use at popular areas in Alpine Lakes Wilderness. The repercussions of attempting to guarantee solitude by reducing use at popular destinations are potentially great—displacing many to achieve moderate gains in solitude, while impinging dramatically on visitors' freedom (Cole 1997; Cole et al. 1997).

In some wilderness areas, managers have assumed that outstanding opportunities must be provided everywhere, at all times. Others argue that if most of a wilderness remains unused, the wilderness does provide outstanding opportunities for solitude, even if it has several heavily used destinations. Whether managers decide to manage for solitude everywhere or just in some places, they must evaluate opportunities that exist. Usually this has been accomplished by monitoring encounters between groups (Cole 1997). Encounters are objective and measurable, and early research suggested that they affect the quality of wilderness experiences. Most research has focused on refining techniques for obtaining information about visitors' standards for acceptable numbers of user encounters (Manning et al. 1996; Vaske et al. 1986). Based on such research, many wilderness managers have established standards for encounters, and some are actively monitoring encounter levels (Watson et al. 1998).

However, some have questioned whether encounters are an accurate or adequate indicator for solitude (Patterson and Hammitt 1990). Hollenhorst et al. (1994) argued that solitude and crowding are not opposites. Roggenbuck et al. (1993) determined that encounters were "rated among the least important influences" on experiences. With the exception of several studies (Hammitt and Brown 1984; Hammitt and Madden 1989), relatively little research has been done on how wilderness visitors define and experience solitude.

This study sought to investigate wilderness hikers' experiences of solitude, to understand what factors contributed to

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those experiences, and to understand the extent to which encounters with other groups detracted from the sense of solitude.

Methods

The research was exploratory, using a series of open-ended questions to elicit perceptions and descriptions in visitors' own words. Semi-structured exit interviews were conducted with backcountry and wilderness hikers at 23 trailheads in Shenandoah National Park during October 1997. All trails provided access to wilderness, although in some cases the wilderness boundary was more than a mile from the trailhead itself, and it was not possible to ascertain with certainty that all groups entered wilderness.

Interview questions first asked what contributed to and detracted from a hiker's overall wilderness experience. Hikers were asked whether their trip felt like a wilderness trip to them—why or why not—and to explore their personal definition of wilderness. Hikers were asked if they experienced a sense of solitude during their hike and to explain why or why not. Finally, hikers were asked whether they felt at all crowded, and whether they paid any attention to the number of other groups they encountered during their hike.

Interviews took about 8–10 minutes. Tapes of the interviews were transcribed, resulting in more than 200 pages of text. Several readings resulted in a refined coding manual that captured the full range of responses in mutually exclusive categories (Strauss and Corbin 1990). All interviews were coded, with each meaningful element of a response classified (i.e., a single statement could be assigned multiple codes). The unit of analysis was the group—if anyone in a group volunteered a response, that answer was coded for the group. If group members disagreed, which was rare, all answers were coded for the group. Groups could give more than one type of answer to a question; thus, percentages can sum to more than 100%. In tables, percentages are based upon those groups providing codable answers to each question, with responses such as "I don't know" eliminated.

Table 1—Factors influencing whether a hike felt like a wilderness experience.

Factors Contributing to a Feeling of Wilderness	Percent (41 groups)
Natural setting features (trees, scenery, rocks, water, wildlife)	51
People (seeing no one, seeing few others, not being crowded)	44
Human influences (unmanaged, no developments)	27
Access (challenging trails, remote, rugged)	22
Experiences (escape, peace, harmony)	15
Sounds (water, wind, natural sounds)	12
Factors Detracting from a Feeling of Wilderness	**Percent (46 groups)**
Access (not remote, trail too developed or maintained)	83
People (too many people, crowded, large groups)	52
Experiences (too safe, easy hike, too short)	26
Sounds (sounds of cars)	20
Human influences (evidence of people, developments)	15

Table 2—Elements in personal definitions of wilderness (100 groups).

Elements	Percent
Lack of human influence (no developments, untouched, uninhabited)	60
Natural setting features (trees, scenery, rocks, water, mountains)	53
Wildlife	47
Experiences (solitude, peace, harmony)	37
Access/Location (remote, difficult access, large area)	36
People (few encounters, no people)	25

Results

A total of 117 groups were interviewed (91% response rate). Group sizes ranged from one to six people (60% were in groups of two, while 11% were individuals traveling alone). When asked whether the hike had felt like a wilderness experience, 55% of the groups had some members who said yes, 39% had some members who said no, and 16% had some members who gave a qualified answer ("in some ways yes, some ways no"). Forty-one groups (35%) listed a diversity of factors that contributed positively to a feeling of wilderness (see Table 1), such as natural setting features and lack of many encounters. For those who did not feel that they had experienced wilderness, wide trails, proximity to Skyline Drive, and the presence of other groups were most important.

When asked to define wilderness in their own words, 17 groups said they could not. The rest gave answers similar to TWA definitions (see Table 2). Although lack of physical modification and presence of natural features were

the most common descriptors, encounters featured in about one-quarter of the definitions. Thirteen percent specifically mentioned the terms *solitude* or *isolation.*

Most groups (91) had members who said they had experienced solitude during their trip, whereas 34 groups had members who did not (see Table 3). Eight groups had some members who experienced solitude and others who did not. Most groups simply answered "yes" or "no," but some qualified their answers. For example, 25% said they had experienced solitude, but only at certain times or places such as "for a few minutes," "during the last half of the trip," or "on the trail down, but not up." Of those not experiencing solitude, 16% pointed out that they had not expected it.

Table 3—Reported experiences of solitude or lack of it while hiking.

Did Experience Solitude	Percent (91 groups)
Unqualified "yes"	64
Qualified "yes"	25
Adamant "yes"	17
Did Not Experience Solitude	**Percent (34 groups)**
Unqualified "no"	84
Didn't expect it	16
Qualified "no"	7

Table 4—Factors contributing to a sense or absence of solitude.

Factors Contributing to a Sense of Solitude	Percent (91 groups)
Presence of people or encounters	68
Saw few people	39
Saw no one else	24
During times away from people	24
Didn't hear people	3
Quiet/natural sounds	42
Natural setting	32
Personal experiences	28
Being still/observing	16
Being away/remote	11
Factors detracting from a sense of solitude	**Percent (34 groups)**
Presence of people or encounters	85
Saw a lot/too many people	62
Talking amongst selves	12
Own group size	9
Saw more people than expected	3
Experiences (easy, short)	15
Sounds (cars)	12
Management setting	6

When asked what contributed to a sense of solitude, 68% mentioned people, mainly that they had seen only a few or no other groups (see Table 4). About one-quarter said solitude came during times that they were away from other parties. Those who said they had not experienced solitude generally said it was because they saw a lot of other people. Although a few said that interactions within their group prevented a feeling of solitude, such factors were less important than intergroup encounters.

Several other factors contributed to a sense of solitude, including quiet or natural sounds and being away from sounds of civilization or cars. Others referred to the natural setting, usually forests, water, or mountains. Several referred to experiences, such as feelings of calm or peace. About 16% answered this question by describing sitting quietly in some place, usually with a nice view, "I just felt like we were the only people in the area, it was wonderful."

Most groups (89%) answered affirmatively when asked if they had "paid attention to the number of other groups around." Interestingly, 42% followed up by spontaneously stating the number of encounters they had. For example, a typical statement was, "we saw one, two, three guys backpacking and two people and a dog, so we've seen five people." This tendency apparently occurred when the number of encounters was relatively small; above about six to eight groups, people were more likely to say they didn't keep track of the number of people they met or that there were "a lot."

Answers to the question about feeling crowded were largely consistent with responses about solitude: 79% of groups had members who did not feel crowded, while 28% had members who felt crowded. Most of those who felt crowded offered qualifications to

their answers. For example, 42% of these groups said they felt crowded "in places," implying that they didn't feel crowded in other places. Many explained that they expected (or didn't expect) what they encountered, or compared the trail to more or less heavily used trails. In fact, one-quarter of all groups (both those who felt crowded and those who didn't) answered by comparing their hike to another place or time, such as "Well, I've been on this trail probably at least a dozen times, and today was the most crowded I've ever been."

Discussion and Conclusions

How Important Are Encounters to a Feeling of Wilderness?

Shenandoah hikers reported that encounters or lack of encounters affected their feeling of being in the wilderness (40–50%), and 25% said that low numbers of encounters were important to defining wilderness. Answers to this open-ended interview question were unprompted, so encounters appear salient.

How Important Are Encounters to a Feeling of Solitude?

One-quarter of hikers who said they experienced solitude qualified their answer; many described times or places where they experienced solitude. Thus, having high overall numbers of encounters across the whole trip did not preclude some experience of solitude. Descriptions of solitude episodes volunteered by several respondents suggest that the *pattern* of encounters may be more important than the *number* of encounters. For such individuals, many encounters all at one time, followed by long periods of seeing no one, might be more likely to promote a sense of solitude than the same number of encounters that occur one after another. Furthermore, managers may conclude that opportunities for solitude do not exist when the number of encounters are high, but visitors themselves may feel that they have experienced solitude to some degree. Managers might consider asking visitors directly whether they felt they had "outstanding opportunities for solitude."

Solitary hiker on the Riprap Trail, South District, Shenandoah National Park. Photo by Mary Cottone.

What Other Factors Contribute to Solitude?

Many respondents described feeling solitude during episodes when they were still, away from other groups, and in the presence of natural settings, natural sounds, or quiet. Given the range of comments received in this study, further research should investigate whether people are indeed more likely to experience solitude in certain settings (e.g., undisturbed views or near water). At Shenandoah, for example, the effect of traffic noise from Skyline Drive seemed to interfere with solitude.

What Is the Relationship Between Solitude and Crowding?

The relationship between solitude and crowding was generally strong among Shenandoah hikers; however, individual factors (past experience and expectations) influenced feelings of crowding more than solitude. Many people qualified their answers about crowding by contrasting this trip to other times they have visited or other places they have been. Also, many hikers felt solitude during episodes in which they were away from others, even if they had—across the whole

Hikers crossing a stream on the Slaughter Trail, Central District, Shenandoah National Park. Photo by Steve Bair.

trip—many encounters. Thus, a monitoring approach that evaluates solitude opportunities solely on the basis of the number of encounters per day would not have captured important experiential dimensions for many hikers. This study suggests that indicators might be expanded to include other more subjective indicators, such as "the longest period of time without seeing others." Using such an indicator, a manager might conclude that some opportunities for solitude were available. The desirability of expanding the objective and subjective indicators to measure solitude should be debated.

Day hikers on Hawksbill Summit, Central District, Shenandoah National Park. Photo courtesy of Shenandoah National Park.

