INTERNATIONAL

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Special Issue
40th Anniversary
—of—
The Wilderness Act–USA

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INTERNATIONAL

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International Journal of Wilderness

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EDITORIAL PERSPECTIVES

IJW Salutes Forty Years of The Wilderness Act

BY JOHN C. HENDEE AND CHAD P. DAWSON

This year, 2004, marks 40 years since The Wilderness Act (P.L. 88-577) was passed by the U.S. Congress and signed into law by President Lyndon B. Johnson on September 4, 1964. The Wilderness Act began a "legislated wilderness" movement in the United States. It was followed by enactment of more than 130 additional wilderness designation laws to create today's National Wilderness Preservation System (NWPS) that comprises 662 wilderness areas and more than 105 million acres (42,848,900 ha). And this is not the end of the legislated wilderness movement. Millions of acres of roadless lands are targeted by advocates for wilderness designation in the national parks, national forests, fish and wildlife refuges, and Bureau of Land Management lands.

This year, as we celebrate the 40th anniversary of the act, wilderness managers, educators, advocates, and visitors are recommitting themselves and their organizations to the ongoing work of protecting America's wilderness legacy. For some people, wilderness provides employment; for volunteers, it is "heart work," for others it is a place for treasured personal experiences; and for tens of millions, wilderness is the source of ecological services such as clean air, water, and genetic biodiversity. Join with colleagues in celebrating the 40th anniversary of The Wilderness Act by participating in a "walk for wilderness" or by attending a conference—look for special activities in your area on these websites: www.wilderness.net, www.leaveitwild.org, and www.wilderness.org.

In recognition of the 40th anniversary of The Wilderness Act, this issue of *IJW* (marking our tenth year of publication) features key articles relevant to the act. First is our Soul of the Wilderness column, which is a progress report on what's been accomplished in 40 years under The Wilderness Act—an inspiring list of achievements in support of wilderness conservation. Next, lifetime professional environmentalist Doug Scott describes the history of The Wilderness Act, including important legislative developments and insights into people and events leading to the act's passage. Then, TinaMarie Ekker, policy analyst for Wilderness Watch, describes some key concepts in the act that give wilderness meaning, and their implications for wilderness management.

Next, Mike McBride, wilderness advocate and owner of Kachemak Bay Wilderness Lodge in Alaska, provides vivid descriptions of Alaskan wilderness resources, stunning in their remote wildness and beauty, but often at risk. Mike reminds us that wilderness advocates can only lose once. Cindy Witzel and Jerry Sutherland, members of the legislatively established—but new and unique—cooperative management advisory committee that guides management of the Steens Mountain Wilderness, describe how a newly invented "fence hand roller" made it possible for volunteers to remove miles of fence to reestablish wilderness conditions in the Steens Wilderness cow-free zone.

Wilderness management is, in large part, people management, and legislative history and surveys of past and present users can provide insights contributing to better understanding and management of permitted uses under The Wilderness Act. Watson and others illustrate this in the case of jet boat use on the Salmon River in the Frank Church–River of No Return Wilderness. And in the last article addressing The Wilderness Act, prominent wilderness scientist David Cole and Vita Wright summarize what is known about wilderness users and their impacts on campgrounds and trail conditions.

We celebrate 40 years under The Wilderness Act! It has brought more permanency and consistency to wilderness designation and management and increased responsibility and opportunity for all of us to be involved in stewarding wilderness resources and values.

Wilderness

Progress after Forty Years under the U.S. Wilderness Act

BY JOHN C. HENDEE and CHAD P. DAWSON

Article authors John Hendee and Chad Dawson in the North Maricopa Wilderness, Arizona (managed by the BLM). Photo by Marilyn Riley.

Evolution of the Wilderness Idea into a U.S. Wilderness System

The idea of wilderness conservation, meaning protection of a nation's most pristine and wildest remaining public lands, was born and evolved in the United States. The origin of the concept goes back to early exploration of the United States and the romantic art and literature of the 1800s, and was reflected in early national park and national forest creations in the early 1900s. Later, it was more clearly articulated in The Wilderness Act of 1964 (P.L. 88-577), whose 40th anniversary is being celebrated this year. Subsequently, between 1964 and 2000, a total of 132 additional wilderness designation laws were passed by the U.S. Congress to add areas to the National Wilderness Preservation System (NWPS), further defining what lands would qualify for wilderness and clarifying special management requirements for particular areas.

Thus, in addition to The Wilderness Act, 40 years of subsequent legislation has clarified congressional intent to protect and manage our nation's wildest remaining lands as wilderness and has expanded the NWPS to more than 105 million acres. It is hard to identify any natural resource issue—or any issue—for which Congress has so consistently and so often confirmed their intent as they have with wilderness.

The National Wilderness Preservation System

The United States has 662 congressionally designated wilderness areas in 44 states, totaling 105,667,891 acres (42,774,361 ha) in 2003. The smallest is the Pelican Island Wilderness in Florida (5 acres; 2 ha), and the largest is the Wrangell-St. Elias Wilderness in Alaska (9,078,625 acres; 3,675,025 ha).

Four U.S. federal agencies administer the NWPS: the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS) in the Department of the Interior, and the U.S. Forest Service (FS) in the Department of Agriculture. Table 1 shows wilderness acreage by agency.

Table 1—U.S. Federal Agency administration of NWPS.

Agency	Wilderness acreage	Percent of agency land managed as wilderness
BLM	6,511,891	4%
FS	34,862,975	18%
FWS	20,686,134	22%
NPS	43,616,250	55%
Total	105,677,891	15%

Wilderness areas comprise about 4.6 percent of the total land area in the United States. The amount of area in designated wilderness is substantial but is less than the 6.1 percent of land in the United States devoted to urban and rural residential areas and the 20 percent or so devoted to cropland.

Wilderness Stewardship Is Now a Natural Resource Specialty

During the 40 years since the Wilderness Act was passed, the natural resource community has developed wilderness stewardship into a well-recognized natural resource specialty. Several accomplishments reflect this progress:

- All four wilderness-managing agencies have developed manuals to guide their evaluation of lands for possible wilderness designation and to direct stewardship of their wilderness lands and areas identified as having wilderness potential.
- Several natural resource professional societies and citizen environmental organizations have active wilderness working groups or committees.
- Over 45 wilderness courses are now offered in U.S. colleges and universities, and a recent survey documents more than 1,500 students enrolled in wilderness courses in 2001–2002. (see Dawson and Hendee, page 34).
- Agency and multiagency wilderness management training sessions take place annually, and several national wilderness management and research conferences have been held.
- Three editions of a wilderness management textbook have been published since 1978 and each was endorsed by all the wilderness agencies (Hendee and Dawson 2002).
- The Aldo Leopold Wilderness Research Center and Arthur Carhart Wilderness Training Center have been operating for a decade and conduct nationwide research and training activities for the four federal agencies.
- A "wilderness information system" (www.wilderness.net) at the University of Montana provides electronic access to wilderness facts, figures, documents, and links to other sources of wilderness information.
- Reflecting the growing international as well as U.S. interest in wilderness, seven World Wilderness Congresses (WWCs) have been held in six different countries, with delegates from as many as 60 nations in attendance. The 8th WWC will be in Alaska in 2005.
- The *IJW* (www.ijw.org) is starting its 10th year.

Wilderness Has Expanded to Other Nations

Many other countries have embraced this uniquely American idea that is wilderness. Since the creation of the NWPS, seven other nations have passed laws to legally designate wilderness. In addition, several other countries protect wilderness with administrative zoning and numerous more provide wilderness protection by recognizing it in other conservation programs. Other nations are exploring ways to protect comparable values and lands. Since 1992, the World Conservation Union (IUCN) has recognized wilderness as a Category I Protected Area, defined as "Strict Nature Reserves and Wilderness Areas," and an international Wilderness Task Force has been formed under IUCN auspices.

All of the countries recognizing wilderness have drawn on the U.S. model and look to the United States for technical leadership as well as inspiration for their wilderness conservation efforts. In response, several international short courses have evolved in U.S. universities, and international participants have been invited to U.S. agency wilderness training.

As mentioned earlier, every few years delegates from around the world gather at a WWC sponsored by the U.S.-based WILD Foundation (www.wild.org) to engage in dialogue about wilderness, report progress, participate in workshops and training, and discuss the current and potential role of wilderness in their nation's conservation efforts. WWC proceedings from these events and material included in the *IJW,* both produced by Fulcrum Publishing (www.fulcrum-books.com), provide an impressive compendium of information about international wilderness. The IUCN process leading to its formal recognition of wilderness began with a resolution from the 1983 WWC in Scotland.

Wilderness for Wildlife and Biodiversity

Henry David Thoreau was right when he wrote long along ago, "In wildness is the preservation of the world." Many species of wildlife are wilderness dependent, meaning they depend on wilderness conditions for their existence. For example, in the lower 48

It is hard to identify any natural resource issue—or any issue—for which Congress has so consistently and so often confirmed their intent as they have with wilderness.

Figure 1—Wilderness conditions include the presence of wildlife, like seeing an egret, a fox, or young alligators in the flooded forests of the Okefenokee Wilderness, U.S. Fish and Wildlife Service (Georgia). Photos by Pam Sikes.

states, grizzly bears, all three species of wolf (gray, red, and Mexican), alligators, wolverines and several other species rely on wilderness for their core habitat. Dozens of additional species depend on wilderness conditions to maintain wildness in their genes and habits since cultivated crops and human activity elsewhere alter their habitat and behavior.

The positive response and recovery of many threatened wildlife species to wilderness protection is an amazing conservation success (see Figure 1). One example is the successful restoration of California condor populations in or near the Paria Canyon-Vermilion Cliffs Wilderness in Arizona and the Ventana Wilderness in California. Wilderness areas containing unaltered pristine habitat are like biodiversity banks for many species of plants and animals. For example, the lush riparian habitat along Aravaipa Creek in the Aravaipa Canyon Wilderness of southern Arizona protects seven species of native trout, desert bighorn sheep, an extensive variety of mammals and reptiles, and at least 238 different species of birds. We are still discovering the full array of wilderness plants, insects, birds, fish, and wildlife and how they interact and depend on wilderness ecosystems. Protecting wilderness ecosystems from invasion of noxious and nonnative species has become a major wilderness stewardship challenge.

Figure 2—Hikers on Mount Washington overlooking the Presidential Range-Dry River Wilderness, U.S. Fish and Wildlife Service (New Hampsire). Photo by Chad Dawson.

Wilderness for Human Benefits

Recreation is one of the obvious appeals of wilderness, and data indicate 40 years of steadily increasing use levels, now about 20 million visitor days per year and projected to increase by 3 to 5 percent per year. Most use is by small hiking groups of family and close friends (see Figure 2), with only a small amount of total use facilitated by commercial outfitters and organizations.

The use of wilderness for science and education is also an important human benefit. Two surveys during the past two decades suggest 550 and 800 active scientific studies, respectively, in wilderness. Wilderness is used for higher education purposes—providing sites for class field trips and in some cases entire courses, study areas for student research, and as a source of instructional examples. Other data document the existence of over 200 education-oriented wilderness programs—excluding higher education institutions and youth organizations. A 1987 survey of NWPS managers found that 39 percent of them reported that environmental and conservation education programs were being conducted in their areas.

The use of wilderness for personal growth and healing is a substantial and growing industry. Recent surveys identified 230 "wilderness experience programs" (WEPs) designed for personal

growth and leadership purposes. These WEPs take paying clients into wilderness or comparable lands, ranging from large programs such as Outward Bound (about 30,000 clients in 1998) to smaller organizations serving less than 100 clients annually. Another survey identified 38 more specialized WEPs providing wilderness therapy. These are three- to eight-week programs, mainly for at-risk youth struggling with substance abuse, resistant and defiant behavior, emotional adjustment, and, occasionally, psychological problems. Projections from these data suggest there were 12,000 wilderness therapy clients in 1998 and 392,000 field days of use. Wilderness therapy—or outdoor behavioral healthcare as it is being called in the industry—represents an increasing use of wilderness.

The Future of Wilderness

Because wilderness includes the most pristine remaining environments on the planet, the importance of protecting these areas will continue to grow in value for protecting biodiversity, intact ecosystems, and threatened or scarce wildlife and plants; for their ecosystem services, such as clean air and water; and for scientific and educational use to document and understand natural processes (see Figure 3). These natural values of wilderness are also what the public likes most about them. National surveys indicate that the top five values of wilderness reported by 75 percent or more of the populations surveyed are protection for water quality, for wildlife habitat, for air quality, for endangered species, and for future generations. The increasing trends in wilderness use reflect the needs and desires of people to experience solitude and primitive forms of recreation—opportunities promised by The Wilderness Act. The growth in wilderness use for personal growth and healing reflects the benefits from such opportunities. The opportunity to experience natural environments and solitude will become even more important in the future for people seeking relief from the growing pressures of 21st-century life.

Future Wilderness Conservation

With a growing U.S. and international population, wilderness will be an increasingly scarce resource, protecting remnants of functioning ecosystems and natural landscapes and providing places to escape the pressures of modern life. How much will be added to the U.S. wilderness system in the future? Perhaps another 1 percent of the U.S. land area, or about 25 million acres (10.1 million ha). With a limit on future opportunities to expand the NWPS, the stewardship of the wilderness areas already designated, waiting to be designated, or being evaluated for possible designation will become ever more important.

Internationally, there are many opportunities to expand wilderness resources and values in land protection systems appropriate to each nation's culture. Nevertheless, the general model for wilderness designation and stewardship is set forth in the U.S. Wilderness Act, and the know-how of wilderness conservation is embodied in our wilderness professionals and citizen environmentalists. While we celebrate the 40th anniversary of this historic act and its important lessons and legacy for America and its people, let us also consider the value of wilderness conservation in the rest of the world. Evidence continues to grow about the global importance of protecting the world's most pristine remaining ecosystems. A larger commitment to international wilderness protection would be a fitting tribute to 40 years of progress under the U.S. Wilderness Act.

Acknowledgments

This article is based on information documented in Hendee and Dawson (2002), at www.wilderness.net, and in the other articles about The Wilderness Act and NWPS in this issue of the *IJW.*

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Figure 3—Of the 747,956 acres (302,816 ha) within Yosemite National Park boundaries, National Park Service (California), over 94 percent is designated wilderness. Photo by Chad Dawson.

The Wilderness Act at Forty

Looking Back, Looking Ahead

BY DOUGLAS W. SCOTT

On September 3rd, 2004, Americans will celebrate the 40th anniversary of The Wilderness Act (P.L. 88-577), a landmark in world conservation history. Four decades later, it is difficult to comprehend just how completely that law recast the context within which agency wilderness stewards and citizen wilderness activists do their work.

The Weakness of Administrative Protection

Before there was a Wilderness Act, wilderness was, at best, an afterthought. Only the U.S. Forest Service (USFS) had actually delineated wilderness areas, propelled by visionaries within its own ranks—William Greeley, Aldo Leopold, Arthur Carhart, Leon Kniepp, and Bob Marshall (Gilligan 1953; Sutter 2002). By 1939, the agency had protected 14,235,414 acres (5,762,500 ha) by administrative order. Then the work of designating new wilderness areas all but stopped. No significant net additions were made in the 25 years that followed. Moreover, politically driven administrative boundary changes commonly eroded wilderness diversity within the few protected areas. Peaks and ridges above timberline were added to compensate for forests excised to be logged in the boom that followed World War II (Gilligan 1954).

Figure 1—Signing of the Wilderness Act on September 3, 1964 by President Lyndon Johnson.

The National Park Service (NPS) responded to the postwar tourism boom with seemingly boundless enthusiasm for more park development. Conservationists had long viewed national parks as reservoirs of wilderness, but the agency adamantly refused to define any specific lands as permanently off-limits to development (Gilligan 1954; Sellars 1997).

The Bureau of Land Management (BLM) and the Fish and Wildlife Service provided no explicit protection for wilderness. As for management, even in the relatively few national forest wilderness areas and the yet-undeveloped park backcountry, wilderness stewardship practices were often haphazard and inconsistent.

Facing the onslaught of national forest and national park development, conservation organizations mobilized their members to urge more and stronger wilderness protection. Leaders pleaded the case with agency officials but were largely rebuffed. As Congress began consideration of the so-called Wilderness Bill in 1956, the USFS and NPS opposed it in behind-the-scenes lobbying and in formal testimony, a posture that changed only when the Kennedy administration came to office in 1961.

In opposing the Wilderness Bill, agency leaders fought to preserve their administrative discretion. The chief of the USFS told Congress the bill would "tend to hamper the free and effective application of administrative judgment which now determines, and should continue to determine, the use, or combination of uses, to which a particular national-forest area should be devoted" (McArdle 1957).

To draw the line against further development and to stand by that decision regardless of pressures requires a degree of

institutional commitment inconsistent with realities of how large hierarchical agencies operate, given conflicting mandates, powerful development constituencies, and ever-shifting political leadership (Gilligan 1954). The head of the Izaak Walton League wrote in 1939: "There is no assurance that any one of them [wilderness areas], or all of them, might not be abolished as they were created—by administrative decree. They exist by sufferance and administrative policy—not by law" (Reid 1939). Disappointment with administrative protection, reinforced in test case after test case, drove conservation group leaders to conceive the Wilderness Bill and lobby it through Congress (Scott 2001; Harvey 1994).

Explaining the rationale for removing administrative discretion over wilderness designation, one of the Wilderness Bill's leading sponsors, Senator Richard Neuberger, a Democrat from Oregon, stressed:

> This bill in no way reflects on the wonderful career services which now are in charge of wilderness areas and similar outdoor realms, but it actually seeks to safeguard these splendid men and women from undue political pressure, no matter what the source. (Neuberger 1957)

A 1956 conservation group pamphlet written to rally grassroots support summarized the case for the Wilderness Bill:

> Our rare, irreplaceable samples of wilderness can be diminished at the will of the administrator, without the sanction of Congress. … under the bill Congress would protect the wilderness interior as well as the boundaries of all dedicated wilderness. This would strengthen the hand of the good administrator, steady the hand of the weak one. (Trustees for Conservation 1956)

Before there was a Wilderness Act, wilderness was, at best, an afterthought.

The Wilderness Act: Protection by Congress

Had citizen activists not doggedly lobbied The Wilderness Act into law, how much wilderness would be officially protected behind real boundaries in America today? The answer, it is fair to say, would be dramatically less than the 105,852,000 acres (42,848,900 ha) now comprising in the National Wilderness Preservation System (NWPS) by January 2004. And it is a fair question to ask how much land once-protected as wilderness would a later administration have thrown open to development. The 1964 act changed everything about wilderness preservation in the United States:

- It set a national goal to preserve "an enduring resource of wilderness" in perpetuity (Wilderness Act, § 1131[a]).
- It designated the first 9,139,721 acres (3,699,760 ha) of the NWPS, all national forest lands.
- It required agency reports on hundreds of potential wilderness areas, including all roadless portions of all units of the NPS and the National Wildlife Refuge System.
- It shifted the power to decide which areas to protect from agencies to Congress, with an act of Congress required for each new designation.
- It proclaimed a common mandate for wilderness stewardship on all types of federal lands: to preserve "wilderness character" (Wilderness Act, §1133[b]).

Wilderness advocates understood that decisions made by Congress would be inherently political, but their experience showed that the secretive upper echelons of federal agencies were no less political, just less visible and less open to effective citizen influence.

Advocates also knew that the labyrinthine process of enacting laws affords disproportionate opportunities to its opponents to delay or kill a bill, as the eight-year odyssey of The Wilderness Act demonstrated (Zahniser 1964a). But they saw in this immutable fact of legislative life the key to preserving wilderness in perpetuity. Once Congress has designated a wilderness area, those seeking reversal or boundary deletions face this steep procedural burden. Most recently, Congress altered a wilderness boundary by just 31 acres—but it took a law to do so (Mount Naomi Wilderness Boundary Adjustment Act 2003). As for all earlier boundary changes, conservation groups agreed to the change.

Figure 2—Lake Tahoe basin surrounded by mountains and coniferous forest, Desolation Wilderness, California. Photo courtesy of U.S. Forest Service.

However much wilderness Americans may choose to designate, through their elected representatives, future generations are likely to judge that we preserved too little, rather than too much.

The Wilderness Act initiated three fundamental changes, more apparent now than at the outset, each of great portent for the future of wilderness:

1. *The wilderness advocacy movement has decentralized for greater political impact.* Congress is a national body, but great deference is paid to the views of the senators and representatives from the state involved in any bill. For the wilderness movement to be effective, this legislative reality requires building citizen leadership from within the local state and congressional district of each proposed area.
2. *Congress does not defer to agency wilderness recommendations, but reaches its own decisions.* Agency leaders play a powerful role in congressional decision making, but the Congress has often designated areas they recommended against, expanding agency-recommended boundaries where citizen groups have made an effective case for the larger area.
3. *Stewardship of wilderness areas has become a professional specialization.* Agency personnel draw on a wide range of knowledge to meet the unique challenges of preserving wilderness character. Training courses offered by the Arthur Carhart National Wilderness Training Center promote best practices in wilderness stewardship and encourage consistency among the four wilderness administering agencies (Myers 2003).

Building the Wilderness System

Administratively protected wilderness did not grow appreciably in the 25 years before The Wilderness Act. In contrast, Congress has since enacted 114 laws, adding 96,712,191 acres (39,149,100 ha) beyond the original areas designated in the 1964 act (see Table 1). And, in 1976 Congress expanded the scope of the wilderness system by bringing the BLM under the mandate of the 1964 act. In the 1970s, the USFS conducted two nationwide inventories of roadless areas with potential for designation as wilderness.

A wilderness system that began in 1964 with 54 areas in 13 states now includes more than 650 areas in 44 of the 50 states, ranging in size from 5 acre (2 ha) Pelican Island in Florida to a single wilderness complex of some 13,000,000 acres (5,262,400 ha) within Gates of the Arctic National Park and Preserve and the contiguous Noatak National Preserve in Alaska. The progress of wilderness preservation in the United States over these four decades can be assessed in another way: Today, 4.7 percent of all land in all ownerships in the United States, including Alaska, has been protected under The Wilderness Act, and looking only at the lower 49 states, 2.5 percent of all land in all ownerships is statutorily protected wilderness. This dramatic increase in the scale of wilderness protection resulting from the 1964 act reflects two factors:

1. *The American people overwhelmingly support designation of more wilderness.* A review of all public opinion polls concerning wilderness taken between 1999 and 2002 found that the American people want more of their federal lands preserved as wilderness—by very wide margins. Strong support is consistent across age groups and political affiliations, between regions of the country, and between urban and rural residents (Campaign for America's Wilderness 2003). Although the absolute size

Table 1—Historic Summary of Wilderness Protection and Designations.

	As of November 1939 (end of establishment of primitive areas)	As the Wilderness Act became law in 1964	As of January 2004
Forest Service	14,235,414	14,617,461	35,036,737
(wilderness)	(0)	(9,139,721)	(34,862,975)
(primitive areas for study)	(14,235,414)	(5,477,740)	(173,762)
National Park Service	0	0	43,616,250
U.S. Fish and Wildlife Service	0	0	20,687,034
Bureau of Land Management	0	0	6,511,891
Total acres protected	14,235,414	14,617,461	105,851,912
Number of states with areas	13	13	44
Boundary changes can be made	By administrative decision	Only by an act of Congress	Only by an act of Congress

of public support for more wilderness varies between polls and over time, the spread between support and opposition is dramatic (see Table 2). In a political portent for the future, strongest support is registered among the youngest age group and within the fast-growing Hispanic population (Cordell, Tarrant, and Green 2003).

2. *Congress has been a more responsive agent for designating wilderness than were the agencies when designation decisions were in their hands.* This vindicated the view Benton MacKaye, a founder of The Wilderness Society, shared with Howard Zahniser, who led the campaign for the Wilderness Act, in discussing an earlier legislative concept: "We have here the chance perhaps to launch a constructive national legislative campaign … toward the capture of a real wilderness domain. It would make a definitive manoeuver to shift our ground from the defense to the offensive" (MacKaye 1946).

As a 1976 congressional report noted, "The Wilderness Act was the first land conservation measure requiring public input into Federal land management decision making," but "the Act affects neither the President's authority to make recommendations to the Congress nor the authority of Congress to enact legislation absent an agency recommendation" (U.S. Congress 1976).

Beginning with The Wilderness Act, designation of wilderness has always drawn bipartisan congressional support. Through periods of disinterest, and even hostility, from the White House or congressional leaders, continuing expansion of the wilderness system is fueled by strong support from the general public coupled with sustained grassroots advocacy by citizens groups, often with informal, if not official, support of on-the-ground agency personnel.

Table 2—Percentage Spread between Public Surveys Studying Support and Opposition to Wilderness Issues (Scott 2001).

Poll	Support	Oppose	Spread
Nationwide poll, Mellman Group, 1999, N = 800 respondents (not enough wilderness designated vs. too much wilderness)	48.0	8.0	40.0
Nationwide federal poll, National Survey on Recreation and the Environment (NSRE), 2000–2001, N = 15,620 (not enough wilderness designated vs. too much wilderness)	49.2	5.9	43.3
NSRE (all respondents), N = 10,382 (designate more wilderness in your own state?)	69.8	12.4	57.4
NSRE (Hispanic respondents), N = 10,382 (designate more wilderness in your own state?)	75.2	6.8	68.4
California poll (Hispanic respondents), 2002, N = 500 (designate more wilderness in California?)	81.0	12.0	69.0
Nevada poll, Mason-Dixon Polling & Research, 2001, N = 625 (too little wilderness designated in Nevada vs. too much wilderness)	56.0	4.0	52.0
Vermont poll, University of Vermont Center for Rural Studies, 2002, N = 472 (more wilderness should be designated on Green Mountain National Forest?)	73.0	20.0	53.0

Elected representatives respect this kind of citizen advocacy. Representative John P. Saylor, the Pennsylvania Republican who championed The Wilderness Act in the House of Representatives, sponsored a 1970 bill composed of wilderness proposals formulated by grassroots groups. He explained:

> Across the country groups of citizens are working skillfully … preparing inventories of potential wilderness areas in various … jurisdictions. In cooperation with national forest and other appropriate agency officials and working in task forces exhibiting impressive professional talents, they are delineating outstanding de facto wilderness opportunities, refining proposed boundaries, and drawing up detailed maps and supportive documentation. (Saylor 1970)

That kind of grassroots citizen work continues. In many cases, Congress has returned again and again to expand individual wilderness areas. The Ventana Wilderness Area on the central California coast originated in 1931 as a 54,857 acre (22,206 ha) national forest primitive area. When Congress designated it in 1969, it was expanded to 98,000 acres (39,670 ha). Congress has since expanded it *four* additional times (most recently in 2002) to now comprise a 239,688 acre (97,025 ha) statutory wilderness area.

Figure 3—Aerial view of Cedar Keys Wilderness, Florida. Photo courtesy of U.S. Fish and Wildlife Service.

Howard Zahniser

FATHER OF THE WILDERNESS ACT

Howard Zahniser. Photo courtesy of James Marshall.

"The wilderness that has come to us from the eternity of the past we have the boldness to project into the eternity of the future." In these words Howard Zahniser distilled the essence of the preservationist impulse—and then he infused it into federal law (Zahniser 1957).

When "Zahnie" became executive director of The Wilderness Society in 1945, there was little prospect that wilderness could survive in America except in scraps and backwaters. Zahniser and his colleagues concluded that the seemingly inevitable loss of wilderness could be reversed only by a wilderness law.

> A painstaking evangelist for wilderness, Zahnie spent a decade patiently building the coalition essential if any bill were to be politically plausible. Only then did he draft the bill. Its evocative language and precise word choices reflect his genius as draftsman. (Scott 1968)

Consider Zahniser's later explanation of his choice of the word *untrammeled* in the definition of ideal wilderness:

> The idea within the word "Untrammeled" of [wilderness areas] not being subjected to human controls and manipulations that hamper the free play of natural forces is the distinctive one that seems to make this word the most suitable one for its purpose within the Wilderness Bill. (Zahniser 1959)

While the second sentence in the definition provides what a key senator described as a "somewhat less 'severe' or 'pure'" definition, the first "is a definition of pure wilderness areas. … It states the ideal" (Anderson 1961). When the act commands that wilderness stewards preserve "wilderness character," it invokes this ideal (Scott 2002).

With final success in sight, Zahniser looked ahead in a speech in mid-April 1964: "I can see now that [preserving wilderness is] going to be served better by our successors than by us who are already falling away and getting out of breath, but that objective requires the establishment of basic policies" (Zahniser 1964a). Ten days later, he testified during the final congressional hearings. Seven days after that, he died. In eulogy, his close colleague, David Brower, wrote:

> What made the most difference was one man's conscience, his tireless search for a way to put a national wilderness policy into law, his talking and writing and persuading, his living so that this Act might be born. …
>
> Wilderness that lives on is the most fitting of memorials to the man who did not turn, who gave the most of all, to give wilderness that chance. (Brower 1964)

In his first detailed outline of the idea of the Wilderness Bill, in 1951, Zahnie expressed the core of his commitment to wilderness:

> We are a part of the wilderness of the universe. That is our nature. Our noblest, happiest character develops with the influence of wildness. …
>
> Some of us think we see this so clearly that for ourselves, for our children, our continuing posterity, and our fellow men we covet with a consuming intensity the fullness of the human development that keeps its contact with wildness. Out of the wilderness, we realize, has come the substance of our culture, and with a living wilderness—it is our faith—we shall have also a vibrant culture, an enduring civilization of healthful citizens who renew themselves when they are in contact with the earth. (Zahniser 1964b)

Agencies continue to recommend additional wilderness as they periodically revise their comprehensive land use plans. As of January 2004, political appointees of the George W. Bush administration in the Department of Agriculture have approved 2,264,570 acres (916,700 ha) of new wilderness recommendations in completed national forest plan revisions. By contrast, Bush political appointees in the Department of the Interior exhibit open hostility to wilderness. In April 2003, in secretly settling a lawsuit they did not bother to defend, they reversed well-established policy to block the BLM from even considering recommendation of new wilderness to Congress.