TROY E. HALL is an assistant professor at the University of Idaho, Department of Resource Recreation and Tourism, Moscow, Idaho 83844, USA. E-mail: troyh@uidaho.edu.

REFERENCES

Cole, D. N. 1997. Solitude: researchers continue to delve into solitude components of Wilderness. *Signpost for Northwest Trails* (January): 33–34.

Cole, D. N., A. E. Watson, T.E. Hall, and D. R. Spildie. 1997. High-use destinations in three wildernesses: social and biophysical impacts, visitor responses, and management options, Intermountain Res. Sta. Research Paper INT-RP-496. Ogden, Utah: USDA Forest Service.

Hammitt, W. E., and G. F. Brown. 1984. Functions of privacy in wilderness environments. *Leisure Sciences* 6: 151–166.

Hammitt, W. E., and M. A. Madden. 1989. Cognitive dimensions of wilderness privacy: a field test and further explanation. *Leisure Sciences* 11: 293–301.

Hollenhorst, S., E. Frank, III, and A. E. Watson. 1994. The capacity to be alone: wilderness solitude and the growth of the self. In *International Wilderness Allocation, Management, and Research*, edited by J. C. Hendee and V. G. Martin. Fort Collins, Colo.: International Wilderness Leadership (WILD) Foundation: 234–239.

Manning, R. E., D. W. Lime, and W. Freimund. 1996. Crowding norms at frontcountry sites: a visual approach to setting standards of quality. *Leisure Sciences* 18 (1): 39–59.

Patterson, M. E., and W. E. Hammitt. 1990. Backcountry encounter norms, actual reported encounters, and their relationship to wilderness solitude. *Journal of Leisure Research* 22: 259–275.

Roggenbuck, J. W., D. R. Williams, and A. E. Watson. 1993. Defining acceptable conditions in wilderness. *Environmental Management* 17 (2): 187–197.

Strauss, A., and J. Corbin. 1990. *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park, Calif.: Sage Publications.

Vaske, J. J., A. R. Graefe, B. Shelby, and T. Heberlein. 1986. Backcountry encounter norms: theory, method and empirical evidence. *Journal of Leisure Research* 18 (3): 137–163.

Watson, A. E., R. Cronn, and N. A. Christensen. 1998. Monitoring inter-group encounters in wilderness. Fort Collins, Colo.: USDA Forest Service, Rocky Mountain Research Station.

PERSPECTIVES FROM THE
ALDO LEOPOLD WILDERNESS RESEARCH INSTITUTE

Amphibians and Wilderness

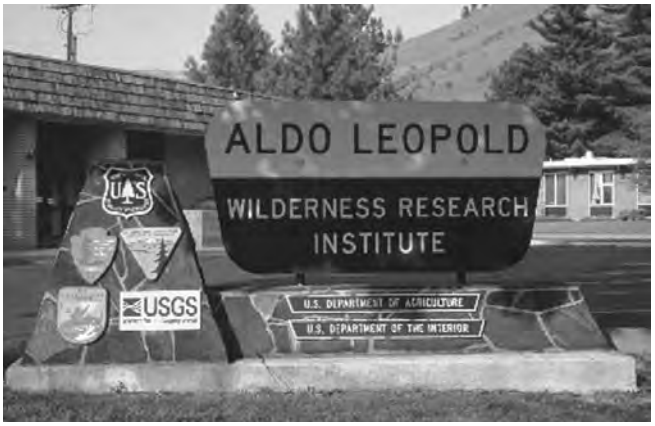
BY PAUL STEPHEN CORN

The decline of amphibian species has emerged as a major global conservation issue in the last decade. Last year, the Department of the Interior (DOI) initiated a major national initiative to detect trends in amphibian populations and research the causes of declines. The program, conducted principally by the U.S. Geological Survey (USGS), emphasizes lands managed by DOI, but collaboration with the Forest Service is encouraged to increase the scope of inference about population trends. Although amphibians are not usually the first group of animals that comes to mind when one thinks of wilderness, conservation of amphibian populations is clearly a wilderness issue.

The two largest wilderness areas east of the Mississippi River have high amphibian species diversity: Okefenokee Wilderness, Okefenokee National Wildlife Refuge (GA), and Marjory Stoneman Douglas Wilderness, Everglades National Park (FL). Twenty species (15 frogs and toads, and 5 salamanders) occur in the Everglades, and at least 38 species (21 frogs and toads, and 17 salamanders) occur in the Okefenokee. The USGS Florida Caribbean Science Center is developing monitoring programs for both areas, despite daunting logistical obstacles (http://www.fcsc.usgs.gov/armi).

Although amphibians have comparatively low diversity in high-elevation wilderness areas and backcountry areas of national parks in the western United States, many of these species occupy important ecological niches. Knowledge about the status of amphibians in these areas is important, because a high proportion of western amphibian species have undergone recent declines, often in protected habitats.

Until 150 years ago, more than 85% of high-elevation lakes and ponds in the western United States were fishless. Amphibians were the dominant aquatic vertebrates in these waters before nonnative trout were stocked to establish recreational fisheries. Grazing by tadpoles influence algal communities, and the aquatic larvae of ambystomatid salamanders are voracious predators. Stocking fish into previously fishless waters has large effects on amphibians and other aquatic biota, and on ecosystem processes such as nutrient cycling. The effects of



nonnative fish on aquatic systems have made management of recreational fishing in wilderness increasingly controversial.

In October 1998 I organized a workshop of researchers and managers to discuss current research and management alternatives (see *Ecosystems* issue 4, volume 4, Summer 2001). Two papers discuss management issues: (1) a look at the history of fish stocking in California and (2) a review of case law, agency policies, and federal-state agreements relating to The Wilderness Act and fisheries management. Four papers present research results on: (1) fish introductions, including effects on amphibian populations, (2) effects on native fish downstream from headwaters lakes, (3) alteration of algal communities and nutrient cycling, and (4) recovery of plankton communities following removal of trout.

Other threats to amphibians occur in wilderness, such as saprophytic chytrid fungus, which has been associated with declines of amphibians in relatively undisturbed forests in Central America, Australia, and western North America. Conservation of amphibians in the face of pathogens and other stressors, such as global change, that occur across wilderness boundaries, will be extremely challenging.

PAUL STEPHEN CORN is a research zoologist with the Northern Rocky Mountain Science Center, U.S. Geological Survey. He can be reached at the Aldo Leopold Wilderness Research Institute, P. O. Box 8089, Missoula, Montana 59807, USA. Telephone: (406) 542-4191. E-mail: scorn@usgs.gov.

Visitor Experiences of Stress and Reported Hassles in the Shining Rock Wilderness Area

BY RUDY SCHUSTER and WILLIAM E. HAMMITT

Abstract: This article describes the nature of hassles experienced by visitors in a southern U.S wilderness area, defined as irritating, frustrating demands and situations during a recreation experience. Of the 486 respondents, 87% indicated that a hassle was experienced. The greatest sources of hassle were litter and other impacts from human use of the resource. A visitor education program is recommended to achieve the management goal of reducing the amount and intensity of hassles.

People experience stress in everyday life and cope with it; recreation in wilderness environments is no exception. Stressful situations and the stress process have the potential to negatively affect a recreation experience. A better understanding of the stress and coping process in recreation activities can help managers to design management techniques that reduce perceived stress and enhance visitor experiences. Providing information concerning the stress process will help recreationists to mitigate stressful situations and improve their overall experience.

Stress and coping theory (Kaplan 1996; Lazarus and Folkman 1984) has been used to understand recreationists' appraisal of stressful situations, coping processes, response to stress, and the outcomes of the process. Hassles are a form of stress. The daily hassles concept was developed by DeLongis (1985), DeLongis and others (1988), Kanner and others (1981), and Lazarus and others (1985). Hassle variables measure the immediate and multiple pressures that occur during the recreation experience and the disruption associated with them. The hassles concept suggests that every day demands on a person have a greater overall effect than larger life events.

The definition of *hassle* used here is the irritating, frustrating demands or situations that occur during recreation experiences; they can range from minor annoyances to fairly major pressures or problems. A wilderness visitor might experience numerous events that must be appraised and coped with, but may be considered regular events in a wilderness context. For example, traveling off-trail might create a route-finding hassle, nearby campsite users may cause irritating noise, and seeing litter in the backcountry might be frustrating. In addition, situations used to describe conflicts in outdoor recreation settings can be sources of hassles, such as user crowding or negative interactions between horse riders and hikers. Hassles represent specific attributes of the outdoor recreation experience that may negatively affect the experience, and when taken collectively, could have a significant-disruptive impact.

Article co-author Rudy Schuster. Photo courtesy of Rudy Schuster.

Previous studies used the stress and coping model to investigate recreation conflict; according to stress theory, recreation conflict was methodically treated as a stressful major life event (Lazarus and Folkman 1984; Schneider 1995; Miller 1997). The work reported here expands upon

previous studies and promotes the "hassle" concept for recreation stress research. The primary objective of this article is to provide information that will aid in the management of stress-related hassles in wilderness areas.

Study Area

The Shining Rock Wilderness Area (SRWA) consists of 18,700 acres and is located in the Blue Ridge Mountains of western North Carolina. The SRWA is located within four hours' driving time from multiple urban centers, shows signs of previous human activity, and receives a high amount of recreation use. The dominant uses within the SRWA include day hiking, backpacking, berry picking, and hunting. Mountain-bike and horse use are permitted on trails surrounding the SRWA.

The U.S. Forest Service (USFS) manages the SRWA and surrounding buffer zone for dispersed recreation use. The SRWA has a group size limit of 10 people, and the buffer zone a group size limit of 25. In the buffer zone, trail blaze-markers and signs are provided, but trails are not marked within the SRWA. Campsites are not designated in either the SRWA or buffer zone, and due to high and consistent recreation use, many sites have become regularly used, with some posted for closure due to severe impacts. Recreationists in the SRWA and buffer zone must cope with hassles themselves since little on-site assistance is available.

Methods

A survey of visitors to the SRWA and surrounding buffer zone was conducted from July through November of 1999. Sampling was conducted at four different trailheads and designed to increase the diversity of users in the area (e.g., summer and fall hikers, berry pickers, and hunters). Commercial groups requiring special use permits or groups who had leaders/facilitators were not included in the sample. A mail survey was used with up to three reminders.

Results

A total of 713 surveys were mailed; 486 surveys were completed and returned (adjusted response rate of 68%). While 424 (87%) indicated that some sort of hassle was experienced at the study site, only the results from a screened sample of 388 respondents who had no missing data in the survey were used here.