More Wilderness in Our Future

The wilderness system will continue to grow.

- In 2002, President George W. Bush signed four laws designating 526,395 acres (213,085 ha) of new wilderness.
- Bills proposing more than 20,000,000 acres (8,096,000 ha) of new wilderness in six states were pending in Congress in January 2004, with major bills being prepared for additional states. Among the strongest prospects for enactment are proposals in which conservative Republicans are taking a lead.
- Also pending in Congress are presidential recommendations from earlier administrations for wilderness designation in many national parks, national wildlife refuge units, and on BLM-administered public lands in states where the current congressional delegation is disinterested or hostile to the proposals.

Many factors influence the pace of congressional additions to the wilderness system, including the attitude of leaders of congressional committees through which wilderness legislation must pass and the degree of White House support. Long-pending agency recommendations (particularly those for national park wilderness) and some citizen-initiated proposals will take more years to be resolved, for they involve states where current political leaders are hostile to further wilderness protection. As always in legislative bodies, compromise is part of the equation.

Many current proposals expand higher elevation wilderness areas to include lower elevations, enhancing ecological diversity and year-round wilderness recreation opportunities. Often the addition of lower elevation valleys also means more difficult land use conflicts to resolve during congressional consideration.

The challenges of wilderness stewardship are now the daily work of thousands of federal employees, aided by thousands of volunteers. It is heartening to listen to these dedicated people discuss the conundrums of protecting the naturalness of wilderness ecosystems and the wildness of wilderness recreational experiences. They revere The Wilderness Act as the touchstone for each decision.

"An Enduring Resource of Wilderness"

In a delicate balance of idealism and practicality, detailed direction and realistic flexibility, the 40-year-old Act has proved itself what Bob Marshall dreamed of: "as close an approximation to permanence as could be realized in a world of shifting desires" (Marshall 1934). The concept of wilderness has become what it was not before 1964: "an imperative in American life" (Broome 1964). Wilderness has real meaning for tens of millions of Americans, and this, too, is part of what we celebrate on this 40th anniversary. This broad public understanding was achieved "in large part because of the battle for the Wilderness Bill" (Brower 1964).

Nearly six decades ago, Bob Marshall spoke of the possibility:

> For American citizens to enjoy what can be enjoyed in few other countries, a twofold civilization—the mechanized, comfortable, easy civilization of twentieth-century modernity, and the peaceful timelessness of the wilderness where vast forests germinate and flourish and die and rot and grow again without any relationship to the ambitions and interferences of man. (Marshall 1936)

Soon after the Wilderness Act became law, U.S. Supreme Court Justice William O. Douglas observed that "we look backward to a time where there was more wilderness than the people of America needed. Today we look forward (and only a matter of a few years) to a time when all the wilderness now existing will not be enough" (Douglas 1965). In the final analysis, how much wilderness will be preserved—or should be? The answer is unknowable, appropriately left to the American people and the Congress they elect.

Nonetheless, I will venture my own prediction: However much wilderness Americans may choose to designate, through their elected representatives, future generations are likely to judge that we preserved too little, rather than too much.

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Figure 4—Barchan sand dunes in the Cadiz Dunes Wilderness, California. Photo courtesy of Bureau of Land Management.

Figure 5—Viewing wildlife like this egret walking in the Okefenokee Wilderness is a primary activity of visitors. U.S. Fish and Wildlife Service, Georgia. Photo by Pam Sikes.

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The Idea of Wilderness

BY TINAMARIE EKKER

Wilderness is a place of restraint, for managers as well as visitors.

—Pinchot Institute for Conservation, Ensuring the Stewardship of the National Wilderness Preservation System, 2001

Wilderness Is Relationship

All cultures across history have set some places apart from the routines and common behaviors of daily life. The purpose of these special places is to reorient our focus and perceptions in a setting conducive to reflection. We approach such places differently than we do other places in our daily lives, and it is the way we interact with places set apart that makes them special and enables us to experience the unique values they provide in nurturing the human spirit. Examples include shrines, memorials, and ceremonial sites. Wilderness also is such a place.

Like all special places set apart, wilderness is not just a geographic location, it is also an *idea* and an ideal. The idea of wilderness encompasses certain values that we as a society have chosen to protect. Congress enacted the Wilderness Act in 1964 (P.L. 88-577), with the singular statutory purpose of securing the benefits of an enduring resource of wilderness:

> It is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. *For this purpose* there is hereby established a National Wilderness Preservation System (emphasis added) (The Wilderness Act, sec. 2[a])

The Wilderness Act intended that wilderness should have meaning, that it would be protected *for* something, not simply be a place where certain activities, such as logging, do not occur. Although wilderness may look similar to other undeveloped landscapes, such as national park backcountry or national forest roadless areas, how humans interact with wilderness is what makes it different from other landscapes. To assure that the benefits of wilderness will continue to exist for generations to come, The Wilderness Act contains principles and statutory direction intended to shape and guide our relationship with these special places.

Article author TinaMarie Ekker. Photo by Tim Ryan.

In preserving wilderness, we are preserving an endangered experience and an endangered idea—the idea that self-willed landscape has intrinsic value and should exist. Wilderness offers an opportunity to experience a form of relationship between humans and the more-than-human world that is increasingly rare in these modern times, a relationship in which we humans do not dominate, manipulate, or control nature but instead immerse ourselves as members in the larger community of life.

What makes this possible is the authenticity of wilderness. The forces of genuine wild nature still shape the essence of these special places as they have since time began. Wilderness offers us a portal into a world different from the one humans have sculpted and now dominate. In wilderness, the beauty and mystery of wildness can still exist. It is because wilderness is authentic that it has immense intrinsic value as part of the ancient history and fabric of Earth.

In wilderness, we leave the mechanized technological contrivances of modern civilization behind and experience wind, rain, bear, terrain, rivers, and ourselves on terms other than our own. Experiencing our connection to a world larger than ourselves is the timeless symbolic value provided by all special places set apart.

Figure 1—Visitors enjoy looking at wildlife and studying nature in wilderness, Absaroka-Beartooth Wilderness, Montana, U.S. Forest Service. Photo by Lisa Edison.

Keeping wilderness real and alive in our world today depends upon the attitude and behaviors with which we interact with these congressionally designated landscapes. In this way, wilderness is not just physical geography, it is also an idea and a relationship that must be protected and preserved if *wilderness*—not just undeveloped landscape—is to continue to exist for future generations to know and enjoy.

Defining Wilderness

With passage of The Wilderness Act in 1964, Congress gave wilderness a legal definition:

> A wilderness, *in contrast* with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are *untrammeled* by man, where man himself is a visitor who does not remain. (emphasis added) (Wilderness Act, sec. 2[c])

A defining aspect of wilderness is that it will forever remain in contrast to modern civilization, its technologies, conventions, and contrivances. The Wilderness Act expressly prohibits motorized equipment, mechanical transport, commercial enterprise, and the placement of structures and installations precisely because allowing the routine intrusion of such things blurs the distinction between wilderness and modern society. The more these intrusions are allowed to occur in wilderness, the less meaning wilderness will have. The more we as a society allow wilderness to become motorized, commercialized, and convenient, the less opportunity there will be for present and future generations to know the unique psychological, symbolic, and experiential values that wilderness provides.

Opportunities to experience solitude away from modern civilization form an intrinsic component of an area's wilderness character. Good wilderness stewardship requires protecting this valuable quality and not allowing it to diminish over time.

A second defining aspect of wilderness is that it is untrammeled. *Untrammeled* does not mean untrampled or undeveloped. *Untrammeled* means unfettered, free of intentional interference or manipulation. By selecting the word *untrammeled* as a core defining quality of wilderness, Congress defined the kind of relationship that humans are to have with wilderness. By law, wilderness is to be self-willed, shaped by natural processes, not controlled or manipulated to conform to human goals and desires. Being in contrast to civilization and untrammeled by human manipulation are key to the very meaning of wilderness and are what differentiate wilderness from other undeveloped landscapes.

Wilderness Character

The overarching mandate of The Wilderness Act is to preserve the wilderness *character* of each area in the National Wilderness Preservation System (NWPS). Wilderness character, like personal character, is made up of more than just physical features; it encompasses both tangible and intangible qualities. Preserving wilderness character is vital to keeping alive the meaning of wilderness in America.

Some tangible components of wilderness character include the presence of native wildlife at naturally occurring population levels; lack of human structures, roads, motor vehicles, or mechanized equipment; lack of crowding or large groups; few or no human improvements for visitor convenience, such as highly engineered and overdeveloped trails, developed campsites, signs, or bridges; and little or no sign of biophysical damage caused by visitor use, such as denuded soil or habituated or displaced wildlife.

Some intangible components of wilderness character include outstanding opportunities for reflection, freedom, risk, adventure, discovery, and mystery; places where self-reliance and safety are a personal responsibility; untrammeled, wild, and self-willed land; land that is uncommodified, not for sale; opportunities to experience our humanity as connected to the larger community of life; places that forever offer solitude and respite from modern civilization, its technologies, conventions, and contrivances.

> Wilderness solitude is a state of mind, a mental freedom that emerges from settings where visitors experience nature essentially free of the reminders of society, its inventions, and conventions. Privacy and isolation are important components, but solitude also is enhanced by the absence of other distractions, such as large groups, mechanization, unnatural noise, signs, and other modern artifacts … it is conducive to the psychological benefits associated

> with wilderness and one's free and independent response to nature. (U.S. Fish and Wildlife Service, 2001)

Public Use

The Wilderness Act identifies a number of allowable public purposes for wilderness: recreational, scenic, scientific, educational, conservation, and historical. It is important to keep in mind that these public purposes are *not* the statutory purpose of the act. They are the appropriate purposes for which the public may use wilderness, and althourgh these are allowable uses of wilderness, they are not mandatory uses. The public purposes or uses do not take precedence over the act's singular statutory purpose to preserve an enduring resource of wilderness by preserving the wilderness character of each area in the NWPS.

> Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established *as also to preserve its wilderness character.* (emphasis added) (The Wilderness Act, sec. 4[b])

If any of the allowable public uses of wilderness conflict with the preservation of an area's wilderness character, then, by law, protecting wilderness character has priority. A wilderness can be completely closed to one or all of these public purposes if such use would diminish or degrade components of wilderness character. For this reason, there are several wildernesses that are closed year-round to any public entry as well as some that are closed to the public for part of each year. "The purpose of the Wilderness Act is to preserve the wilderness character of the areas to be included in the wilderness system, not to establish any particular use" (Zahniser 1962, p.1300).

Conclusion

The idea of wilderness is premised upon humans interacting with certain landscapes in a manner that is different from how we approach any other area of landscape. Keeping alive the meaning of wilderness requires our participation in a relationship with these landscapes that is very different from the commodity-oriented, utilitarian manner in which modern society generally interacts with the rest of nature. Wilderness depends on the continued existence of authentic wildness. Preserving wildness in wilderness requires that humans exercise humility and restraint, not dominance and control over the land, its creatures, and its natural processes. The opportunity to experience this form of relationship with the rest of nature is an increasingly endangered experience in our modern world. Designated wilderness is the only landscape where such a relationship between humans and the rest of nature has been written into law. "This is the challenge of wilderness management, preserving what is unseen and unmeasurable" (Kaye 2000, p. 4).

The values and benefits of wilderness will continue to be available to us and to future generations only as long as we continue to treat wilderness as special places set apart from the conveniences, contrivances, and routines of modern daily life. Preserving the meaning of wilderness depends on the attitudes and actions of everyone, visitors and managers alike, as well as those who may never visit but find their spirits nurtured just in knowing authentic wilderness still exists.

Figure 2—An owl resting in the Okefenokee Wilderness, U.S. Fish and Wildlife Service, Georgia. Photo by Pam Sikes.

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Figure 3—Seeing the water-formed and sculptured canyons in wilderness is a memorable visitor experience, Paria Canyon-Vermillion Cliffs Wilderness, Arizona, Bureau of Land Management. Photo by Peter Druschke.

A Special Piece of Alaskan Wilderness

We Need to Save Such Places

BY MICHAEL McBRIDE

Hidden deep in the Kenai Mountains lies a small lake rimmed by towering snowcapped peaks. Few of the peaks in this wildly scenic place have names; in fact, the massive glacier whose blue ice face looks down over this lake is unnamed. Like a hidden Shangri-la from another land and time, the spruce-shouldered mountains leap directly up, out of the lake, to summits above 4,000 feet. The gin-clear waters along the shores are peppered with scrappy rainbow trout, and below them the lake falls away to profound depths. Other than a few trappers from a bygone era and a hiker or two ferried in by bush pilot, the place has been little explored. It is known, well-known, by only a few.

It is my good fortune to have spent 30 years getting to know this place. My wife and I built a cabin there, and during the past three decades that cabin has become our home, and a home to many guests who have come to love its majesty and wildness as we do. But it is more than a take-your-breath-away scenery kind of place, more than lumber and tar paper; it is the axis of my heart, the center of my being, my hidden refuge. Even when I am not there, it comes to me in dreams. It is part of me, and if it were blemished, damaged, destroyed, and even when it has been threatened, it is as if the knife is poised over my heart.

Article author Michael McBride. Photo by Vance Martin.

So Many Special Places in Alaska

Every Alaskan village, town, and city is encircled by and held in the embrace of wilderness—special places such as mine. From any vantage point an observer's gaze can fall upon trackless expanses that seldom see a person, and not far beyond that, places that have never even seen a footprint.

My nameless valley is but one arm of a basin with four glaciers, and it represents an idealized sort of Alaska, for it hides wild places that no living person has ever seen. There are flower-strewn meadows as lovely as god ever made, and dark evergreen forests where low branches are hung with carpets of shamrock-colored moss. There are uncounted numbers of bears and moose, wolverines, wolves and coyotes, otters, minks, and beavers. Their game trails, as old as history, pulse with life and flow through this wildness like veins and arteries.

White-blanketed mountain goats gaze serenely down at this idyllic scene from clouded pinnacles, while everywhere there is the sound of moving water. As it has done since time out of mind, water continues to lure and seduce, to rip and tear, to push and pull, and to shape the very soul of this place. There are murmuring trickles and pulsing freshets and melodious watercourses half hidden in boulder piles by deep mosses. There are white-feathered cataracts roaring from high cliffs and crashing to the valley below. There is crystal clear water from melting snowfields, pond water tannic-stained as dark as chocolate, high country water as blue as a robin's egg and glacial water so full of silica that it grinds between your teeth. It is simply not possible to be anywhere in the embrace of this valley without hearing moving water, and in salmon season there are bright reds to be found in every clear stream. There are arctic char in fern garden pools, and there are birds. There are hawks and owls, eagles and falcons, ducks and geese and

trumpeter swans and yes, even hummingbirds find refuge in this glacier-carved fastness.

From its source at the crown of the glacier 5,000 feet above sea level, this melt-water winds about 15 miles to the ocean through some of the most picturesque country in the world. These nutrient-rich waters drain a vast riparian corridor and then fertilize the intertidal estuaries of Kachemak Bay, documented as some of the richest on Earth. Nineteen glaciers feed Kachemak Bay, and the 35-mile-long bay holds this vast amount of fresh water inside a long sandbar, where it mixes and remixes with oceanic water to create a diversity and productivity earning its recognition by the World Bank environmental assessment program as one of the 132 of richest marine environments in the world.

Many Wilderness Areas in Alaska Are in Jeopardy

Impossible as it might seem in visualizing such a place, the forests in this priceless valley were sold for clear-cut logging as recently as 10 years ago. Bulldozers were poised to cross the bay by barge and begin grading roads up the valley and through this wilderness that had remained unchanged since the land emerged out from under the ice sheets of the Quaternary era. Alaska has a long history of the abuses of bulldozer and log trucks permanently altering the productivity of salmon rivers.

The reason that this area was spared was that a group of local people bonded themselves together as the Kachemak Bay Citizens Coalition, and they eventually overwhelmed the politicians in the state capitol. Against all odds, $23 million was appropriated by the state, and the lands were bought back from the logging company and Native Corporation. These lands are now protected in perpetuity for the use of local people, Alaskans, Americans from the lower 48, and the people of the world. The Kachemak Bay State Park and the adjoining Kachemak Bay State Wilderness Park together comprise approximately 345,000 acres (139,725 ha).

But care is needed, for the powerful interests that would destroy wilderness needlessly are unrelenting, and those who protect it can only afford to lose once.

global community, and especially in today's information age, we can and must work harder, and work together, to save what's irreplaceable and be sensible and careful in developing what wise heads agree we must.

Figure 1—Looking across Loon Song Lake toward Kachemak Bay State Park and Wilderness that together comprise 345,000 acres. Photo by Vance Martin.

With colleagues around the world who are the keepers of wild areas, Alaskans share the difficult and ongoing challenge of balancing the need for resource extraction with the values of wilderness. Clearly, the money from logging, oil, fish, and minerals is needed to fund schools, roads, and the myriad other public needs, and Alaska needs more such development. But care is needed, for the powerful interests that would destroy wilderness needlessly are unrelenting, and those who protect it can only afford to lose once.

Too often in Alaska and elsewhere decision makers have waged the wilderness debate as an either-or struggle. In our

Figure 2—Common loon whose soulful cry is anything but common. Photo by Vance Martin.

Continued on page 21

Portable Fence Roller Facilitates Fence Removal by Volunteers in Steens Mountain Wilderness

BY CINDY WITZEL and JERRY SUTHERLAND

The Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) created the Steens Mountain Cooperative Management and Protection Area (CMPA) within the Bureau of Land Management (BLM) Burns District in southeastern Oregon. Within the CMPA, 170,085 acres (68,860 ha) were also designated at that time as the Steens Mountain Wilderness.

In addition, the Steens Act designated 97, 229 acres (39,364 ha) of the wilderness as "cow free," where grazing permits were retired or traded and no future domestic commercial livestock grazing would occur. This is the first such congressionally designated zone in a wilderness in the United States.

Figure 1—Members of the group Wilderness Volunteers with part of a day's fence removal in Steens Mountain Wilderness. Left to right: John Oberhausen, Birnie McGavin, Ed Hill (kneeling), Patricia Schaffarczyk, Steve Haas, Bill Swanson (co-leader, with the Steens Wire Roller), Joe Speight, Laurie Speight, Nancy Lehrhaupt, John Heasly, Kathleen Worley (coleader), Lois Mansfield. Photo by John Neeling.

When the BLM, ranchers, and environmentalists agreed in a 2001 environmental assessment on how to build the fences and water developments to implement the cow free zone, they included a provision to remove all unnecessary fences within the zone by October 2006 to begin restoring it to a more natural condition. Thus, a minimum of 50 miles of barbed wire, and possibly up to twice that amount, must be removed from Steens Mountain Wilderness over the next three years.

How to Remove the Fences?

One approach to removing the fences would have been to contract for their removal using motorized equipment and mechanized transport. Discussions between the Steens Mountain Advisory Council (SMAC) and the BLM ultimately led to rejection of this idea due to concerns over use of motorized equipment and mechanized transport within the wilderness, even though contracting out the work using this approach was originally thought to be cheaper and quicker. SMAC members agreed that volunteer groups removing the fences, with some contracting to remove materials by pack stock, seemed a better "minimum tool" and economical approach. But anyone who has "pulled fence" by hand knows that it is difficult, tiring work, and that the old fence material—wire, posts, and clips—would have to be carried out of the wilderness on pack stock.

Even under the best of circumstances it would require years to accomplish the task by hand-rolling the wire. Hand-rolled wire coils are large, cumbersome, and irregular in shape, making them awkward, and even hazardous, to handle. Hence, there were also safety concerns about volunteers hand-rolling large amounts of wire, as well as the difficulty involved in packing out huge amounts of loosely rolled wire bundles on pack stock.

But as good fortune would have it, one of the SMAC members, Cindy Witzel, and her husband, John, operate a family business, Steens Mountain Packers, Inc. John Witzel, an inventor as well as an experienced wilderness outfitter and packer, created a nonmotorized, manually operated, portable fence remover that could quickly and efficiently roll up barbed wire into factory-size rolls (see Figure 1). Thus, John Witzel's Steens Wire Roller became a key to the fence removal project, making it possible to use volunteers in a minimum tool approach and increasing their efficiency and safety (see Figure 2).

During one recent volunteer work effort, a group called Wilderness Volunteers removed and rolled two miles of fence in two days using the Steens Wire Roller (see Figure 3). Less pack stock is now required to pack out the miles of wire, because they are in compact factory-style rolls rather than hand rolls. Furthermore, it is safer for the pack stock as well. And, the wire and steel can more easily be recycled or used for other fencing.

BLM Burns District wilderness specialist John Neeling mobilized the volunteer effort to remove the fence. Organizations such as the American Hiking Society, Wilderness Volunteers, Sierra Club, and Oregon Natural Desert Association, among others, are cooperating in this effort to "put the wild back in the wilderness" at Steens Mountain. It is hoped that sharing information in this short *IJW* article will encourage similar wilderness restoration elsewhere.

Additional Information

For additional information on the portable and manual fence remover, the Steens Wire Roller, and other outdoor innovations, contact Frenchglen Blacksmiths, 39269 Highway 205, Frenchglen, OR 97736, USA. Telephone: 541-495-2315. URL: http://www.steensmountain.com/wireroller.htm. For information on the Steens Mountain Wilderness, use of volunteer groups, or to volunteer, contact BLM wilderness specialist John Neeling at John_Neeling@or.blm.gov or telephone: 541-573-4400.

CINDY WITZEL is the recreational permit holder representative on the Steens Mountain Advisory Council. Contact Cindy at info@steensmountain.com.
JERRY SUTHERLAND is the statewide environmental representative on SMAC. Contact him at JerrySutherland@comcast.net.

Figure 2—The Manual Wire Roller can hold 90 pounds of rolled wire equal to 1/4 mile, which is easily and efficiently rolled by the operator. Photo by John Witzel.

Figure 3—Here Cindy Witzel cranks in removed barbed wire onto the Steens Manual Wire Roller. Photo by John Witzel.

From SPECIAL PIECE OF ALASKAN WILDERNESS on page 19

Figure 3—The backcountry tourism industry in Alaska is highly dependent upon the use of float and bush planes for transportation. Photo by Vance Martin.

The 8th World Wilderness Congress, in Anchorage, Alaska, September 30–October 6, 2005, will feature open dialogue about Alaskan and global wilderness and sustainable development issues. Make plans to be there. The dialogue and action will be for the benefit of all people.

MICHAEL McBRIDE and Diane built and own Kachemak Bay Wilderness Lodge, P.O. Box 956, China Poot Bay, Homer, AK 99603, USA. Telephone: 907-235-8910. E-mail and URL: wildrnes@xyz.net; www.alaskawildernesslodge.com.

Legislative Intent, Science and Special Provisions in Wilderness

A Process for Navigating Statutory Compromises

BY ALAN E. WATSON, MICHAEL PATTERSON, NEAL CHRISTENSEN, ANNETTE PUTTKAMMER, and SHANNON MEYER

Abstract: In order to manage special provisions in U.S. wilderness, several research products are needed. Minimally, a complete understanding of the legislative intent of the provision, in-depth understanding of the deep meanings held by the particular stakeholder community of interest, and some knowledge about the larger population of interest are needed. In this study of jet boat use on the Salmon River in the Frank Church–River of No Return Wilderness, a combination of qualitative and quantitative methods were used to understand the attachment jet boat users have to the activity and the place.

Senior article author Alan Watson. Photo by Leena Vilkka.

Introduction

Most wilderness research has focused on providing information for managing in order to meet the definition of wilderness contained within section 2(c) of the U.S. Wilderness Act. However, there has been very little research to guide implementation of section 4(d), which deals with special provisions. This section of the act provides general direction on preexisting legal exceptions such as use of aircraft or motorboat; prospecting for minerals, water, or other resources; maintenance of reservoirs and transmission lines; grazing livestock; and permitting commercial services.

When legislation establishes protection for public lands under the authority of the Wilderness Act, incorporating these special provision guidelines is often quite controversial. The Central Idaho Wilderness Act of 1980 established the Frank Church–River of No Return Wilderness (FCRNRW) (2.2 million acres/0.9 million ha) and extended Wild and Scenic River status to the Main Fork of the Salmon River as it flows through the wilderness (see Figure 1). This act passed the U.S. House of Representatives, with special provisions for several preexisting uses, over the objection of Idaho's two congressional representatives. From 1979, when multiple bills were introduced by Senator Frank Church to establish this protection, until 1980 when a final bill was passed, hearings around Idaho and in Washington, D.C., produced many arguments and discussion in favor and in opposition to the special provisions contained in this legislation.

The purpose of this article is to describe research to understand the historic context of special provisions in combination with an empirical understanding of current users accommodated (e.g., jet boats on the Salmon River) as input to the current wilderness planning process. This understanding is provided by a review of legislative history, in-depth interviews of jet boat association leaders, and a survey of the general jet boat user population (see Figure 2).

Legislative History

Meyer (1999) offered a process for assessing congressional intent. When facing an ambiguous situation in applying legislation, a structured analytical process can be used to examine the explanations of legislators who created the law or the documents they used when they debated and passed the law (Folsom 1972). In such an examination of the Central Idaho Wilderness Act (Meyer 2000), statutory language and accompanying legislative discussions assure the continuing use

(PEER REVIEWED)

of jet boats on the Salmon River in the FCRNRW and "continued heavy recreational use." From committee reports, Meyer (2000) learned that continuance of "access by … motorboat," was to assure that this "traditional means of access" could still be used to "see and enjoy this splendid wilderness." It was clarified that the term *motorboat* would include the type of motorized jet boats in use on the river in 1980. Continuing use of jet boats, however, was not intended to preempt the prerogatives of the secretary of agriculture (under the provisions of the Wild and Scenic Rivers Act) to regulate motorized travel on the river in times of low water, high fire hazard, or for other reasonable purposes.

Committee reports emphasized that the amount of motorboat use would be permitted to continue at a level not less than that which occurred during the calendar year of 1978. The secretary of agriculture, however, would retain the necessary flexibility to increase the use of motorboats on the basis of a management plan, although any increase would not be allowed to result in overuse by motorboats.

Congress accepted one administration clarification offered in a committee hearing: Appropriate regulation prescribed in the Central Idaho Wilderness Act meant there would be an upper limit to the amount of jet boat traffic that the river environment and the experience on it could tolerate, and that some restrictions and regulations would eventually have to be applied. However, the authority of the Wild and Scenic Rivers Act, not The Wilderness Act, was to be used as the basis for justifying any motorboat use regulation on the river, even though it flows through one of the country's largest wilderness units.

The legislative history established a lower threshold (at least in principle) below which motorized use could not be restricted, but it set no ceiling. And although it established that protection of the experience would be an appropriate basis for setting an upper limit, the discussion was rather silent on the actual nature of the experiences to be protected, primarily focusing instead on the issue of maintaining access. Therefore, in addition to an analysis of the legislative intent, there was also a need to develop an understanding of the nature of experiences, meanings, and relationship to place among motorized users. An understanding of these issues was constructed using both in-depth interviews and a mail-back survey.

Methods

Initially, interviews were conducted with five leaders of a prominent and politically active jet boat club in Idaho. In the second phase of the study, the analysis of the first interviews guided an extended set of interviews within the jet-boat-user community and to develop a mail survey designed to evaluate a set of propositions about the experiences, meanings, and relationship to place within the jet boating population.

Qualitative Interviews

When developing an understanding about the nature of experience and relationship to place, either richness or depth of understanding of individuals is important. In-depth interviews were selected to gain this understanding, and the goal of sampling was not to determine the extent to which different types of experiences and meanings are distributed across the population of jet boat users, but rather *to outline and describe in rich detail the range of experiences and meanings associated with jet boat use on the Salmon River*. Under this sampling logic, populations are represented by capturing the range of diversity in representative types comprising the population (Bellah et al. 1985).

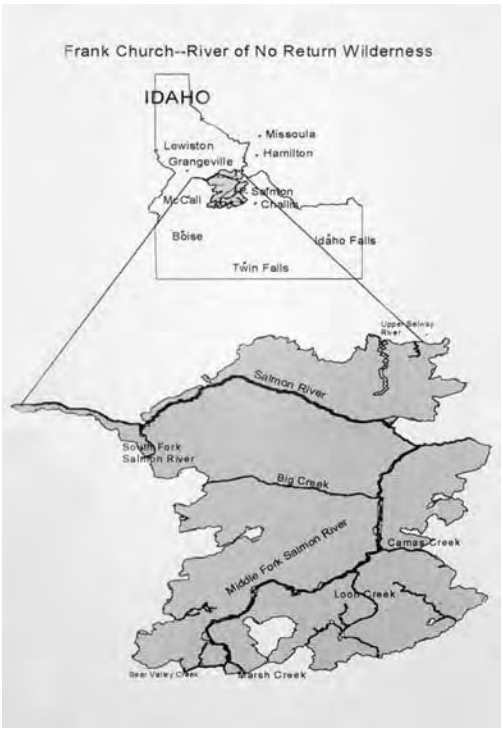

Figure 1—The Salmon River flows through the Frank Church–River of No Return Wilderness in Idaho. Photo courtesy of the Salmon-Challis National Forest.