The three most frequently participated-in activities in the SRWA were weekend backpacking (45%), day hiking (39%), and backpacking trips longer than one night (13%). Other activities reported were: blueberry picking (5%), wildlife viewing (2%), car camping and hiking (2%), and photography (2%). Visitors could participate in more than one activity on the same trip.

Twenty-seven percent of respondents were on their first visit to the SRWA; 73% had been to the area previously. Most of the respondents spent five days or fewer per year within the designated SRWA boundaries (56%) or in the buffer zone (38%). Overall, about three-quarters of respondents had more than one year of experience in the SRWA and buffer zone.

Table 1—Sources of hassles in the SRWA reported by respondents.

Source of Hassle	Percent (n=388)
Litter	46
Noise from other people	44
Damage to the resource (plants, trails…)	36
Too many people at campsites	36
Vehicles near the Wilderness Area	26
Too many people on the trail	26
Dogs or other pets	25
Route finding/navigation	24
Behavior of other people	23
Weather conditions	20
Hunters	18
Equipment problems (tent, backpack…)	10
Traveling to the area	7
Developed facilities	7
Group troubles (disagreements, arguments)	6
Traveling home after the trip	6
Personal ability to complete desired task	6
Mountain bikers	5
Things were not as I hoped they would be	5
Planning the trip	3
Other	24

Entrance to the study area. Photo courtesy of Rudy Schuster.

A checklist of 21 possible sources of hassle was included on the survey, plus an open-ended "other" category. The single greatest source of hassle was litter (see Table 1). The seven most frequently reported hassle sources were associated with interactions with other people or the result of high levels of recreation use in the SRWA. Route finding and navigation may have been a frequent source due to the fact that trail markings and signs were not provided within the SRWA.

Respondents expected the types of hassles experienced to occur occasionally (58%), frequently (21%), every trip (5%), or never (16%). When asked if this sort of hassle was experienced in the past, 30% reported never, 42% indicated occasionally, 21% reported frequent occurrences, and 7% indicated that it occurred every time. Many respondents indicated that hassles were of moderate intensity (41%), slightly more than one-third thought the hassles were of high (23%) to very high (12%) intensity, and about one-quarter noted the hassles as low (19%) to very low (5%) intensity.

Management Implications Based on Sources of Stress

The main source of hassle at the SWRA was litter and is typically from hikers who drop items, campers who do not clean sites thoroughly, or visible toilet paper from inadequate burial of human waste. The most effective management tool may be education efforts directed at increasing visitor awareness of the problem and leading to self-imposed behavior modifications (Schneider 1995). The SRWA is managed directly and indirectly for dispersed recreation. Education efforts can highlight the benefits to visitor wilderness experiences of the indirect management techniques and in the process emphasize the responsibility of the recreationist to help maintain acceptable conditions. Information should make recreationists aware of litter as a source of hassles; hence the need to not leave litter, to remove litter left by others, and to remind other visitors to pack it out.

Other frequent sources of hassles were "noise from other people" and "behavior of other people" in the SRWA and can be addressed with educational programs as well. Information can be directed at increasing awareness that many people share the SRWA, and the actions of one individual, or group, have the potential to negatively impact many others. The educational campaign could contrast the differences between a wilderness environment and other recreation settings to highlight the idea that what is appropriate behavior in one area might not be in the other.

Two often reported sources of hassles were "too many people at campsites" and "too many people on the trail," even though there are group-size limits in the SRWA and buffer zone, and a permit is required for commercial groups to use either area. In some cases, larger groups may be unaware of their impacts on other recreationists. Educational programs can make larger groups and commercial permit holders more aware of the hassles (social impacts) experienced by other recreationists and methods of reducing hassle situations.

Dogs and other pets were a frequently reported hassle during the on-site contacts; two sources of dog-related stress were fear of unleashed dogs and pet feces on the trail. Given the dispersed management techniques, one solution is to increase visitor awareness of the need and reasoning for the use of leashes and cleaning up after animals.

The use of four-wheel-drive vehicles near the SRWA was a frequent reported hassle. Permits could be required to use the unmaintained road

leading to the SRWA, or it could be closed to vehicular traffic. Better management of vehicle use in the area would likely contribute to the reduction of other stress sources because vehicles increase the amount of hardgoods that people bring to campsites, such as radios, barbecue grills, and picnic tables. Probable positive side effects would include reduction in litter, noise, and crowded conditions on trails and at campsites.

Summary

A better understanding of stress situations can help managers to reduce the amount and intensity of perceived hassles and enhance visitor experiences. Information concerning recreation related hassles can help recreationists themselves to mitigate hassle situations and improve satisfaction of the overall experience; thus, reducing the need for management intervention. However, more than a cursory level of knowledge is recommended; signs at the trailhead may not be adequate. The reasoning for regulations or the need for "appropriate" user behavior must be evident. The responsibility for stewardship can be promoted by highlighting the visitor's stake in the management process. Self-imposed behavior modification can lead to fewer occurrences of hassles, which should lead to less detraction from the recreation experience.

Indirect management is more appropriate in a wilderness setting; thus, a visitor education program is recommended to achieve the management goal of reducing the amount and intensity of hassles. SRWA visitors can be made aware of (1) the sources of hassles to visitor, (2) the educational management approaches, (3) the reasoning for the educational programs, (4) the role of the visitor in fostering appropriate behaviors among all visitors, and (5) the benefits to visitors for taking an active role in reducing the proliferation of hassles.

RUDY SCHUSTER is employed at the Parks, Recreation, and Tourism Management Department at Clemson University and can be reached at Lehotsky Hall, Room 263, Clemson University, Clemson, South Carolina 29634, USA. Telephone: (864) 656-0112. E-mail: rudolps@clemson.edu.

WILLIAM E. HAMMITT is a professor in the Parks, Recreation, and Tourism Management Department at Clemson University.

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REFERENCES

DeLongis, A. M. 1985. The relationship of everyday stress to health and well being: inter- and intra-individual approaches. Unpublished dissertation, University of California, Berkeley.

DeLongis, A., S. Folkman, and R. S. Lazarus. 1988. The impact of daily stress on health and mood: psychological and social resources as mediators. *Journal of Personality and Social Psychology* 54 (3): 486–495.

Kanner, A. D., J. C. Coyne, C. Schaefer, and R. S. Lazarus. 1981. Comparison of two modes of stress measurement: daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine* 4 (1): 1–39.

Kaplan, H. B. 1996. Perspectives on psychosocial stress. In *Psychosocial Stress: Perspectives on Structure, Theory, Life-Course, and Methods,* edited by H. B. Kaplan. San Diego: Academic Press: 3–24.

Lazarus, R. S., S. Folkman. 1984. *Stress, Appraisal, and Coping.* New York: Springer Publishing.

Lazarus, R. S., A. Delongis, S. Folkman, R. Gruen. 1985. Stress and adaptional measures. *American Psychologist,* (July) 770–779.

Miller, T. A. 1997. Coping behaviors in recreational settings: substitution, displacement, and cognitive adjustments as a response to stress. Unpublished dissertation, University of Montana, Missoula.

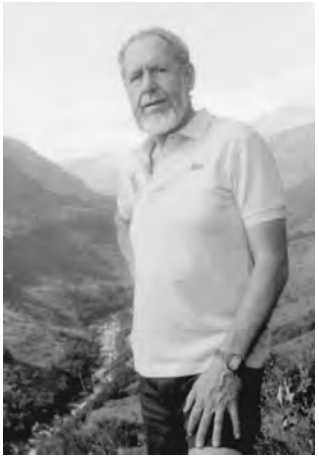
Schneider, I. E. 1995. Describing, differentiating, and predicting visitor response to onsite outdoor recreation conflict. Unpublished dissertation, Clemson University, Clemson.

Mountain Wilderness in South Africa

BY WILLIAM R. BAINBRIDGE

Introduction

The Republic of South Africa (SA) is fortunate that, according to Wells (1995), it has one of the best-managed protected area systems in the developing world. He states that this system enables our country to play a leading role in achieving the aims of the World Conservation Union (IUCN) Commission on National Parks and Protected Areas (IUCN 1994), and the implementation of such global environmental imperatives as the conservation of biological diversity, as advocated by the Rio Conference and Agenda 21 (United Nations 1993). The first protected areas on the African continent were proclaimed in Zululand in 1895; since then a total of 422 individual areas have been proclaimed, with a total area of some 6.7 million hectares, covering about 5.5% of the country (Department of Environment Affairs and Tourism 1996). This protected area system has been built on traditions that date back to the private hunting reserves, which had a conservation function, that were set aside by early black leaders such as King Shaka. Toward the end of the 19th century, concern was expressed by the colonial white governments at the widespread carnage wrought by hunters who killed for gain on a massive scale, which eventually led to the declaration of the first reserves in Zululand, but these afforded protection to only a small portion of the present SA. By the end of the 19th century, most of the great herds that once roamed this country had all but disappeared, and some large mammal species such as the white rhinoceros were already thought to be extinct (Pringle 1982).



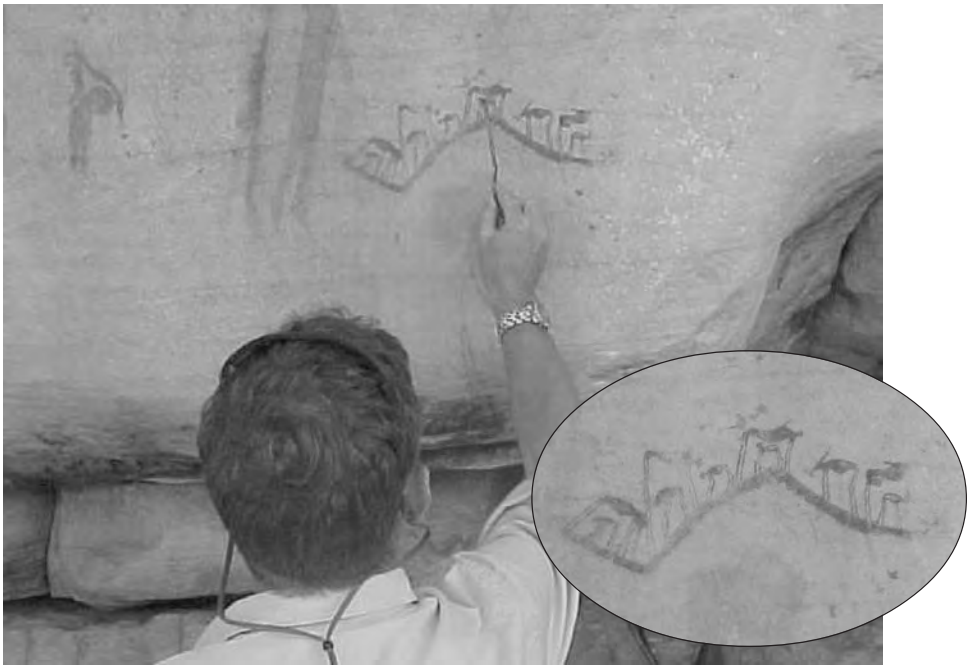
Article author Bill Bainbridge.

***De facto* wilderness in the Mnweni area, Drakensberg Mountains of KwaZulu-Natal Province, South Africa, at the interface of the Subalpine and Afro-alpine Belts. Photo by John Hone.**

However, major advances have been made in this country since that time, especially in the advancement of wildlife science and establishment of effective protected area agencies, which have led to the establishment of the present system. Our protected areas are now increasingly receiving recognition by international tourists and lovers of wildlands, especially since the recent recognition by UNESCO of the first SA Natural World Heritage Sites. Two of the most important protected areas in KwaZulu-Natal Province, the Greater St Lucia Wetland and Ukhahlamba-Drakensberg Parks have recently received World Heritage Site status. Both of these incorporate extensive wildernesses—the latter contains four designated mountain wilderness areas (KwaZulu-Natal Nature Conservation Service 2000).

SA was also the first African country to establish wilderness areas as part of the national protected area system, inspired by the passage of The 1964 Wilderness Act in the United States, and in recognition of the rapid rate of landscape transformation that was impacting on the wild lands for which Africa had an international reputation. The first attempts to set aside wildernesses were made in the 1950s by the Natal Parks Board, now KwaZulu-Natal Nature Conservation Service (KZN NCS), in portions of Lake St Lucia Reserve in 1955, and the Umfolozi Game Reserve in 1957. Both areas were protected by administrative arrangement, however, and only recently has legal protection been mooted for these areas (Bainbridge 1984).

At the same time a national authority, the then Department of Forestry, which had custody of extensive high altitude natural areas known as mountain catchment areas, was also considering use of the wilderness concept for the long-term protection of these sensitive ecosystems. SA is a land of limited water resources—only 20% of the country receives rainfall in excess of 800 mm per year, and water is considered a limiting factor to the industrial economy. The country experienced a series of severe droughts in the 1930s, when the government of the day decided to protect all publicly owned mountain catchments as part of the national forest lands, and ensure the optimum runoff of clear water. Mountainous land in private ownership was purchased and added to the area to be managed by the department for conservation of the water resources, protection of the natural communities, and public outdoor recreation. Within 40 years, the department had custody of almost 1 million hectares of high altitude catchment areas, distributed over the most important mountain systems of the country (Ackerman 1976).



Bushman rock art in the Cederberg Wilderness Area, Northern Cape. Photos by Vance G. Martin.

The concept of wilderness conservation amongst professional foresters in SA developed in the early 1970s under the leadership of Danie Ackerman, secretary for forestry, who was aware of the strong support for wilderness conservation in the United States at that time. He was aware that relatively large portions of the natural areas in the SA state forests still retained much of their original character and was determined to ensure the long-term protection of this resource, which he perceived to have inestimable value for our people. From his experience in the United States, he resolved to seek a means of obtaining secure legal protection for the wild areas in the state forests. This was achieved in 1971, when the minister of forestry secured an amendment in Parliament to the Forest Act of 1968, which provided the first legal instrument for the designation of wilderness in the country. This remains the legislation, amended over time, under which the present wilderness areas on state forest land are protected (Ackerman 1972).

The department then established regional teams for the purpose of planning and managing its natural areas, which comprised natural forests, coastal ecosystems, and mountain catchments. These teams were also tasked with the selection of the most suitable portions of the natural areas for designation as wilderness areas. The criteria employed for the selection of the new wildernesses was largely based on protocols developed in the United States, modified to suit local conditions (Bands 1977). At

South Africa was also the first African country to establish wilderness areas as part of the national protected area system …

Zulu village in the Drakensberg Mountains, near Royal Natal National Park, Kwazulu Natal. Photo by Vance G. Martin.

that time, "wilderness area" had not yet been accepted as a protected area category; this only occurred following the third World Wilderness Congress held in Scotland in 1983 (Bainbridge 1984). The IUCN Commission on National Parks and Protected Areas first incorporated wilderness in the international system six years later (IUCN 1994). Subsequently, the criteria for the selection and management of wilderness areas were formalized in an SA national system (Department of Environmental Affairs and Tourism 1996). This system is largely based on the criteria employed for designation of the state forest wilderness areas.

Since 1971, 11 wilderness areas have been designated in terms of the Forest Act (see Table 1). All but one (Ntendeka Wilderness Area) protect high altitude ecosystems in the principal mountain systems of the country, spread over four provinces. However, even Ntendeka lies in hilly country, and it conserves one of the most important Afromontane natural forests in KwaZulu-Natal.

1973 was a momentous year for wilderness conservation in SA, when the first three wildernesses were proclaimed in terms of the provisions of the Forest Act for the protection of important high altitude catchment areas. The first two were Mdedelelo and Mkhomazi both in the Drakensberg Mountains of KwaZulu-Natal, followed by the Cederberg in the mountains of the Western Cape.

While the total extent of the designated wildernesses is small (less than 5% of the total protected area system), they play a very significant role in all the accepted conservation functions of protected areas. Some of the most important functions are the following.

Table 1—The Mountain Wilderness Areas of South Africa.

Wilderness Area	Area (ha)	Mountain Range	Management Authority
Designated areas			
Boosmansbos	14,200	Langeberg	Western Cape Department of Nature Conservation
Cederberg	71,000	Cederberg	
Doringrivier	11,000	Outeniqua	
Grootwinterhoek	19,200	Grootwinterhoek	
Groendal	28,900	Grootwinterhoek	Department of Economic Affairs, Environment & Tourism, Eastern Cape
Mdedelelo	27,000	Drakensberg	KwaZulu-Natal Nature Conservation Service
Mkhomazi	48,000	Drakensberg	
Mlambonja	14,000	Drakensberg	
Mzimkulu	28,300	Drakensberg	
Ntendeka	5,230	Drakensberg	
Wolkberg	22,000	Wolkberg, Strydpoort	Dept. of Nature Conservation, Northern Province
Candidate area			
Baviaanskloof	177,500	Baviaanskloof	DEAET, Eastern Cape
Totals	**466 330**	**9**	

Conservation of Wilderness Resources

The wilderness areas protect high altitude landscapes, which, at the time they were proclaimed, were some of the last of the near-pristine, largely unmodified wildlands in the country. They were amongst the few areas that had not been occupied by technological humans, being generally unsuited for agriculture other than seasonal grazing, and, thus, the landscapes have not been transformed as in most other parts of the country. Most of the subcontinent was originally occupied by the San people, also known as Bushmen. The Bushmen are recognized as the autochthonous inhabitants, who were present for very extensive periods (over 8,000 years) prior to the arrival of the Iron Age people and the settlers, and before that, various Stone Age cultures. Yet throughout this extended period, the San have left little evidence of their occupation, other than the art painted or engraved on rock

surfaces—a bequest to posterity of an art treasure, now considered to be a national heritage (KZN NCS 2000).

Africa stands out among the continents due to the manner in which its landscapes were formed, and which, according to Partridge and Maud (2000), are unique on the planet. Its broader face is typified by the landscapes of the southern Africa subcontinent, which are dominated by high plains, interspersed by higher mountain massifs. The mountains lie in a near continuous chain that extends from the entire subcontinent from Namaqualand in the Western Cape; through the Roggeveld, Nuweland, and other mountains of the Karoo regions; the Cape Folded Mountains; to the Drakensberg mountain range, which spread through the Eastern Cape, KwaZulu-Natal, and Mpumalanga Provinces to the Northern Province, not far from the Zimbabwe border in the north. The national wilderness system, while small in relation to the total extent of this chain, nevertheless conserves some of the most wild and beautiful portions of the principle mountain ranges of the country, most of which characterize some of the most spectacular scenery on the subcontinent.

Conservation of Biodiversity Resources

The wilderness system plays an extremely important role in the conservation of biodiversity resources. SA has an extremely rich flora of vascular plants—some 23,400 taxa (species plus infraspecific taxa). It also has one of the highest species densities in the world, and one of the highest levels of endemism (Arnold and de Wet 1993). However, biodiversity is not uniformly distributed, and some areas are clearly more species-rich than others. Seven centers of plant diversity have been identified in southern Africa (Davis and Heywood 1994), but a number of these are under threat as a result of large-scale habitat modification or transformation. Cowling and Hilton-Taylor (1994) have identified eight biodiversity "hotspots" (Myers 1988) comprising plant diversity centers considered to be under threat. Ten of the designated wildernesses and a candidate area protect natural communities in four of the eight hotspots.

Part of the extensive *de facto* wilderness in the Alpine Belt of the Maloti-Drakensberg Mountain Range, shared between Lesotho and South Africa, looking down into KwaZulu-Natal Province in the Mnweni area. Photo by John Hone.

SA is the only country in the world that can boast an entire floral kingdom within its borders—the Cape Fynbos. Seven wildernesses (six designated and one candidate area) protect habitats in various forms of fynbos, the predominant vegetation type of the Cape Hotspot. This is the richest of the hotspots of plant diversity worldwide, with some 8,600 species, not less than 68% of which are endemic (Cowling and Hilton-Taylor 1994).

A wide range of faunal species are also present, ranging from leopard (the largest predator), eland (the largest herbivore), and down to a wide spectrum of smaller species, including several endemic and threatened mammals. Of particular note is the avifauna present. For example, the four Drakensberg wildernesses conserve just under 300 bird species, including 31 endemic and 46 threatened species.

Water Resources

The wilderness areas are important in conserving significant portions of the

***De facto* wilderness in the Icidi Valley, Mnweni area, Drakensberg Mountains of KwaZulu-Natal Province, South Africa, in the upper reaches of the Montane Belt, looking up to the main escarpment. Photo by John Hone.**

primary water source areas of the country. As examples, the Cederberg Wilderness Area conserves the high catchments of the Olifants River, of considerable significance for water supplies for intensive agriculture in its lower reaches and domestic supplies. The Drakensberg wildernesses conserve the headwaters of the four most important rivers of KwaZulu-Natal, on which depend much of the industrial and agricultural economies of the province, as well as most of the urban and rural settlements.

Wilderness Experience

The wilderness areas are the only protected areas in the country that specifically aim at the provision of wilderness experience that enables its citizens to experience wild country on foot, to commune with nature, to enjoy freedom and solitude, as well as the spiritual, aesthetic, and mystical dimensions of wilderness—within a mountain environment. The opportunity to appreciate the rare rock art treasures in a few select shelters bequeathed by a now-extinct culture, adds significantly to the quality of the experience provided. An interesting development has been the use of wilderness for therapy and healing purposes, involving street children and others who have been subjected to social trauma.