Quantitative Surveys

Every effort was made to census identifiable subpopulations of jet boat users on the Main Salmon River; two subpopulations not included were private landowners and commercial jet boat operators. Targeted subpopulations included (1) jet boat membership association A (N = 281); (2) jet boat membership organization B (N = 88); (3) 1996 and 1997 Forest Service jet boat permits (N = 72); (4) 1983–1984 and 1993–1995 Forest Service jet boat permits

Figure 2—There has been little research to guide implementation of section 4(d) of The Wilderness Act, which deals with special provisions. Photo courtesy of the Salmon-Challis National Forest.

(N = 42) (permits from other years could not be located); (5) jet boaters identified by jet boat membership association A leadership as active in jet boating in 1978 (N = 168); (6) unaffiliated operators identified by survey respondents (N = 98); (7) passengers identified by survey respondents (N = 146). A total of 895 surveys were sent out, with a postcard follow-up reminder one week later.

Results

Qualitative Interview Results

Analysis of the combined interviews (5 with opinion leaders from phase 1 and 20 interviews with 37 participants in phase 2) revealed insights relative to a number of dimensions of relationship to place. It is not possible here to fully present the insights for all of these dimensions. However, a brief overview of three of these dimensions is presented below.

Nature and significance of bond

Differences in the depth of bond to place was evident. At one end of the continuum were individuals who, to a significant degree, organized their lives around the Salmon River and/or the opportunity to jet boat on the river. At the other extreme were individuals with relatively low attachment who often acknowledged they were different from those who viewed the Salmon as "their backyard." In between were individuals who valued the Salmon for specific tangible/physical features that were often seen as unique. These distinctions are important for understanding jet boaters' relationship to place. For example, those with the most deeply rooted emotional bonds organized their lives around this place to such an extent that conceiving of them simply as "visitors" would be a mischaracterization. Furthermore, they often valued jet boats not just as an activity, but as a means of providing access to the Salmon across changing life stages and situations. In other words, their ability to do physically demanding activities in remote settings may diminish over time, but their interest in spending time in the places they have recreated in all their lives did not, and jet boats were seen as a means to having this experience.

Table 1—Propositions Generated from In-Depth Interviews of Jet Boat Association Leadership.

Propositions

1. Being close to nature is important to jet boaters.
2. Opportunities to experience solitude in a remote setting is valued by jet boaters.
3. Jet boating is a family experience, or an opportunity to pass on important values to others.
4. Jet boaters exhibit strong attachment to place, or opportunities to spend time in the Salmon River Canyon is important to them (they have a strong personal history, are deeply involved).
5. Jet boating is challenging, with a certain amount of risk as in any whitewater activity, and current regulations influence the perception of safety by limiting the ability of boaters to travel in groups.
6. Jet boats are consistent with wilderness and wild and scenic values to jet boaters.
7. Jet boaters appreciate the cultural history of the river corridor.
8. Jet boaters perceive some other users as having unrealistic expectations about their journeys along the Salmon River.
9. River planning should be addressed from a regional perspective, not river by river.
10. Jet boaters believe that environmentally responsible behavior by all users is important in order to protect the resource.
11. It is important to teach river etiquette to all users.
12. Jet boaters believe in "responsible shared use"—fair, equitable access to the resource and opportunity for growth with other user groups.

Access

Maintaining access was a key theme in the legislative history regarding motorized use of the Salmon. During the course of the interviews, it also emerged as a key concept for understanding jet boaters' relationship to place. For example, most of the jet boaters viewed the Salmon River as a local resource. As local users, they were concerned about protecting opportunities to access the area over short periods of times (e.g., weekends as opposed to extended vacations) and opportunities to decide spontaneously to take advantage of a sudden opening in their schedule. Some of the jet boaters felt that the current permitting system was not flexible enough to allow this kind of access. In addition, the permit system was seen by some as problematic in light of how variability in river conditions (e.g., water level, debris following storms, timing of fish runs) affects jet boating.

Meaning of Wilderness

Interview participants valued the remote, undeveloped, primitive, pristine, wild, and roadless character of the Salmon River. In fact, the term *wilderness* was sometimes used to describe the area. However, designated wilderness does not seem to be an adequate concept for describing the meanings to these people. When asked about designated wilderness, some respondents pointed out that designation is a recent event that has not changed the character of the area. Others seemed to struggle to see the relevance of this designation because as a class of places, the Salmon River country

is no different from many other wild places in Idaho in their view; that is by and large the nature of Idaho. Overall, interview participants primarily related to the Salmon River country as a specific place rather than as a representative of a class of places (designated wilderness). As a place, the Salmon River country has one characteristic that markedly differs from designated wilderness. As defined in The Wilderness Act, wilderness is an area "where man himself is a visitor who does not remain." In contrast, most of the interview participants viewed the Salmon River country as a place with an extensive human past, which was of great value to many of them, and a continued human presence.

From analysis of these interviews, a series of propositions were developed about the relationship among jet boaters, jet boat use, the Salmon River, and the FCRNRW (see Table 1). These propositions guided development of the quantitative survey of the jet boat user population.

Quantitative Survey Results

A total of 391 surveys were completed and returned. Forty-one were returned undeliverable, and a follow-up telephone survey of nonrespondents found that about 8 percent claimed they had not received the survey, although it was not returned undeliverable. The initial unadjusted response rate was estimated at 48 percent (391 of 819). Of these 391 respondents, 39 had not been on a jet boat within the boundaries of the FCRNRW and were dropped from data analysis. From the follow-up telephone survey of nonrespondents, it was estimated that approximately 50 percent of nonrespondents had not jet boated within the FCRNRW boundaries, suggesting that the 391 respondents represented 74 percent of the potential respondents to the mail-back survey who boated in the FCRNRW boundaries.

Approximately 25 percent of jet boat operators had entered into the activity since 1993, 50 percent since 1986, and 78 percent since 1978. Therefore, only 22 percent of the current jet boat participants were engaged in this activity in the baseline year of 1978. For passengers, the trend was a little different: nevertheless, only 43 percent were engaged in this activity in 1978.

Some of the propositions in Table 1 were tested through responses to the survey questions. For example, for Proposition 2, 66 percent of all jet boaters indicated they do enjoy solitude while jet boating. However, 52 percent indicated that the number of other people they meet on the river is not important to the experience they have, 70 percent said the number of structures they might see is not important, and 85 percent said their experience is not influenced by seeing small aircraft flying overhead (see Figure 3).

For Proposition 3, 68 percent enjoy spending time with their families while jet boating, 85 percent think of this time as an important family experience, and 98 percent consider it important or very important to protect access to this activity at this place for future generations. About 35 percent of respondents first experienced jet boating on the Salmon River as a child.

Proposition 6 was based on the jet boat association leadership's repeated assertion that they thought their experience in jet boats was a wilderness experience. In the survey, 79 percent expressed agreement that their experience while jet boating on the river was the same as the experience of nonmotorized floaters', and 76 percent thought the experience was the same as those riding horses along the wilderness trails. Only 33 percent, however, would go on the river within the wilderness if they couldn't go on jet boats.

Discussion

Statutory policy, such as The Wilderness Act, represents an expression of how society values culturally significant resources. However, in a diverse society, national level policy will reflect compromises among subgroups due to variation in values, and this ultimately creates ambiguities and sometimes apparent contradictions that managers must address when implementing the statute in specific instances. Section 4(d) of The Wilderness Act, which addresses special provisions within wilderness, presents this situation. Some interpret the provisions as creating "exceptions" to true wilderness, whereas others interpret them as a means of accommodating different orientations toward wilderness (Alessa and Watson 2002). When faced with such diversity in interpretation of statutory accommodations, a socially legitimate process for negotiating resolution is needed. This article suggests that a careful analysis of legislative history in conjunction with a multimethod scientific approach designed to develop an understanding of current stakeholders can enhance the legitimacy of planning processes.

Figure 3—Sixty-six percent of all jet boaters indicated they do enjoy solitude while jet boating; however, 52 percent indicated that the number of other people they meet on the river is not important. Photo courtesy of the Salmon-Challis National Forest.

When legislation establishes protection for public lands under the authority of The Wilderness Act, incorporating these special provision guidelines is often quite controversial.

In this case, with only 22 percent of the jet boaters present on the river as operators and 44 percent as passengers at the time of the legislation that established the special provision, there was little understanding of the legal intent of that provision by these users. Thus the legislative history of the Central Idaho Wilderness Act provided a valuable basis for understanding the history of political compromises in a way that can facilitate contemporary discussions. Acknowledgment by all parties that heavy recreation use was anticipated on the Salmon River is important. And it became clear that any change to management would need to be justified within the foundation of the Wild and Scenic Rivers Act, not The Wilderness Act.

And although most jet boaters were aware that the agency was restricted from reducing jet boat use below the estimated 1978 level, it was also significant that this restriction was not intended to preempt regulation of motorized travel for reasonable purposes. There was also potential for an upper limit to be established in order to meet the intent of the Wild and Scenic Rivers Act.

The Central Idaho Wilderness Act, however, was silent on the nature of the experience to be provided. Therefore, a scientific understanding of users in terms of their experiences and relationship to the place was necessary to understand the potential ways management decisions will influence those relationships. The in-depth interviews provided a basis for generating propositions and designing a survey to provide a statistically generalizable characterization of the population.

For example, the majority of jet boaters reported that they enjoy solitude on the Salmon River while jet boating, but over half said that the number of people they meet is not important, most suggested that the number of planes they see in the wilderness is not important, and over two-thirds are not troubled by structures in the wilderness. On the one hand, this indicates jet boaters seek traditional wilderness values, but, on the other, it reveals apparent contradictions. However, rather than reflecting a unique situation, these sorts of contradictions or tensions are evident among other wilderness users as well (Glaspell 2002).

The primary purpose of this article has been to present a process for addressing legislated special provisions. The process may also be effective at a more general level for addressing new, emerging, or contested wilderness values that result from societal changes or evolutions in the meaning of wilderness. One case of emerging wilderness values, the Alaska National Interest Lands Conservation Act, identifies a national interest in protecting opportunities for rural residents to pursue subsistence lifestyles on federal public lands, including wilderness. What contested meanings emerge when people are viewed as part of wilderness ecosystem processes? Is subsistence a kind of wilderness experience or means to some other value? These questions might be meaningfully addressed by combining careful review of legislative intent, in-depth exploration of the meanings held by different stakeholder groups, and broader investigation of the distribution of those meanings across populations of interest.

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Information about Wilderness Visitors and Recreation Impacts

Is It Adequate?

BY DAVID N. COLE AND VITA WRIGHT

Introduction

The Wilderness Act of 1964 (P.L. 88-577) established a National Wilderness Preservation System (NWPS) to be administered "for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness." To provide for the use and enjoyment of these areas while preserving their wilderness character, it is important to study and monitor wilderness recreation visitors and the impacts they have. Some people state that The Wilderness Act mandates that recreation impacts not be allowed to increase following wilderness designation (Worf 2001). Ideally, baseline conditions should be inventoried at the time each area is designated as wilderness and added to the NWPS, and then periodically monitored in the future to assess trends in conditions and the efficacy of existing recreation management programs. Such data will become increasingly valuable to future attempts to evaluate trends in the wilderness character of each area in the NWPS.

Although baseline recreation conditions have been inventoried in many wildernesses, data are lacking for many others. Moreover, the distribution of wildernesses with baseline recreation data is not equitable across the nation or the four agencies that manage wilderness. In order to assess the extent of baseline recreation data for the NWPS and to document the data that do exist, we conducted a survey of all wildernesses in the NWPS, asking about the availability of three types of data: (1) campsite impact data, (2) trail impact data, and (3) information about visitor characteristics.

Article co-authors David N. Cole and Vita Wright.

Methods

The process of compiling this information began in January 1999 with a letter and one-page questionnaire sent to administrators of each of the 625 wildernesses in the NWPS (and three additional wildernesses designated in 1999). The questionnaire asked whether any recreation baseline data of the three types we were interested in had ever been collected in any of the wildernesses managed by that office, either by the management agency or by someone else (such as an academic institution). If respondents stated that no data of any of the three types had ever been collected, we accepted that response.

We conducted phone interviews with all the administrators who either responded that they had data or who did not respond to our questionnaire. In each interview we began by establishing whether the data met our criteria for inclusion. Sometimes, data were collected in such a nonsystematic manner that we decided not to include them. However, for this criterion we erred on the side of inclusion and simply noted that the sample was an opportunistic one. There were

About one-half of the 625 wildernesses in the NWPS (56 percent) had baseline recreation data of some type.

two other common reasons for excluding data. First, in many wildernesses, trails are inventoried and information is collected on the location of existing improvements (e.g., drainage devices or bridges) and segments that need maintenance or improvement. We only included trail studies if they had data on recreation impacts on trails, and relatively few wildernesses have such data. Second, many wildernesses have systematically collected data on amount of recreation use but have no baseline data on visitor characteristics. Data on amount of wilderness recreation use prior to 1995 are compiled in Cole (1996). For purposes of this article, however, we only included wilderness visitor studies if they had data on more than amount of use. Our criteria for campsite data were less stringent than for trail and visitor data. We included wilderness campsite studies even if the only data collected were campsite locations. Virtually all wildernesses have maps of trail locations in their official trail system.

In addition to interviewing agency managers, we searched for data that had been published in outlets such as journals, proceedings, theses, and reports. For this purpose, we conducted extensive literature searches and ultimately located over 300 publications that contained baseline data about wilderness campsite impacts, wilderness trail impacts, or wilderness visitors.

For each type of baseline data, we collected information about when the studies were conducted and how and where the data are stored. We asked questions about the survey sample. Sometimes data were collected across the entire wilderness; in other cases, data are only applicable to a portion of the wilderness or to a specific situation (such as visitors to heavily used trailheads or campsites that are highly impacted). We also asked questions about the type of data that were collected (for example, photopoints, conditions classes, or detailed measures). This detailed information should be helpful both to characterize the types of studies that have been conducted across the NWPS as well as provide the specifics of a particular study in a wilderness of interest.

Baseline Recreation Data for Wilderness

About one-half of the 625 wildernesses in the NWPS (56 percent) had baseline recreation data of some type (see Table 1). The availability of baseline data varied substantially among the agencies that manage wilderness. Most Forest Service (77 percent) and National Park Service (66 percent) wildernesses had data; few Bureau of Land Management (17 percent) and Fish and Wildlife Service (10 percent) wildernesses had data. Variation among regions of the country was less pronounced. The Southwest (Arizona, Nevada, New Mexico, and Utah) was the only region in which a majority of wildernesses had no data. The region with the largest proportion of wildernesses with data was the Rocky Mountains (Colorado, Idaho, Montana, and Wyoming).

Campsite data were the most frequently collected type of baseline recreation data. Based on our criteria, about one-half of the wildernesses in the NWPS (51 percent) had baseline campsite data (see Table 1). About one-quarter of wildernesses (24 percent) had visitor data and only 9 percent had trail condition data. Forest Service wildernesses were more likely than National Park Service wildernesses to have campsite data, whereas National Park Service wildernesses were more likely to have visitor and trail condition data. Wildernesses in the Southwest were least likely to have campsite data. Wildernesses in the Southwest, Pacific states, and Alaska were least likely to have visitor data, and wildernesses in the central and northeast states and Hawaii were least likely to have trail data.

Table 1—Number (%) of Wildernesses with Any Baseline Recreation Data, Campsite Data, Trail Data, or Visitor Data. (Values are for each agency and for all wildernesses.)

	Type of Data			
Agency	**Any**	**Camp**	**Trail**	**Visitor**
Bureau of Land Management	23 (17%)	21 (16%)	3 (2%)	8 (6%)
Fish and Wildlife Service	7 (10%)	4 (6%)	1 (1%)	4 (6%)
Forest Service	308 (77%)	291 (73%)	46 (12%)	122 (31%)
National Park Service	29 (66%)	22 (50%)	9 (20%)	20 (45%)
All wildernesses	349 (56%)	321 (51%)	56 (9%)	148 (24%)

Note: Because some wildernesses are managed by multiple agencies, the sum of the wildernesses managed by each agency exceeds the total number of wildernesses.

Wildernesses that were designated long ago were somewhat more likely to have baseline data. For example, of the 54 wildernesses designated in 1964 (all managed by the Forest Service), 92 percent had campsite impact data, 22 percent had trail impact data, and 48 percent had visitor data.

Wilderness Campsite Data

In 2000, although one-half of the 628 wildernesses in the NWPS had some type of baseline data on campsite conditions, just over one-third (37 percent) had data for all the campsites in the wilderness (see Table 2). Another 5 percent had data for a sample of campsites considered to be representative of all campsites in the wilderness. A wide variety of campsite monitoring techniques is available (Cole 1989); the easiest technique is simply to map the location of sites. In 31 of the wildernesses with campsite data, location was the only information collected (see Table 2). Another 12 wildernesses also had established photopoints at campsites. In 12 wildernesses, condition class ratings had been assigned to campsites, but no site measurements had been taken. In 150 wildernesses, multiple impact parameters had been evaluated, but evaluations consisted of either categorical ratings or quick measures. Finally, 116 wildernesses had detailed measures of multiple impact parameters, the most precise and expensive data.

The earliest campsite data were collected in the early 1960s on samples of campsites in the Mt. Rainier and Glacier Peak Wildernesses (Thornburgh 1962) and the Boundary Waters Canoe Area (Frissell 1963). The first surveys of campsites across entire wildernesses were conducted in the early 1970s in the Yosemite and Olympic Wildernesses. In 44 wildernesses (7 percent of the NWPS), some baseline campsite data had been collected prior to 1980 (see Figure 1). By 1990, baseline campsite data had been collected in 136 wildernesses (21 percent of the NWPS) and had increased to 321 wildernesses (50 percent of the NWPS) by 2000.

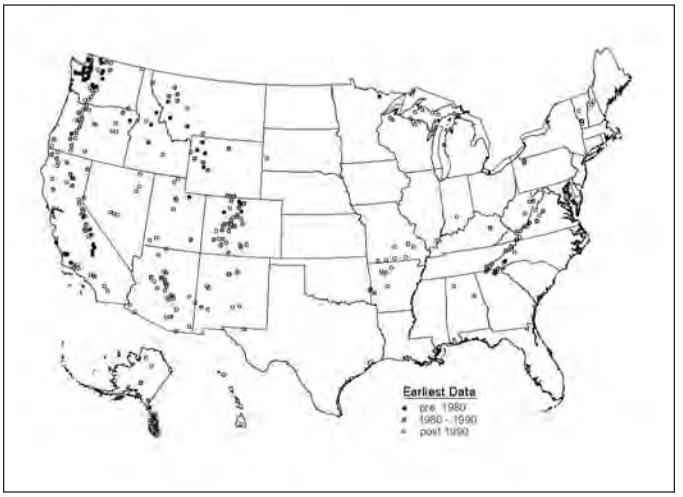

Figure 1—Location of wilderness campsite studies (Cole and Wright 2003).

Wilderness Trail Data

Most wildernesses had data on the extent of their official trail system, and many periodically monitor the location of places that require some sort of improvement such as a water bar or bridge. However, only about 9 percent of wildernesses had baseline assessments of the trail-system condition such as condition class or measures of trail depth and erosion. Twenty-six wildernesses (4 percent) had baseline data for all official trails in the entire wilderness, and another eight wildernesses (1.3 percent) had data for a sample representative of all official trails (see Table 3). Seventeen wildernesses (2.7 percent) had data for social trails that develop informally as a result of user traffic.

Trail condition data can be collected using either a census or sampling-based approach (Leung and Marion 2000). In 14 of the wildernesses with trail information, photopoints were all that was available (see Table 3). In another 15 wildernesses, condition class ratings were assigned to trails, but no measures were taken. In the remaining wildernesses with trail data, measures of trail condition were taken. In 22 wildernesses, measures of the spatial extent of impact (e.g., the number of occurrences of erosion or the length of trail with muddiness problems) had been taken. Measures of the severity of impact (e.g., trail depth) had been taken in 24 wildernesses.

Table 2—Number (%) of Wildernesses with Baseline Campsite Data of Various Types.

Sample Type		
All campsites in the entire wilderness	234	(37%)
All campsites in a portion of but not the entire wilderness	22	(4%)
Only a sample of sites representative of the entire wilderness	32	(5%)
Only a sample of a particular type of campsite	29	(5%)
Only an opportunistic sample of campsites	9	(1%)
Data Characteristics		
Detailed measures	116	(18%)
Categorical ratings or quick measures but not detailed measures	150	(24%)
Condition class ratings but no individual impact parameters	12	(2%)
Photopoints but no quantitative data	12	(2%)
Only locations of campsites	31	(5%)

Table 3—Number (%) of Wildernesses with Baseline Trail Data of Various Types.

Sample Type		
All official trails in the entire wilderness	26	(4%)
All official trails in a portion but not the entire wilderness	5	(1%)
Only a sample of trails representative of all trails	8	(1%)
Only a sample of a particular type of trail	14	(2%)
Only an opportunistic sample of trails	4	(1%)
Data collected on social (user-built) trails	17	(3%)
Data Characteristics		
Data on impact severity	24	(4%)
Data on spatial extent of impact	22	(4%)
Condition class ratings but not any measures	15	(2%)
Photopoints but no quantitative data	14	(2%)

The earliest reported data on trail condition were photopoints taken in the 1960s on problem trail segments in the North Absaroka and Washakie Wildernesses. The earliest measures of trail condition were collected in the early 1970s on selected trail segments in the Lee Metcalf (Dale 1973) and Selway-Bitterroot (Helgath 1974) Wildernesses. The first survey of trails across an entire wilderness was also conducted in the early 1970s in the Yosemite Wilderness. In 11 wildernesses (1.8 percent of the NWPS), some baseline trail data had been collected prior to 1980 (see Figure 2). By 1990, baseline trail data had been collected in 23 wildernesses (3.7 percent of the NWPS); this increased to 56 wildernesses (9 percent of the NWPS) by 2000.

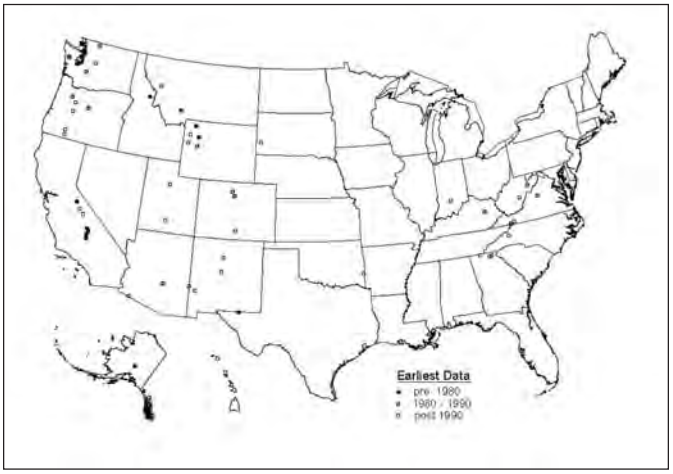

Figure 2—Location of wilderness trail studies (Cole and Wright 2003).

Wilderness Visitor Characteristics Data

Although about one-quarter of the 628 wildernesses in the NWPS in 2000 had some type of baseline data on visitor characteristics, only 17 percent (107 wildernesses) had data representative of the entire wilderness (see Table 4). Another 3 percent had data for all the visitors in a portion of the wilderness. In most of the wildernesses with baseline visitor data, only main season visitors were included in studies. Information on off-season users was available for 47 wildernesses. In most visitor studies, all of the common modes of travel that occur in that wilderness were included. Hikers, visitors traveling with pack stock, and water-based users were included in studies conducted in 135, 95, and 14 wildernesses, respectively. Occasionally, visitor studies focus on either day visitors or, more commonly, overnight visitors. Consequently, overnight users were included in studies in 130 wildernesses, and day visitors were included in studies in 125 wildernesses.

Many of these visitor studies have been conducted by academic institutions rather than management agencies. Results of such studies are often carefully analyzed and reported, and written reports are available for 373 (93 percent) of visitor studies. However, the original data often are not carefully archived. With only a few exceptions, the data from these studies have not been stored in electronic format nor copies filed at a management agency facility.

The earliest data on wilderness visitors were collected in the late 1950s in the Boundary Waters Canoe Area Wilderness (Taves et al. 1960). In 1960, data were collected in the Bob Marshall, John Muir, and Gila Wildernesses (Wildland Research Center 1962). In 42 wildernesses (7 percent of the NWPS), some baseline data on wilderness visitors had been collected prior to 1980 (see Figure 3). By 1990, baseline campsite data had been collected in 59 wildernesses (10 percent of the NWPS), and this increased to 148 wildernesses (24 percent of the NWPS) by 2000.

Conclusion

About one-half of the wildernesses in the NWPS have no baseline data of any type regarding recreational visitors and their impacts. In these wildernesses, management programs are being implemented with minimal understanding of current conditions and trends and without the data necessary to evaluate the success of management. The protection of something as valuable and vulnerable as wilderness character is unlikely under these circumstances.

The paucity of baseline recreation data also indicates the high value that should be attached to whatever baseline data do exist. These data represent all the information we will ever have regarding recreational conditions in the NWPS in the twentieth century. Although some of the data have been carefully archived, most are stored on paper files in ranger stations where they are vulnerable to loss. Data collected by professors and graduate students, stored in electronic files and reported in theses and papers, is also being lost. Every effort should be made to ensure that these data and whatever documentation is necessary to facilitate their replication and interpretation are archived in such a manner that they will be preserved in perpetuity. We hope that this survey will (1) help managers of wildernesses without such data better meet their monitoring responsibilities and (2) facilitate future studies that seek to replicate early studies in order to gain insight into trends across the NWPS. Extensive information on available data for each wilderness in the NWPS can be found in Cole and Wright (2003) and in a searchable database located on the Internet (http://leopold.wilderness.net/links.htm).

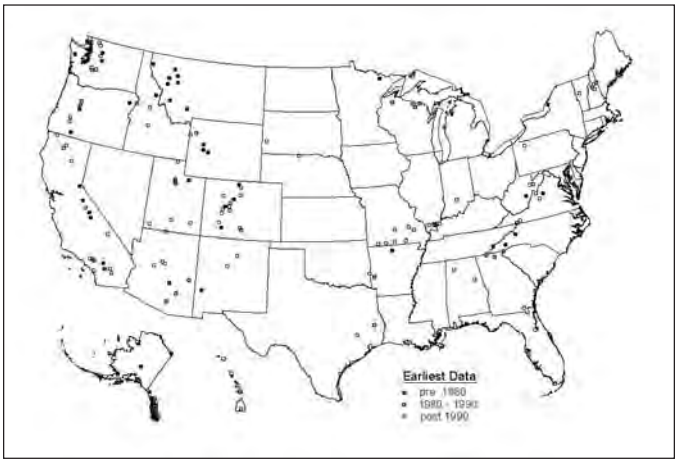

Figure 3—Location of wilderness visitor studies (Cole and Wright 2003).

Acknowledgments

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Table 4—Number (%) of Wildernesses with Baseline Visitor Characteristic Data of Various Types.

Sample Type		
Visitors to the entire wilderness	107	(17%)
Visitors to a portion but not the entire wilderness	18	(3%)
Only an opportunistic sample of visitors	23	(4%)
Data Characteristics		
Main season visitors included	139	(22%)
Off-season visitors included	47	(7%)
Hikers included	135	(21%)
Stock users included	95	(15%)
Water-based users included	14	(2%)
Day visitors included	125	(20%)
Overnight visitors included	130	(21%)

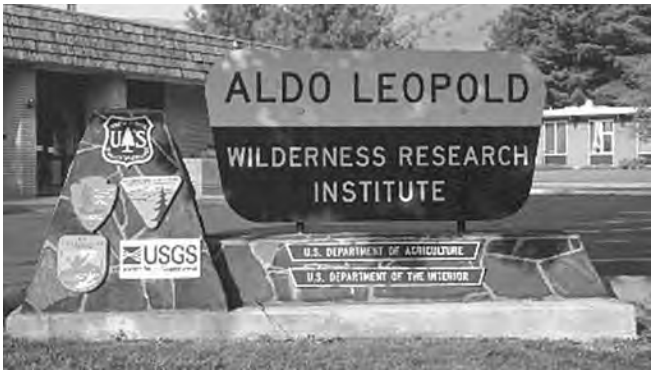
PERSPECTIVES FROM THE
ALDO LEOPOLD WILDERNESS RESEARCH INSTITUTE

Mapping the United States National Wilderness Preservation System

BY DAVE SPILDIE

A new map of the National Wilderness Preservation System (NWPS) will be published in 2004 to commemorate the 40th anniversary of the 1964 U.S. Wilderness Act. This map will be an excellent source of wilderness information for the public as well as wilderness management agencies. This article briefly explains the history of U.S. wilderness maps and the collaborative partnerships instrumental in developing and publishing them.

The U.S. Geological Survey (USGS) published the first standardized map of the NWPS in 1987. This map showed NWPS areas in the coterminous United States on the front, with Alaska and Hawaii on the back. The back of the map also included general information on each congressionally designated wilderness area. The color of the wilderness showed which of the four federal agencies administered the wilderness. In 1989, The Wilderness Society published a NWPS map commemorating the 25th anniversary of The Wilderness Act. This map showed wildernesses by agency, with Alaska and Hawaii inset below the coterminous United States. The reverse side listed acreage, year of proclamation, and administrative information for each wilderness. To commemorate the 35th anniversary of The Wilderness Act, The Wilderness Society, Trails Illustrated of National Geographic maps, and the USDA Forest Service—the Aldo Leopold Wilderness Research Institute (ALWRI) and the Arthur Carhart National Wilderness Training Center (ACNWTC)—collaborated to update the Wilderness Society map. This new map retained the appearance and size of the previous map but included general information on wilderness within the map border.