Mdedelelo Wilderness Area in the northern portion of the Ukhahlamba-Drakensberg World Heritage Site, South Africa, showing Mdedelelo (Cathkin) Peak and adjacent peaks of the main escarpment, with Natal Bottlebrush *(Grayia sutherlandii)* in flower in the Little Berg. Photo by John Hone.

Conclusion

While the national wilderness system forms only a small part of the overall protected area system, it nevertheless plays a major role in the conservation and protection of the natural ecosystems, biodiversity, water, and other natural resources of the mountain systems of South Africa. In addition, it is the only protected area category in the country that specifically aims to protect the unspoiled natural character of the landscapes conserved within it. In 2000 World Heritage Site status was accorded by UNESCO to the Ukhahlamba-Drakensberg Park in KwaZulu-Natal in both the Natural as well as the Cultural categories. This park incorporates all four Drakensberg wilderness areas listed above, designated over two decades prior to international recognition. They comprise a little less than half the area of the park, thus illustrating their value in protecting the resources of "outstanding universal value," for which this recognition was accorded (KZN NCS 2000).

WILLIAM R. BAINBRIDGE is a natural resources consultant in South Africa. He is founder of the Wilderness Action Group and a frequent contributor to the *IJW*. E-mail: wrbainbr@iafrica.com.

REFERENCES

Ackerman, D. P. 1972. The proclamation of wilderness areas by the Department of Forestry. South Africa Forest Journal 82: 19–21.

Ackerman, D. P. 1976. Control of water catchments by the Department of Forestry. South Africa Forest Journal 98: 24–27.

Arnold T. H. and B. C. de Wet. 1993. Plants of southern Africa: names and distribution. Pretoria: National Botanical Institute. *Memoirs of the Botanical Survey of South Africa* 62: 825 pp.

Bainbridge, W. R. 1984. Management objectives and goals for wilderness areas: wilderness areas as a conservation category. In *The Way Ahead: Proceedings of the 3rd World Wilderness Congress*, edited by Vance Martin and Mary Inglis.

Bands, D. P. 1977. Planning for a wilderness area. South Africa Forest Journal 103: 22–27.

Cowling, R. M. and C. Hilton-Taylor. 1994. Patterns of plant diversity and endemism in southern Africa. In *Botanical Diversity in Southern Africa: An Overview*, edited by B. Huntley. Strelitzia 1. Pretoria: National Botanical Institute. *Botanical Diversity in Southern Africa*. pp 31–52.

Davis, S.D. and V.H. Heywood, eds. 1994. *Centres of Plant Diversity: A Guide and Strategy for rheir Conservation*. Oxford University Press, Oxford.

Department of Environmental Affairs and Tourism. 1996. National Register of Protected Areas in South Africa. Pretoria, South Africa. Department of Environmental Affairs & Tourism. 38 pp.

IUCN. 1994. *Guidelines for Protected Area Management Categories*. Gland, Switzerland: IUCN Commission on National Parks and Protected Areas. 83 pp.

KwaZulu-Natal Nature Conservation Service. 2000. Nomination proposal for the Drakensberg Park. Pietermaritzburg, South Africa: KZN NCS.

Myers, N. 1988. Threatened biotas: "hotspots" in tropical forests. *The Environmentalist:* 10: 243–255.

Partridge, T. C. and R. R. Maud. 2000. *The Cenozoic of Southern Africa*. Oxford, England: Oxford University Press.

Pringle, J. 1982. *The Conservationists and the Killers*. Cape Town, South Africa: T. V. Bulpin.

United Nations. 1993. *Report of the United Nations Conference on Environment and Development*. New York: United Nations.

Wells, M. P. 1995. The Economic and Social Role of Protected Areas in the New South Africa. Unpublished report. Johannesburg, South Africa: Land and Agricultural Policy Centre, 69 pp.

The Mountainous Wildlands of Italy

BY FRANCO ZUNINO

Italy is a Mediterranean peninsular country of southern Europe, and many people believe it has only a marine climate and chaparral habitat. But Italy is also a mountainous country with very high peaks and glaciers, where natural, open plains are scarce. Italy is a very populated country with 57 million people. Thanks to this geographic situation, and notwithstanding the population rate, Italy is preserving some of the few remaining wild areas of western, central, and southern Europe. England, France, Belgium, the Netherlands, Germany, Austria, and Switzerland have lost almost all their wildlands because of scarce mountainous regions, or from an overdevelopment of mining or tourism.

Large expanses of wild areas in southern Europe today probably exist only in Spain, in the Balkans, in Greece, and on the French island of Corsica. This article refers to the largest wild areas remaining in Italy, including nearby Corsica. But we must be clear that, though all these wild areas are "roadless," they are not unaltered natural landscapes. The forests have been exploited for many centuries, and some old human artifacts exist of historic or cultural value. All such areas may be correctly considered only as Class II Wilderness Areas, as described by Vance Martin at the 6th World Wilderness Congress (WWC).

Glaciers and ibex in Gran Paradiso National Park. Photo by Alexander Marconato.

The island of Corsica is considered here not only because of its geographic consistency and nearness to Italy, but also because it likely has the highest proportion of wild areas in west, central, and southern Europe. The character of its indigenous people, of ancient Italian roots, has been traditionally one of respect for the wild aspects of the land and its resources—perhaps more so than any other large European community.

Article author Franco Zunino near a protected chestnut tree. Photo by Mario Norziglia.

A pertinent question to ask is, "Have the mountainous regions of Italy have been preserved by conscious intention, or simply due to their remote and rugged character?" The reality is that most of the wildlands exist because natural resources are scarce or difficult to harvest. Essentially, I believe the people do not have a real "preservation mentality." They enjoy their mountains for the well-loved sport of mountaineering and the possibilities for adventure, rather than for recognizing the role of mountains as habitat for wildlife and as part of an ecosystem that must be valued and preserved. For the most part, the concept of wild nature has not been philosophically developed by the people of my country.

For example, the Italian Alpine Club is a club of mountain lovers, that since its founding in the 18th century has worked to develop the mountains, to domesticate them, to

Italy is also a mountainous country with very high peaks and glaciers, where natural, open plains are scarce.

make them accessible by roads, and to have huts everywhere. The object has been to open these areas for "personal conquest" in all the places of beautiful scenery: remote peaks, woods, alpine prairies, lakes and waterfalls, and glaciers. In the last century, the city has come to the mountains, effecting an almost irreversible destruction of their wild beauty. Fortunately, through citizen action, we can still save some wild and formidable mountain areas. This is already underway through our system of National and Regional Parks, though many areas remain unprotected because there are no serious environmental laws to enforce roadless preservation. We have wild flora and fauna preservation—which ideally would be linked to wilderness preservation—environmental laws are not likely given the prevailing economic interests and because roadless preservation is not a priority.

The Abruzzo brown bear, animal logo of the Italian Wilderness Society. Photo by Franco Zunino.

Black pine in the Appennini Mountains, Mejella National Park. Photo by Franco Zunino.

As a result of these problems, our mountainous wildlands are decreasing in area and are subject to erosion from construction of huts, dams, power lines and, recently, energy windmills. In addition, where there is adequate protection, massive tourist use decreases wilderness solitude.

While I lack an accurate wildlands inventory, I would like to speak briefly of the significant mountain chains of Italy. The biggest are the Alps, to the north. They extend beyond our national boundaries, but the southern watershed is in our country. The Appennini Mountains extend down the peninsula. Other mountain chains exist on the large island of Sicily (Mount Etna and the Nebrodi Mountains) and in Sardinia (Gennargentu Mountains). In these mountains are located the largest and wildest areas of Italy. Similarly large alpine wildlands exist in France (Vanoisse, Mount Blanc e Plateau du Vercors), and in Switerland (Grand Comben-Matterhorn, Silvretta, Jungfrau-Aleschhorn), but rarely are they as undeveloped, roadless, and wild as those in Italy.

In my country, the wildest of such mountainous areas is the Val Grande, in the Alps of the northern Piedmont Region. In Italy, Val Grande is symbolic of the word *wilderness* thanks to the battles of the Italian Wilderness Society for its preservation. This 30,000-hectare wilderness was proposed as the first Italian and European Wilderness Area in the 1970s, and proposed again after the WWC in Scotland in 1983. A resolution of this Congress addressed the Italian and Piedmont Regional governments' opposition to two dam projects in the valley; the

projects were stopped and the valley saved. The battle for an officially declared wilderness never stopped, because the politicians favored schemes that increased state revenue from tourism and other job creation associated with national park status. Today, the national park authorities like to use the word *wilderness* as an attractive tourist slogan, but they do not wish an officially designated wilderness because it would restrict their management for tourism.

Despite the opposition, we had the first officially designated wilderness established in 2000 in a national park by the park authority itself: the Caldera del Monte Somma, only 125 hectares on the top of the famous Vesuvio Volcano, near the city of Naples. In addition, we had two other small wildernesses designated in a national park, but by a municipality only and by the park authority: Tempa del Palo and Viscigli Luonghi, of 200 and 250 hectares, designated by the Campora Commune in the Cilento: Vallo di Diano National Park. These wildernesses establish a very important principle, following the 6th WWC resolution about Italy to "encourage all national parks, regional parks and state nature reserve authorities to officially recognize wilderness areas inside their boundaries …"

In the Alps are other large expanses of wildlands, such as the Gran Paradiso Mountain and National Park. It is penetrated by valleys, some with roads and towns, though it retains wild areas on the mountainsides. This European area is famed for its rich population of Ibex and Chamois. The roadless part may be about 40,000 hectares. Another wild area, famous for its big glaciers and the highest point of Europe, is Monte Bianco. These wildlands are shared by France and Switzerland, with Italy's portion being about 10,000 hectares of roadless areas, divided in two places by a large international connected cable railway.

The Val Grande Mountains National Park. Photo by Franco Zunino.

To the east, a large wild area with big glaciers exists in the Gruppo Ortles-Cevedale (Stelvio National Park). The area is divided by beautiful valleys, rich in alpine forest fauna such as red and roe deer, chamois, and ibex. These pristine areas (30,000 hectares) are unfortunately penetrated by roads along the valleys and with many small alpine villages. To the south are the Adamello (30,000 hectares) and the Brenta Mountains wild areas (20,000 hectares), all in regional parks. Far north and east of them are two wild areas just south of the Austrian boundary: the Giogaia di Tessa and Cima S. Cassiano, each about 10,000 hectares. Finally, we have what is probably the second largest and wildest area of the whole Alps: the Alpi Carniche complex, a very rough and beautiful expanse of about 40,000 hectares, famous for its mountainous dolomite scenery. It is almost all protected in a regional park, with a small part in the largest and wildest wilderness area of Italy: the Valmontina (3,340 hectares), established as a result of an Italian Wilderness Society proposal.

In the Appennini Mountains, only a few wild areas remain in the central and south. The largest is the famous Majella Mountain, now a national park, where an expanse of about 20,000 hectares may be considered

Dolomite Mountains in Alpi Carniche Regional Park. Photo by Franco Zunino.

A monumental laricio pine in the Restonica Valley, Corsica Island, France. Photo by Franco Zunino.

roadless. This is a mountainous area noted for its canyons and high alpine plateaus, with rare and endemic flora. Here some rare brown bears roam—an emigration phenomenon—and the abruzzo chamois have been restocked.

Another wild area, preserved through the battles of the Associazione Italiana per la Wilderness (AIW), is the 10,000 hectare Serra Lunga-Lacerno plateau, where an alpine prairie exists with roughly wooded valleys of beech forest. Rare species of Appennini fauna live here, such as brown bears, abruzzo chamois, wolves, golden eagles, and peregrines.

South of these two large areas, there is only one other that can be considered wild: the Valle dell'Argentino-Montea mountains, in the Calabria Region. A very wild area of about 15,000 hectares is included in the Pollino National Park and partially protected in a state nature reserve. It is populated by some of the last ancient natural stock of roe deer and black woodpecker of south Italy.

The vast Lacerno Plateau in the Serra Lunga. Photo by Franco Zunino.

In Sicily, the only large expanse of roadless area is the famous Etna Volcano, where a 10,000-hectares area is protected in a regional park. In Sardinia, we have two large wild areas, but only one considered mountainous: the Supramonte plateau (20,000 hectares), so wild that today it is a refuge for modern "desperados" and kidnappers. The area is rich in almost all the rare species and subspecies of the Sardinia fauna and flora.

Near the mountainous wild areas of Italy is an important wild place—the French island of Corsica. Here is the largest remaining roadless and wild area of the European Mediterranean region. Monte Cinto is the biggest, probably 50,000 hectares, and may be one of the largest in south Europe. It includes the northwest part of the island, with rough, rocky mountain slopes and long, intact valleys. The Cinto Mount, 2,706 meters is the highest point of the island. It contains the last natural European population of Bearded Vulture outside of Spain and Greece. Next in size (about 40,000 hectares) and just to the south is Monte Rotondo-La Restonica, where a large expanse of the Corsican laricio pine forests exist, with very big trees that may be considered "European sequoias." The vegetation is mostly chaparral or pine forest, with large expanses of high pasture and rocks, and small, very beautiful alpine lakes and streams. In the forest areas lives the endemic Corsican nuthatch. A third Corsican area is

L'Incudine (30,000 hectares) on the central-south part of the island, where the landscape, vegetation, and fauna are similar. These three areas are all partially protected in the Corsica Natural Regional Park.

As an Italian, I work with the AIW to protect our wild, roadless, mountain areas as wilderness. As a European, I hope that the French and Corsican environmentalists and people may forever preserve their wild areas in a future French or European Wilderness System. The AIW will be proud to help activate this preservation on the basis of the Italian experience. We appeal to our colleagues to work with us. This would conserve the value of a typical European wilderness resource both for itself and as a rich resource for appropriate tourism.

In sum, wilderness is being designated in Italy, but slowly, and only small areas of genuine wildland. Of these 23 areas, almost all are mountainous. The largest are the cited Valmontina and the Val di Vesta (1,525 hectares) in the Alps. A third large wilderness is Ernici Orientali in the Appennini, the Monte Cesima, and a recently designated Valle dell'Innola-Capo Cosa (830 hectares) in the same mountainous chain of the Lazio Region. These small wildernesses are being established with the hope that such examples may make it possible in the future to obtain official preservation of all the large wildlands mentioned here as Italian and European environmental treasures.

In the mean time, the AIW has proposed a Regional Wilderness Act to establish Regional Wilderness Systems and is working with some Italian regional governments to adopt it. Among other issues, this draft law will address the consumptive use of natural resources, such as hunting, which are restricted in national parks but allowed in most Italian wilderness areas.

For the most part, the concept of wild nature has not been philosophically developed by the people of my country.

The Valmontina Wilderness, the largest, wildest place in Italy. Photo by Franco Zunino.

FRANCO ZUNINO, a previous contributor to *IJW*, is the founder of Wilderness Associazione Italiana and an advocate of developing new and innovative ways to designate and protect wilderness in Italy. Fax: (+39) 019-53545.

National Parks and other Protected Areas in Mountains

BY LAWRENCE S. HAMILTON

Mountains, because of their three-dimensional nature as major landforms, present special problems and opportunities. Lowland-based approaches to mountain use and mountain-protected-areas design and management have not worked. The special features from which key issues arise include the following:

- Given the worldwide shortage of water of sufficient quality to meet present and future needs, and the fact that the bulk of the world's precipitation falls on mountains, high-quality water is a paramount and economically valuable product of mountain protected areas.
- Due to the altitudinal vegetation (and corresponding fauna) zones that characterize mountains, their different compass orientations, and the micro-relief characteristics, their biological diversity is extremely high. Moreover, the level of endemism is outstanding, due to the "island" effect of single mountains separated by lowlands. Half of the 24 "biodiversity hot spots" are mountainous.
- The cultural diversity of mountain peoples is a precious, but eroding, heritage needing conservation as part of mountain-protected areas planning and policy. The involvement of mountain peoples in protected-areas planning and management is especially imperative as they know how to live with mountains.
- Long-distance transport of pollutants in the atmosphere is affecting mountain protected areas more than other kinds of protected areas due to cold condensation and orographic effect.
- Because of the relatively narrow altitudinal vegetational zones and diminishing space with increasing elevation, any global warming will have a major impact on mountain flora and fauna, and this presents real challenges to mountain-protected-areas management and policies. Where there are mountain protected areas embedded in mountain ranges, there are opportunities for gene and species migration along ranges (e.g., poleward in N-S ranges for warming, and E-W for precipitation changes), but mountain-protected-area managers need to be attempting linkages along the ranges in large conservation corridors.

Article author Lawrence Hamilton. Photo courtesy of Lawrence Hamilton.

A high meadow above the cloud forest in Itatiaia National Park in Brazil's Serra do Mar. Photo by Lawrence Hamilton.

- Mountain protected areas need redesign and enlargement down the mountain, as most include only the summits and higher elevations of mountains with scenic, spiritual, or recreational value and are inadequate to protect biodiversity, cultural diversity, and water resources. Larger areas could better accommodate major natural disturbances and continuing evolutionary processes.
- Because these mountain protected areas tend to be in the most remote and inaccessible areas of a country, the reality of isolation of field staff needs to be addressed by appropriate networking.

The remoteness of mountain protected areas means that they are the greatest bastion of remaining wilderness—an increasingly precious commodity in an increasingly populous and technologically saturated world.

To address these and other issues, the World Commission on Protected Areas (WCPA) of the World Conservation Union (ICUN) established in 1992 a Mountain Theme program and appointed the coordinator as vice-chair of the commission. With partners, the WCPA Mountain Theme has played a major role in bringing "mountains" as an arena of concern onto the political and societal agendas. Mountains have been placed alongside tropical rainforests, coral reefs, and desertification in the Earth Summit's Agenda 21, and will get center stage in 2002, the UN-declared "International Year of Mountains."

A global network of 460 mountain-protected-area managers, researchers, and key users (e.g., mountaineers) now exists and reaches to 66 countries. This network is nourished by a quarterly newsletter—*Mountain Protected Areas UPDATE*. The theme promotes interchange, park twinnings or partnerships, organizes and cosponsors workshops and meetings, and produces publications. (See their website at http://wcpa.iucn.org and click on "theme" and then "mountain protected areas.")

The Mountain Theme has cosponsored or officially collaborated in planning and implementing several major conferences and workshops, including: Mountain Trans-border Protected Area Cooperation (Australia 1995); Transboundary Protected Areas in Europe (Czech Republic 1996); Linking Mountain Protected Areas to Create Large Conservation Corridors (Canada, World Conservation Congress 1996); III Simposio Internacional de Desarrollo Sustentable de Montañas (Ecuador 1998); Workshop on Mediterranean Mountain Protected Areas (Italy 1999); and the National Mountain Conference (United States, 2000).

The Jungfrau in Switzerland is part of a proposed World Heritage Site, the Jungfrau-Aletsch-Bietschhorn complex, with Europe's largest glacier. Photo by J. Ives.

The main and current thrust of the mountain-protected-areas activity is the promotion of large bioregional corridors of core protected areas, linked through nature-friendly land and water management. Large bioregional corridors are a possibility in many areas and are being developed in places such as the Great Southeastern

Duck Hole in the Adirondack Forest Preserve, New York State, USA. Photo by Lawrence Hamilton.

The entrance to Mount Cook National Park in New Zealand's southern Alps, the world's most formally protected major mountain range. Photo by Lawrence Hamilton.

Escarpment in Australia, the Serra do Mar in Brazil, the Central Appenines, and the Andean Spectacled Bear Corridor in Venezuela. The network strongly endorses all of the corridors of The Wildlands Project in North America.

LAWRENCE S. HAMILTON is vice-chair for mountains of the IUCN's World Commission on Protected Areas and is a partner in the Islands and Highlands Environmental Consultancy, 342 Bittersweet Lane, Charlotte, Vermont 05445, USA. E-mail: hamiltonx2@mindspring.com.

Hiking at Tsitsikama

Red saffron, white pear, candlewood,
yellowwood and beech. I walk through trees
whose branches reach wide as plains
to envelop me. Their ancient bodies,
shaggy barked, bent, thick, heavy,
and huge as rhinocerous, stand
at the edge of the continent, holding
reservoirs of woven light and shade.
Silent conduits of breath,
century after century, they grow.
Unconsciously, their roots sink down,
holding together the earth I stand on.
I pass through them without words
thinking of my father,
my mother.

—Anna Citrino

ANNA CITRINO is a native Californian who has lived overseas since 1991. She currently lives in Singapore where she regularly bikes and walks in the local rain forest, an area that is fast shrinking. She has had poems accepted for publication in journals such as *Bellowing Ark, Fine Madness,* and *Flyway*.

Announcements and Wilderness Calendar

SUNY-ESF Announces Support of *IJW*

Dr. William Bentley, chair of the faculty of forestry in the College of Environmental Science and Forestry at the State University of New York at Syracuse, announced the college will sponsor the *International Journal of Wilderness* financially. Dr. Bentley noted, "We are pleased to contribute to the continued success of the *International Journal of Wilderness*. SUNY-ESF is part of the academic community providing wilderness stewardship and management education programs and is part of New York's history of wildland and wilderness protection."