September 2004 marks the 40th Anniversary of The Wilderness Act, and various summits and celebrations are planned to herald this landmark for wilderness. The NWPS map is again being revised and will be available to the public for this occasion. A collaborative agreement has been reached with the USGS National Atlas of the United States program to publish this map of wilderness areas. For the first time, the new wilderness map will show Alaska and Hawaii at the same projection as the coterminous United States on the front side of the publication. This is an important change since 54 percent of the NWPS is in Alaska. Insets will describe the history and development of the wilderness system, and the back of the map will include a table showing acreage, year of proclamation, and administrative unit for each wilderness. A collage of images, text, and graphs will provide additional information. The large format (42 inches by 46 inches) will allow the map to be published at 1 : 5,000,000 scale, giving

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Wilderness-Related Courses in Natural Resource Programs at U.S. Colleges and Universities

BY CHAD P. DAWSON and JOHN C. HENDEE

Introduction

The National Wilderness Presentation System (NWPS) has grown to 106 million acres since passage of The Wilderness Act in 1964 (P.L. 88-577). Wilderness now covers over 4.5 percent of the U.S. land area and is managed by four federal agencies—Forest Service, National Park Service, Bureau of Land Management, and the Fish and Wildlife Service. Their agency professionals are challenged to provide good wilderness stewardship, including management for a wide array of public benefits and values. The challenge is difficult as increasing numbers of recreation visitors and other wilderness users may be competing with each other for access or creating conflicts between their different activities and experiences.

The increased size and use of the NWPS, and its importance in providing public benefits and values, challenges institutions of higher learning to provide training, information, skills, and leadership pertinent to wilderness-related management and use. Also, it challenges them to create a broader appreciation and understanding of the value of such protected areas in response to growing societal interest in the environment and protecting functioning ecosystems. But the declining number of forestry and natural resources management programs and enrollment nationwide raises questions about whether there has been a similar decline in the number of wilderness-related courses and enrollment in these courses. Thus, we addressed these questions with a nationwide survey of wilderness-related courses for comparison with a similar survey conducted nearly two decades earlier.

A prior survey of wilderness-related courses for natural resource professionals done in 1983–1984 revealed the number of courses being taught at colleges and universities across the United States. (Hendee and Roggenbuck 1984). This survey covered colleges and universities with forestry programs, but it also sought out wilderness-related courses in such departments as biology, recreation, and liberal arts programs. We conducted a follow-up survey of forestry and natural resources management programs at U.S. colleges and universities in 2002 to see if there had been changes in the number of courses and enrollment since 1983–1984 and to assess what publications and materials were being used to support these courses.

Methods

The intent of this study was primarily to contact those U.S. colleges and universities that had programs in forestry and natural

Figure 1—Students start backpacking on a three-day class field trip in an Adirondack State Wilderness Area, New York. Photo by Chad Dawson.

Figure 2—College class field trips can be experienced by all means of travel, such as by canoe on a wilderness lake in northern New York. Photo by Chad Dawson.

resources. We identified programs to survey using two approaches.

First, we obtained a list of all institutions in the National Association of Professional Forestry Schools and Colleges and then supplemented that list with an Internet search of colleges and universities that listed related programs (i.e., searches on key words like *forestry, natural resources,* and so forth). This combined search identified a total of 178 colleges and university programs to survey after duplicates were removed. Leaders in each relevant program identified at each college or university were then sent a letter explaining the purpose of the study along with a questionnaire to be filled out by faculty in that program who taught wilderness-related courses. A stamped, self-addressed envelope was included with the questionnaire.

In a second approach to confirm the completeness of the population of programs to be surveyed, we obtained lists of all members of the Society of American Foresters Wilderness Working Group (SAF) and all U.S. subscribers to the *IJW.* Subscribers from government agencies were removed, as were names that appeared in both the SAF and *IJW* lists. This process resulted in a list of 136 individuals, each of whom was sent a letter of explanation and a questionnaire with a stamped, self-addressed envelope. Recipients were instructed to complete the questionaire if it applied to them as teacher of a wilderness-related course and if they had not received one previously, or to return it with a note that they had already received the survey from their college/university program leader.

Up to two reminder letters were sent to increase response by everyone identified to receive a questionaire by either approach, and all returned surveys were compared to ensure there were no duplicate responses.

Results and Discussion

A combined total of 77 completed questionnaires were returned from persons saying they or someone in their program taught a wilderness-related course. There were no survey respondents from any college or university program not included among the original 178 programs first identified. The 77 respondents represented 58 programs, and, thus, we concluded that our response rate was 33 percent of those 178 programs. This means that one-third of the programs surveyed (probably one-third of all forestry or natural resource programs in the nation) taught at least one wilderness-related course in 2001–2002.

Thirty-nine respondents (representing 28 programs) reported that their institution taught a wilderness management course, and 57 respondents (representing 46 programs) reported that a course in other wilderness topics (e.g., wilderness recreation, policy, planning) was taught. Respondents representing 41 programs reported that their institution's primary wilderness-related course (either wilderness management or another course) was taught once a year; respondents representing two programs reported that such a course was taught twice a year. Respondents representing eight programs reported an alternate-year teaching schedule for a wilderness course. Respondents reported that 42 courses spent one or more days on a field trip in a state or federally designated wilderness and that 27 courses took field trips of three or more days. Respondents reported that 36 programs were teaching a wilderness-related course that was required in their curriculum.

The 2002 study respondents reported about 30 percent less enrollment in the 2001–2002 primary wilderness-related courses than did respondents in 1982–1983 (see Table 1), but they more often reported a higher percentage of stable or increasing enrollment trends than did the respondents in the 1982–1983 survey (see Table 2).

The course objectives that were ranked first and second for the primary wilderness-related course in 2002 most often were (1) wilderness use, appreciation, enjoyment, and skills; (2) wilderness legislation, policy, designation, and economics; and (3)

Table 1—Total Reported Enrollment in Primary Wilderness Courses in the 1984 and 2002 Studies.

Year	Number of Students
1981–1982	2,561
1982–1983	2,240
2000–2001	1,667
2001–2002	1,547

Table 2—Five-Year Trends in Course Enrollment Estimated by Instructors in the 1984 and 2002 Studies.

Trend	1984 Study (%)	2002 Study (%)
Increasing	8	19
Stable	44	69
Decreasing	48	12

Table 3—First and Second Course Objective for Primary Wilderness Course in 2002.

Objective	First (%)	Second (%)
Use and appreciation	29	22
Legislation and policy	23	30
Protection and management	18	17
History	16	17
Natural ecosystems	7	7
Environmental education	5	2
Other (e.g., recreation, wildlife, leadership)	5	5

wilderness protection and management (see Table 3). These were the same three top-rated objectives in the earlier survey but with the second and third categories in reverse order. Thus, *wilderness course objectives appear to have become more balanced between appreciation and use and legislation/protection and management since 1984.*

The most useful educational resources in teaching wilderness-related courses were reported by respondents as journals (60 percent); books and publications (45 percent); case studies, handouts, and readers (43 percent); websites (40 percent); films (35 percent); field trips (13 percent); and slide sets (10 percent). The textbook used most often in wilderness-related courses were Hendee, Stankey, and Lucas (1990) (42 percent); Nash (1982) (25 percent); Hammitt and Cole (1998) (13 percent); and other books (65 percent), including 31 different books each used by only a few instructors. New resources identified by respondents as needed to supplement or update existing resources were new books and printed publications on wilderness topics (37 percent); case studies about wilderness management (12 percent); maps and spatial information (5 percent); films and videotapes (3 percent); journals (3 percent); and books of readings on wilderness issues (3 percent).

Conclusions

Wilderness-related courses appear to have a solid and continuing place in forestry and natural resource higher education programs. From comparison with the Hendee and Roggenbuck (1984) survey, it appears that the number of wilderness-related courses offered (46 in 2002 and 64 in 1983) and their enrollment (1,547 in 2002 and 2,240 in 1983) has declined about 30 percent since the 1984 study, although current enrollments were more often reported as stable or increasing. Total forestry/natural resource college program enrollments in the United States have been declining since the mid-1990s, and it appears from the limited information available that *wilderness course enrollments are not declining at a greater rate than overall forestry/natural resource program enrollments.*

Furthermore, numerous respondent letters and comments in the 2002 survey noted that some academic programs had dropped separate wilderness-related courses and added wilderness topics and issues into other forestry, natural resources, and recreation management courses. This suggests that, in those programs, wilderness education has been integrated into the broader forestry/natural resources curricula.

Finally, survey findings and additional comments suggest that additional wilderness-related publications and updates are needed on such subjects as the ecological impacts of recreation use, diversity of visitor use types and interests, human values and benefits, ecosystems management, and wilderness visitor education and information programs and techniques. Some respondents suggested that course "readers" compiled from published journal articles, government documents, and textbook chapters

Figure 3—Students often develop a lifelong interest in wilderness issues. Here, visitors are taking time to experience the wilderness setting over Goose Lake in the Absaroka-Beartooth Wilderness, Montana. Photo by Lisa Eidson, U.S. Forest Service.

would be valuable, and instructor manuals for existing textbooks (e.g., Hendee and Dawson 2002) with reading supplements from the *IJW* would be useful. Case studies of planning and management successes were suggested for subjects such as wilderness planning for increasing visitor demand, conflicts between visitor use types and special interest groups, fire ecology and management, and stewardship of wilderness conditions and resources.

Given the growing number of college outdoor clubs, plus hundreds of wilderness experience programs such as Outward Bound and others aimed at outdoor experiential education, and the well-documented link between wilderness visitation, higher education, and environmental group membership, *we expect that wilderness course enrollments will remain strong and provide important educational support for many people headed for lifelong involvement and interest in wilderness issues.* The findings of this survey, and its comparison with the survey by Hendee and Roggenbuck (1984) almost 20 years earlier, suggest fewer wilderness-related courses and students now, but wilderness-related courses continue to be taught in one-third of U.S. college and university forestry or natural resource programs, and incorporation of wilderness topics into other courses may be accompanying the downsizing of natural resource curriculum in response to decreased enrollment and budgets.

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a clearer picture of the spatial extent and boundaries of each wilderness.

Along with development of the hardcopy map, a collaborative agreement has allowed posting the boundaries of each wilderness digitally on the USGS National Atlas website. The boundaries are available for download as a separate layer through the Map Layers Data Warehouse in two digital formats with supporting metadata (http://www.nationalatlas.gov/wildrnm.html). This layer provides wilderness boundary data for Geographic Information System (GIS) analysis and display.

The efforts of numerous partners have made publication of this new map possible. The USGS National Atlas is responsible for the cartography and printing, and a committee of wilderness experts from the National Park Service, The Wilderness Society, and the Campaign for America's Wilderness are crafting the text. A graphic artist from the USGS Geology Division is designing the wilderness collage. Staff from ALWRI and ACNWTC are compiling photos and images of wilderness areas. The director of ACNWTC is responsible for securing funding, and the GIS coordinator from ALWRI has developed the wilderness boundaries and is the project supervisor. Integration of these disciplines ensures a compelling vision for the 40th Anniversary of the 1964 Wilderness Act.

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Wilderness, although global in scale, tends to focus on tropical biomes, reflecting Conservation International's and Agrupación Sierra Madre's interest in tropical biodiversity. However, one of the joys of reading through this book is the opportunity to discover "new" wilderness areas around the world—for example, I was unfamiliar with the Pantanal region, the world's largest contiguous wetland (at 220,000 km^2 or 84,942 sq miles) along the border of Brazil, Paraguay, and Bolivia.

Although this is an extremely impressive book, I had a few minor concerns. The aforementioned imbalance in terms of textual information on many of the nontropical wilderness areas was slightly off-putting. The focus on species-level as opposed to ecological process-based indicators was also

Continued on page 38

Naropa University Launches Wilderness Therapy Symposium Series

BY SUZANNE CASWELL and ROB MELTZER

September 26–28, 2003, Naropa University in Boulder, Colorado, hosted its first annual Wilderness Therapy Symposium. This interactive conference brought audience and presenters together in dialogue about wilderness therapy's varied methodologies, practices, missions, and outcomes.

The use of wilderness for therapeutic purposes is growing. Although research demonstrates the efficacy of wilderness therapy, the field continues to remain on the fringes of traditional health care. Dialogue and discussion are needed on issues ranging from the definition of wilderness and its sustainability for therapeutic uses, to expected levels of staff training and expertise, to issues of safety and ethics—to name just a few.

Naropa's Wilderness Therapy Symposium sought to advance the field with presentations, discussion, self-examination, and networking. The symposium drew participants from the fields of wilderness and adventure therapy, eco-psychology, clinical psychology, and contemplative practice. It was the first public event sponsored by the faculty and students of Naropa University's Wilderness Therapy program, which offers training in outdoor skills and therapeutic practice toward a master's degree in transpersonal psychology.

Symposium Events

Symposium organizer Rob Meltzer opened the event Friday evening by inviting participants to consider their roles and opportunities in the growing field of wilderness therapy.

The keynote address by writer and wilderness advocate Gary Ferguson, author of *Shouting at the Sky* (1999), drew on images from mythology, history, and narrative psychology, emphasizing that the human-nature relationship is the most definitive factor in our culture's identity. Institutions rather than myth and tradition, he suggested, define our current identity. He offered two antidotes to this dilemma: the use of story and myth as tools to help individuals find their voices, and the use of ritual to "ground" the individual's voice in a cultural and historical context.

Article co-authors Suzanne Caswell and Rob Meltzer.

Saturday's sessions included interactive dialogue. L. Jay Mitchell and Mike Beswick of Alldredge Academy led Hidden Presuppositions: Demonstrations of an Integrated Model to Heal Trauma in which they asked clinicians to identify their theoretical model and uncover underlying assumptions of their beliefs about therapy and its relationship to human lives. Whereas many programs define their therapeutic approach as "eclectic," Mitchell and Beswick urged more specific approaches. "To believe in everything is to believe in nothing," and it is clarity of purpose, Mitchell and Beswick suggested, that leads to clear and effective outcomes in therapy.

Lavoy Talbot of Aspen Achievement Academy led a session entitled Jumping Mouse and the Sacred Mountain, guiding participants through an interactive study of this Plains Indians story, identifying its cross-cultural application to daily life.

Figure 1—Roger Strachan leads an experiential gestalt therapy session with the symposium participants. Photo courtesy of Naropa University.

Laura Tyson of the Women's Wilderness Institute presented a model grounded in women's psychology and development that challenged traditional approaches to outdoor education.