Roadless Decision Hits Rocky Road with Bush Administration

By carving out a prowilderness position with his 11th hour action banning roadbuilding and logging across some 60 million acres of national forest, former President Bill Clinton set up President Bush to either live with the measures or risk being perceived as anti-environment. In one of his first acts in office, President Bush signaled his willingness to fight the roadless designations by postponing implementation of the rule. Then on March 16 in a federal courtroom in Boise, Idaho, the Bush Administration filed a motion to roll back the rules even further, probably until at least early summer. The motion of postponement essentially granted a request by the timber corporation Boise Cascade and the state of Idaho, which had asked a federal judge to grant a preliminary injunction barring the Clinton roadless decision from taking effect. In a five-page response submitted March 21, the Bush Administration did not attempt to address any of the legal claims raised by Boise Cascade and the state of Idaho, namely that the Roadless Area Conservation Rule lacked specific details, there was insufficient time for the state to respond, and public participation was inadequate. The roadless rules were adopted after a review that lasted more than two years, included scores of public meetings, and prompted written or oral comments from more than 1 million people. Affecting one-third of the national forests, the roadless rules are one of the most ambitious conservation actions taken by the Clinton Administration. The issue is shaping up as a major test of the degree to which the current administration will take a different course. For more on the roadless decision, visit the U.S. Forest Service roadless website at http://roadless.fs.fed.us/.

Source: The Wilderness Society webpage: http://www.wilderness.org/

Parks and Protected Area Management Symposium to be held in Sardinia

The 2001 International Symposium on Society and Resource Management will be held November 7–10 at La Maddalena National Park, Sardinia, Italy. With the theme of Global Challenges of Parks and Protected Area (PPA) Management, symposium topics will include cross-boundary management and PPA sustainability, balancing traditional uses, ecotourism, maintenance of cultural heritage with PPA protection, social and political considerations in PPA management and planning, training, communication, and public involvement and collaboration. Sardinia is the second largest island (23,813 sq. km. or 14,764 sq. miles) in the Mediterranean. As a result of the distance separating it from mainland Italy, it has conserved its own economy and traditions far more than have the other regions of Italy. On the northwest coast of Sardinia lies the Archipelago of La Maddalena, comprising 60 small and large islands. With its deep transparent aqua sea and beautiful sandy beaches, this area has been an irresistible attraction for tourists, particularly those in the Mediterranean region and the oil-rich countries of the Middle East. In 1996 the Archipelago of La Maddalena was established as an Italian national park. Since that time the park has been adopting a program of management aimed at ensuring long-term ecosystem integrity while managing the large number of park visitors. The deadline for presentation proposals is June 1, 2001. The early symposium registration of $195 is due July 15. For more information, visit the symposium website at http://www.cnr.colostate.edu/NRRT/SSRM.

Alberta's *Wild Lands Advocate* Available Online

The *Wild Lands Advocate*, the news journal of the Alberta Wilderness Association, is now available online at http://albertawilderness.ca/. The Alberta Wilderness Association (AWA) is the longest-standing conservation group dedicated to conservation and the completion of a network of protected areas (parks, wilderness, areas, natural areas, etc.) Formed in 1965 by backcountry enthusiasts, ranchers and outfitters, AWA it is the lead organization in Alberta focusing on the preservation of wilderness lands and waters throughout the province. It has also tenaciously worked for better public policy for the conservation, management, and ecologically sustainable use of all public lands, waters, and wildlife in Alberta.

Russian Protected Area Journal Seeks Article Submissions

Very little information is available in Russian related to wilderness and protected area issues. To help fill the void, the Russian journal *Okhrana Dikoi Prirody* (Protection of Wild Nature) is looking for articles that communicate the experience of protected area managers, researchers, policymakers, and activists around the world. Readers are the staff of *zapovedniki* (strict nature preserves) and national parks, university and institute professors and lecturers, scientists and researchers in various fields related to nature conservation, university students, members of NGOs, and government officials. Of particular interest are articles that discuss the challenges of conducting and organizing protected area research programs, planning and management systems, and reviews of the main protected area policy and management problems in North America, Europe, and other countries with well-developed wilderness and protected area systems. Translations of already published articles, or summaries of these articles, are acceptable. All manuscripts should be translated prior to submission. In rare instances of particularly important articles, translation can be arranged. The maximum length is 15 pages. The manuscript style is open and should reflect a scientific popular style (avoid technical jargon) accessible to a broad audience of protected area professionals. The editors hope to publish eight of these international articles in the next year, two each issue. **Send inquiries or manuscripts to Ekaterina Pavlova, Biodiversity Conservation Center. E-mail: izdat@bcc.seu.ru.**

International Seminar on Protected Area Management

The 2001 international training program on the management of parks and protected areas will be held from August 9–25, 2001, in the northern Rocky Mountains of the western United States. Designed for mid-career planners and managers of nationally significant protected areas worldwide, this integrated, state-of-the-art course will examine management strategies, policies, and innovative institutional arrangements to address the conservation and use of the world's most special places. The program is jointly sponsored by the International Program Office of the U.S. Forest Service and the University of Montana, the Univeristy of Idaho, and Colorado State University. The program joins course participants with leaders in protected area management from universities, the private sector, government agencies, and nongovernmental organizations. Through site visits and in-depth case study critiques, participants learn of assessment and planning tools, techniques to address visitor interests and impacts, and mechanisms to reconcile resource protection with development pressures. The program stimulates deliberations and interactive problem-solving, taking advantage of the rich experiences and multiple cultural points of view represented among program participants. The 17-day seminar will begin in Missoula, Montana, and travel to several major types of protected areas in the northern Rocky Mountain region, including national parks, wildlife refuges, tribal reservations, privately held land conservancies, and multiple use forest and grassland reserves. At each location, respected experts within the natural resource management arena will join the group to assist in the study and evaluation of protected area management. **For more information, visit the U.S. Forest Service International Program website at http://www.fs.fed.us/global/is/ispam/welcome.htm.**

Pew Wilderness Center Founded to Help Fight for Wilderness Protection

The Pew Wilderness Center has been established to protect more public lands as part of the National Wilderness Preservation System. Its mission is to rejuvenate the public's interest in the wilderness by educating a broader spectrum of the populace about the need for increased wildlands protection. Funded by the Pew Charitable Trust, the center will accomplish its mission through commissioning new research; conducting symposia; building public education campaigns; collaborating with federal agencies,

academics, environmental organizations, and other organizations; and producing an annual publication entitled *Annual Review and Anthology of the Wild* that will chart progress in securing wilderness protection. "Our goal is to bequeath to future generations the ecological, geological or other features of scientific, educational, scenic and historical value that wild places contain," said Executive Director Mike Matz. Headquartered in Washington, D. C., the Pew Wilderness Center also maintains offices in Seattle, Washington; Jackson Hole, Wyoming; and Boulder, Colorado. **For more information, visit the Pew Wilderness Center website at: http://www.pewwild.org/index.htm.**

Federal Judge Stops Logging in Tongass National Forest Roadless Areas

A federal judge halted all logging on roadless areas in the Tongass National Forest in Alaska. The ruling came in response to a lawsuit filed by environmental groups that argued that the U.S. Forest Service had breached environmental laws by writing a new management plan for the Tongass in 1997 without considering the roadless tracts for formal protection as wilderness areas. The judge agreed with the groups and ordered the agency to write a new plan that weighs whether any new wilderness areas should be created. Roadless areas cover about 9.4 million acres of the forest's 17 million acres. The same tracts would be protected under former President Clinton's rule to ban road-building on 58.5 million acres of national forestland, if President Bush lets the rule stand.
Source: *Wildnet Digest*

Latest Poll: Americans Oppose Drilling in Arctic Refuge by 2 to 1 Margin

By a 52 to 35% margin, U. S. voters oppose changing the law to allow the oil industry to drill on the coastal plain of the Arctic National Wildlife Refuge, according to a new bipartisan survey by the Mellman Group (D) and Bellwether Research (R). Those opposing drilling have much stronger opinions than those who support it. The survey team reported that 41% strongly oppose such development, while just 22% strongly support it—a nearly 2 to 1 margin. The polling was commissioned by The Wilderness Society for the Alaska Coalition. The findings come as U.S. Representatives Ed Markey (D-MA) and Nancy Johnson (R-CT) and U.S. Senator Joseph Lieberman (D-CT) introduce legislation to permanently protect the coastal plain by adding it to the National Wilderness Preservation System. Doing so would put the area off-limits to oil drilling.
Source: The Wilderness Society Webpage: http://www.wilderness.org/

Nominations Requested for Keith Corrigall Wilderness Stewardship Award

The deadline for nominations for the 2001 Keith Corrigall Award for Excellence in Wilderness Stewardship is June 30. The award is given annually to an individual or team of persons whose efforts to protect and/or steward wilderness is worthy of special recognition. Nominees may be professionals or citizens involved in wilderness work. Submit a 500-word statement and seconding letter to ***IJW*, Corrigall Award, University of Idaho, Wilderness Research Center, Moscow, Idaho 83844, USA. E-mail: wrc@uidaho.edu.** Be sure to include contact information for both the nominee and the person(s) making the nomination. Keith Corrigall worked as the wilderness branch chief for the Bureau of Land Management during its formative years and was a strong leader and advocate for wilderness protection.

American Explorer Becomes Wilderness Trust Patron

Colonel Norman Vaughan, the renowned American polar explorer, has agreed to become a copatron of the Wilderness Trust (WT) with Sir Wilfred Thesiger. Vaughan was sled dog chief to Admiral Byrd during the first ever U. S. Antarctic Survey of 1928–30. The second-highest mountain in Antarctica was named after him. At age 90, in company with WT chair Sir Humphrey Wakefield, he set off on the first ever ascent 75 years after Admiral Byrd named the mountain for him. Now at age 95, he still competes in the 800-mile Trans Alaska, Nome Serum Run. His 4000-mile early snowmobile record is still legendary along with his Iditerod records.

The WT was established in 1981 with the fundamental goal of providing future generations with an essential appreciation of the environment. The trust's main objectives are the promotion of conservation of natural resources and the building of awareness of the continuing abuse of these resources. The trust's programs at the Lapalala Wilderness School focus on both conservation and the development of effective interpersonal relationships and cross-cultural understanding. Since its establishment, 50,000 children from all South African cultures have attended courses at Lapalala.

The first of the Sir Laurens van der Post memorial lectures was held in the State Apartments at St. James's Palace

on February 13, 2001. HRH Prince Charles, who spoke movingly of his long friendship with van der Post, hosted the evening. David Rattray, the South African historian, spoke of the link between the Zulu culture, the aspirations of van der Post, and the lasting friendship and mutual admiration between the British and their erstwhile foes. This lecture was the first of a series dedicated to fulfilling van der Post's hopes for advancing wilderness ideals by making them relevant to the modern world. **For more information, visit the Wilderness Trust website at www.wildernesstrust.org.za/index.html.**

Source: Chris Blessington, Wilderness Trust, chris.blessington@dial.pipex.com

Wilderness Management Training at the 7th World Wilderness Congress

The organizers of the 7th World Wilderness Congress (WCC) (November 2–8, 2001, South Africa; see *IJW* April 2001) have announced a wilderness management training initiative in association with the congress. Executive Director Andrew Muir confirmed that the 7th WWC will conduct a precongress training session for field and management level staff from protected areas in developing countries in association with trainers from local NGOs and international natural resource agencies. The object of this technology-transfer initiative will be to take advantage of the gathering of wilderness experts, issues, and information at the congress to supply training and exposure for managers who may have the opportunity to manage and influence the designation of wilderness areas in their countries. The five-day precongress session will be held in Port Elizabeth, Eastern Cape, beginning October 28. The WILD Foundation and the 7th WWC secretariat are raising funds to supply scholarships for selected participants. To apply for a scholarship, which includes the training plus registration and support money to be a delegate to the 7th WWC, contact Andrew Muir at info@worldwilderness.org.

Letters to the Editor

Help Preserve the Svalbard Archipelago, Europe's Last Great Wilderness

Dear *IJW,*

I am a British citizen in Norwegian territory, but Svalbard has been my home for 25 years, most of which has been spent dog-sledging. I run a small company, Arctic Wilderness Experience, where the emphasis is not only on outer perceptions, but also the inner journey, often uncharted and unexplored.

Allow me to bring to your attention the present struggle to preserve the unique pristine qualities of the Svalbard Archipelago, also known as "Europe's Last Great Wilderness."

The country (63,000 km.) is dominated by low alpine mountains, long fjords and valleys, and many ice caps and glaciers, a natural panorama of impressive beauty. It is the raw wildness of this land, with its enchanting snowscapes and icescapes under constantly changing shades of lights, to which so many travelers are drawn.

Much of Svalbard is protected in national parks and nature preserves. However, Central Spitsbergen, the largest island of the archipelago, is still subject to new coal-mining enterprises, radar and satellite stations, as well as increasing tourism. It is now estimated that exhaust fumes from snow scooters exceed pollution from coal mining. Nonmotorized tourists are becoming increasingly critical of noise, and the Russian and Norwegian coal companies have plans to build new roads through beautiful country.

The World Wildlife Fund has an Arctic Program encouraging the Norwegian government to make Svalbard "one of the best managed wilderness areas in the world" by giving the entire archipelago national park status. Please encourage *IJW* readers to write to the Norwegian prime minister in support of making all Svalbard a national park. The address is The Prime Minister, Jens Stoltenberg, P.O. Box 8001 Dep, 0030 Oslo, Norway.

I urge everyone's support.

Robin Buzza
Arctic Wilderness Experience
Postboks 110
N-9171 Longyearbyen
Svalbard, Norway

Book Reviews

Wilderness Comes Home: Rewilding the Northeast

edited by Christopher McGrory Klyza. 2001. Middlebury College Press, published by University Press of New England, Hanover, New Hampshire. 336 pp., $50.00 (hardcover), $22.95 (paperback).

Federally designated wilderness in the northeastern United States includes only 205,000 acres, and federal agencies manage 2 million acres, about 2% of the region's land area. "Pristine" and "primeval" are now only historic landscape descriptors for the Northeast where evidence of human habitation is endemic. However, there is some hope for change as the region now has more forested area than it did 100 years ago, and some wildlife species, once dwindling in numbers as the agricultural and forest industries expanded, have been reestablished.

The prospects for "rewilding" this landscape are explored in *Wilderness Comes Home: Rewilding the Northeast*, the fifth volume in the Middlebury Bicentennial Series in Environmental Studies. Edited by Chris Klyza, each of the 12 chapters is written by a different author addressing three main themes: the historical context of the current wildland and wilderness resource in the region, a northeastern conservation strategy built on creating ecological reserves within a mixed public and private land ownership pattern, and a conceptual model of conservation based on a region with ecologically recovered and restored lands.

The authors argue that the region requires a rethinking of stewardship on public lands where wilderness and wildland areas form a core ecological reserve and where ecological processes and integrity are being restored. The authors further argue that these core reserves are surrounded by private lands managed for sustainable forest and agricultural conditions. Pristine wilderness conditions in the Northeast is only an idea from the past, and concerns for continued human development and population expansion in the region suggest that a proactive and pragmatic approach needs to be formulated and implemented. The book strongly states that the rewilding of ecological conditions and processes can be achieved only through regionwide conservation efforts.

Reviewed by CHAD DAWSON, *IJW* co-managing editor. E-mail: cpdawson@esf.edu.

Continental Conservation: Scientific Foundations of Regional Reserve Networks

edited by Michael E. Soulé and John Terborgh. 1999. Island Press, Washington, D. C. and Covelo, California. 265 pp., $25.00 (paperback).

In the last ten years, the discipline of conservation biology has become a progressively influential lens through which society views landscapes. Its principles are embedded within those of ecosystem management and are thus increasingly used in the creation and management of wilderness and other protected areas. However, the primacy of conservation biology in determining the success or failure of contemporary wilderness management has not gone unchallenged (most of its tenets remain unproved), and its influence has been stalled by the widespread lack of awareness of its tenets and implications among both the general public and the staff of resource management agencies themselves.

Continental Conservation attempts to address these shortcomings by reviewing the principles of conservation biology (e.g., connectivity, the Paine effect), empirical evidence supporting these principles, and their ramifications for protecting large-scale, healthy ecosystems (e.g., corridors, ecological restoration). Another key objective is to provide a call to arms for the traditionally politically inert scientist to take on the role of conservation activist. The latter objective reflects the book's direct link with The Wildlands Project (TWP). *Continental Conservation* is the result of a conference convened by TWP in 1997, and spells out the vision of TWP: to protect and restore the North American landscape through the creation of a large-scale, connected system of wildlands.

Both the conference and book were coordinated around six topics: the complex issue of scale in designing reserves (chapter 2), the question of whether ecosystems are regulated by "top down" or "bottom up" forces (chapter 3), the role of ecological restoration (chapter 4), the critical importance of connectivity between ecosystems (chapter 6), and the necessity of incorporating both core (chapter 5) and buffer areas (chapter 7) in creating an integrated system of

reserves. Between eight and 15 scientists co-authored each chapter, but the editors and lead authors worked hard to create a focused, well-integrated book.

Many of the concepts articulated in these chapters are extremely controversial. For example, the authors contend that approximately 50% of land must be conserved to prevent widespread anthropogenic extinction; conservation must be pursued at spatial and temporal scales never attempted before (i.e., contemporary protected areas are far too small to conserve current ecological processes over the long term); buffer zones are required around core areas of protection to maintain the connectivity of landscapes; the concept of sustainable development or harmony with nature is a dangerous myth; and top carnivores must be reintroduced into ecosystems. To the authors' credit, the philosophical implications of these and equally provocative issues are usually acknowledged and discussed, although the final positions always reflect the aims of TWP. Being forced to address these challenging issues is the primary joy of reading *Continental Conservation*: so many questions are raised by the issues included in this book that readers are forced to question their own feelings and beliefs in these weighty matters.

Another major strength of this book is the authors' willingness to admit that the state of knowledge in conservation biology currently makes the questions raised in the book difficult if not impossible to answer. The authors also acknowledge that the attempt to incorporate conservation biology in wilderness management relies as much on human dimensions research as it does on ecological research. Consequently, both the practical and scientific components of conservation biology are addressed throughout the book, with several chapters providing as much practical advice as empirical evidence. One minor criticism is that the potential role of traditional ecological knowledge is ignored; the book totally focuses on the conventional empirical research tradition of ecology.

Given the growing influence of conservation biology in wilderness management, its critical ramifications (if proven correct) for ecosystem management, the number of philosophical and practical questions raised in the book, the pedigree of its authors, and the high quality and balanced approach of the research and writing, this book demands a wide readership. It provides a formidable, provocative vision of a North American landscape that maintains the ecological processes that sustain our native flora and fauna, rather than becoming, like Europe, a region bereft of wildness, lacking megafauna, and overrun with the weeds of introduced species. It is a vision that will be near and dear to the hearts of many readers of the *IJW*.

Reviewed by JOHN SHULTIS, *IJW* book review editor. E-mail: shultis@unbc.ca.

A Little Corner of Freedom: Russian Nature Protection from Stalin to Gorbachëv

by Douglas R. Weiner. 1999. University of California Press, Berkeley and Los Angeles. 570 pp., $45.00 (hardcover).

Weiner's *A Little Corner of Freedom* sets out to show how Russian scientists, despite state repression during a dark era, fought for "alternative visions of land use." Weiner details the courageous tactics and often idealistic aspirations of these practitioners *of nauchnaia obshchestvennost* (scientific public opinion). The author cautiously admits that revisionist interpretation is risky when probing a country (actually countries) undergoing rapid change, and any sort of independent civic activism must be regarded as highly implausible under Stalin or his successors. Could any "archipelago of freedom" really survive the party-state?

Nature protection did not just endure in the Soviet Union, it thrived. Scientific public opinion persisted due to clever practitioners and the oblivious machinery of a grinding state bureaucracy. Scientists anchored activism around *zapovedniki,* strict nature reserves without a Western equivalent. *Zapovedniki* carry great weight in the Russian land ethic, an ethic fostered by professional societies founded in the 1800s. This distinctive vision of wildlands allowed Soviet nature protectionists to disguise their actions as cultural patriotism for a beloved fatherland. Scientists became experts at camouflaging their "rightful domain" as arbiters of resource policy. Party bureaucrats thereby came to perceive nature protectionists as harmless eccentrics *(chudaki)* who did not merit the extreme measures of the Gulag.

Without romanticizing nature protectionists as complete democrats, Weiner succeeds in illuminating a remarkable social movement. What, then, does this book portend for wilderness? Much, as it turns out. Weiner offers a too-brief contrast of Russian *zapovedniki* and U.S. national parks. But U.S. parks, rooted in monumentalism, have scant likeness to the ecological origins of Russia's most protected lands. The inviolable *zapovedniki* most resemble designated wilderness, reserves often promoted today as a means to protect biological diversity.

A Little Corner of Freedom raises important questions. If nature protection symbolized freedom within a Marxist autocracy, why then is environmentalism usually attributed to the political left? What are we to make of the

Continued on page 19