Matt Hoag of Second Nature Wilderness Program offered practical advice in his workshop entitled A Day in the Life of a Wilderness Therapist: Developing a Sustainable Career.

Deb Piranian, director of the Wilderness Therapy program at Naropa, presented the benefits of contemplative practice in the backcountry, including its use as a self-care technique for therapists as well as an aid to clients' healing.

Keith Russell of the University of Idaho Wilderness Research Center (now at University of New Hampshire), a recognized author-researcher on wilderness therapy outcomes, presented results from a two-year follow-up study of graduates from wilderness therapy programs.

Additional workshops on rites of passage, risk management, eco-therapy, multicultural issues, addictions, trauma, art and music therapy, family therapy, and mythology rounded out the afternoon.

Saturday evening's speakers included Bill Plotkin of Animas Valley Institute, whose presentation of poetry, myth, and selections from his newest book, *Soulcraft: Crossing into the Mysteries of Nature and Psyche* (2003), called on the audience to live their lives in the spirit of the mythological hero's journey. "To save your own life," he emphasized, "is the greatest gift you can give to others." Deborah Bowman, director of Naropa's Department of Transpersonal Counseling Psychology, invited the audience to consider their own journeys to health through experience of music and selections from the *Tao Te Ching*.

Sunday featured several experiential workshops in natural areas surrounding the city of Boulder including, but not limited to, the following: Rick Medrick offered a workshop on "centered climbing," which he called a "Taoist approach to rock climbing." Dennis Thompson and Lavoy Talbot offered practice in the therapeutic use of primitive skills, including the construction of a bow drill set for fire starting. Duey Freeman and Dave Ventigmilia of the Gestalt Institute of the Rockies demonstrated the importance of attachment with the natural world in the therapeutic process.

Joanna Bettmann, Norman Elizondo, and Aaron Fernandes of Aspen Achievement Academy provided experience in a rites of passage model and techniques for including such a model in various treatment settings.

Roger Strachan of Wilderness Encounters, in a workshop on therapeutic interventions in the natural world, guided simulations of real interventions he has facilitated in backcountry settings (see Figure 1). Deborah Bowman led a contemplative hike, offering practical ideas in meditative awareness in therapeutic work.

Conclusion

In the end, participants left with more appreciation for the importance of sharing and collaboration in the diverse expertise of wilderness therapy. This growing use of wilderness offers another critical reason to preserve wild places. The symposium and Naropa's intention to make it an annual event are steps to enhance the sharing of expertise and a spirit of collaboration among healing practitioners and guides using the natural world in their work.

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unfortunate. It was also somewhat surprising that the temperate rain forests of New Zealand were omitted—the Te Wahipounamu World Heritage Site alone seems to meet all the criteria requirements. The occasional cited source was not in the reference list, and not all maps were completely correct (e.g., on page 183, Kruger National Park has moved from South Africa to Mozambique). However, these minor problems don't take away from the vast scope and valuable contribution this book makes to wilderness conservation. Indeed, given the size of this book it is a "weighty" tome in more ways than one!

The organizations responsible for this book have provided an incredibly valuable service to wilderness supporters throughout the world. This book ably provides a snapshot of the characteristics and threats faced by the Earth's remaining wilderness areas, documents and illustrates the incredible beauty and fragility of these areas, and provides a powerful clarion call for their preservation. This book is an essential for all global wilderness enthusiasts.

Review by JOHN SHULTIS

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8th WORLD WILDERNESS CONGRESS

30 SEPTEMBER - 6 OCTOBER 2005 ANCHORAGE, ALASKA

Preliminary Announcement

BY VANCE G. MARTIN

Initiated by The WILD Foundation in 1977, the World Wilderness Congress (WWC) is now the longest-running, public, international environmental forum. With over 25 years of conservation achievement, the WWC has become a high-profile platform for debating and acting on complex wilderness and wildlands issues (www.worldwilderness.org).

From business to politics, and science to culture, WWCs include concerned citizens and senior-level representation from governments, the private sector, native peoples, non-profit organizations, and academia, and are carefully designed to bring together the full spectrum of wilderness-related views. This broad participation, combined with open and balanced debate, generates practical conservation outcomes, enhances public understanding, and honors the spirit of wild nature.

The WWC convenes every three to four years around the world, and is always focused on wilderness and people. Previous Congresses have met in South Africa, Australia, Scotland, the USA, Norway and India. The 8th WWC will be held in Anchorage, Alaska, 30 September—6 October 2005, with associated events in Kamchatka and the Russian Far East. Approximately 1,000 delegates from over 40 nations will attend.

Figure 1—Transportation in Alaska was historically dependent on dog sledding, and it is still practiced today. Photo by Vance Martin.

Theme

The theme of the 8th WWC is *Wilderness, Wildlands and People—A Partnership for the Planet*. This Congress will generate up-to-date and accurate information on the benefits of wilderness and wildlands to contemporary and traditional societies, and will review the best models for balancing wildlands conservation with human needs.

The 8th WWC will include delegates from around the world, and the models, projects, data and analyses presented will be global in scope. This Congress will also have a special focus on the wilderness, wildlands, and marine resources of Alaska, Siberia, Canada, and the North Pacific, and will mark the first time that WWC events are held in Russia.

Program

The 8th WWC's Executive Committee is conducting an extensive consultation process to identify realistic and measurable objectives for this Congress. The Congress will be focused on, and carefully structured to achieve these outcomes. At the same time, the 8th WWC is designed to be a memorable and enjoyable event with a superb cultural program, tours, and other associated events. Autumn is an ideal time to be in South-central Alaska, with warm days, cool nights and dazzling fall colors. We look forward to a productive week of working for wilderness, wildlands and people in this spectacular setting.

Figure 2—Sea otters are available for viewing along the wild shoreline of Alaska. Photo by Vance Martin.

Technical Working Sessions

- Global Review of Wilderness—Identifying Areas and Gaps, Policies and Services.
- Mega Wilderness—The Largest Remaining Wilderness Areas.
- Wildlands Connectivity, Restoration and Sustainability.
- Powering the Future—Energy Policy and Wildlands Conservation.
- Wild Salmon—From Watersheds to the High Seas.
- Native Peoples and Wilderness—Traditional and Contemporary Philosophy, Practice and Models.
- Climate Change—How so, what if, and where to.
- New Private Sector Wilderness Initiatives—Corporate, Foundation, and Individual.
- A Future for the Forests—Boreal, Tropical, and Temperate.

Figure 3—The 8th WWC will convene in Alaska, and as always will present issues of global concern, plus matters pertinent to Alaska, Canada, Russia and the North Pacific. Photo by C. Mittermeier.

- The Wild Planet Project—The state-of-the-art social, economic, biological, and policy information on wilderness values and benefits.

Structure

- Plenary Sessions, Scientific Symposia, Technical Meetings, Public Workshops.
- Capacity Building Workshops—Specialized training for conservation professionals and NGOs.
- A Cultural Panorama—Wild Nature in Traditional & Contemporary Society—Stories, music, dance, art, photography, nature writing, and films.
- Wild Expo—A public exposition presenting all aspects of using and experiencing wilderness and wildlands.
- Pre and post tours of Alaska.

The technical symposia and working sessions will be organized collaboratively with the Wild Planet Project (WPP), an ongoing project recently launched by The WILD Foundation through the Wilderness Task Force of the IUCN. The mission of the WPP is to coordinate, present, and keep updated the best information for wilderness and wildlands protection and sustainability, and the related benefits to human communities.

More information

For more information and to register visit www.8wwc.org; for the technical program contact Alan Watson (awatson@fs.fed.us); for the Wild Planet Project, contact cyril@wild.org; for general information contact the 8th WWC Secretariat at The WILD Foundation, info@8wwc.org.

VANCE MARTIN, president, the WILD Foundation, vance@wild.org.

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Making Parks Work: Strategies for Preserving Tropical Nature

Edited by John Terborgh, Carel van Schaik, Lisa Davenport, and Madhu Rao. 2002. Island Press, Covelo, Calif. 512 pp., $32.50 (paper).

The difficulties of protecting wilderness through the establishment of protected areas in developing nations are well known. Originally, the exclusionary model of protected areas—where human residence was disallowed and local peoples were often displaced by force—was utilized, but it soon became clear that this Western model was inappropriate in non-Western nations.

By the 1990s, the pendulum had shifted to a more inclusionary model, and the principle that local support was critical to the continued existence of protected areas became the dominant park creation and management directive. More specifically, the idea that protected areas must provide tangible (i.e., economic) benefits beyond boundaries to surrounding communities was championed by international research and funding agencies (e.g., IUCN, World Wildlife Fund). Combining with the existing concept of sustainable development, the creation of protected areas became closely linked with sustainable park use; local communities would be allowed to extract resources from and even inhabit protected areas while maintaining biodiversity objectives.

In the last 10 years, these community-based conservation (CBC) or integrated conservation and development projects (ICDP) have become the new model for international conservation efforts. However, it remains unclear whether this new model truly achieves the biodiversity and ecological objectives traditionally associated with protected areas. Terborgh and his colleagues

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The End of the Road

The Darien Jungle

BY HAVEN COOK

The Darien Jungle

In a remote corner of the world, a wild place is still intact because of war. In this global village called Earth, there's one part of town that has everything you could want. The tiny country of Panama has tropical beaches, rain-forest jungles, coffee-growing mountains, and, of course, one humdinger of a canal. It also has one of the world's most natural, remote, and dangerous wild areas—the Darien jungle.

Panama itself is a bridge between the continents of North and South America, leading Smithsonian scientists to rate it as one of the top 10 areas in the world for abundance of flora and fauna. Biologically, the country acts as a funnel for migratory species traveling between the continents, resulting in over 900 bird species being identified in Panama (PANAM 2003). On the eastern end of the country, bordering Colombia, is the wild 6,435 square mile (16,671 sq km) Darien jungle (see Figure 1).

The Darien jungle is a dense, triple-canopy rain forest along four mountain ranges that grade into palm forest swamps, then into mangroves, marshes, rocky coasts, and beaches. It is home to the harpy eagle, howler monkeys, jaguars, caimans, giant anteaters, tapirs and peccaries, coatimundis, and the deadly fer-de-lance, as well as about 60 bird species found only in that area.

The Darien jungle may also be the only thing standing in the way of the fragmentation, deforestation, and development that a paved highway can bring. The Pan-American Highway stretches 19,000 miles (30,600 km) from Alaska to Chile, except for about 93 miles (150 km) of the Darien jungle. Known as the Darien Gap, it's the only thing that prevents the two continents from having a land-based transportation corridor.

In a sense, the highway did once go through the Darien Gap. In 1960, a successful attempt was made to cut a path through the jungle for two 4-wheel drive vehicles. The journey, chronicled by *National Geographic* magazine, took almost 5 months to travel what was then a 184-mile (297-km) gap, making 180 river crossings in the process. Today, it is an arduous, risky hiking trek through bandit territory. The rough and watery terrain makes road building an engineering challenging, but the government of Panama is still considering completing the highway and closing the gap.

Article author Haven Cook at Jardin Ecologique in Panama.

There was a time when a road through the Darien was the last thing the government of Panama wanted. Thirty years ago, hoof-and-mouth disease was a serious problem in Colombia and Panamanian officials feared it would spread into their country. In 1980, the Parque Nacional Darien was created, functioning as a natural barrier to transmission of the disease. Colombia followed suit by extending the boundaries of adjacent Parque Nacional Los Katios, resulting in a transboundary wilderness between the two countries. Interestingly, Panama also has a transboundary wilderness on its western border with Costa Rica—the Parque Internacional La Amistad, a 1,005,290 acre (407,000 ha) park, with territory in both Panama and Costa Rica.

By 1991, hoof-and-mouth disease had been declared eradicated and efforts were revived to get funding to complete the highway. A completed Pan-American Highway would stimulate commerce and travel between Panama and Colombia, bring infrastructure and services to impoverished Indian villages in the Darien, open up the rain forest to forest utilization and ranching, and encourage settlement. Even some of the region's indigenous Indians believe the highway would bring economic opportunity and make travel less costly. In 1999, the Inter-American Development Bank (IDB) gave Panama an $88 million loan for

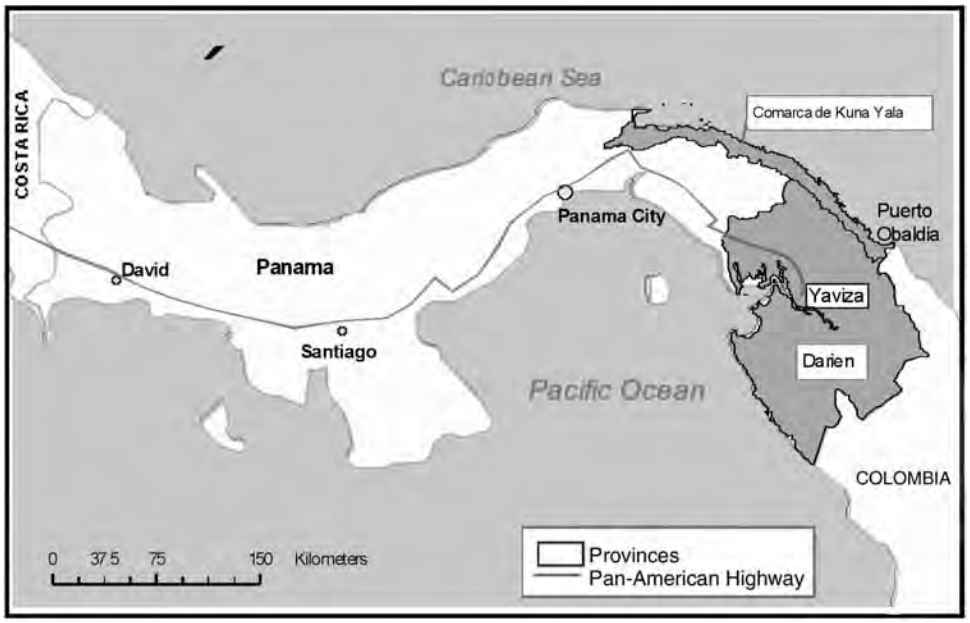

Figure 1—The Darien Jungle in Panama.

Figure 2—Trekking in the Darien. Photo by Fabrice De Clerck.

development projects, including the highway, in the Darien province. Unfortunately, a paved highway through this tropical rain forest may only bring deforestation and environmental destruction on a scale equal to that in the state of Rondonia, Brazil. One can look at satellite images of Rondonia to see the herringbone pattern of massive deforestation brought on by putting a highway into the heart of the Amazon rain forest.

National Park Status Is No Guarantee

The fact that 1,422,720 acres (576,000 ha) of the jungle are in the Parque Nacional Darien may not prevent the effort to pave paradise. The government of Panama is currently constructing a road through the Parque Internacional La Amistad so that 4-wheel drive tours can reach the top of Cerro Punta more easily and has proposed plans to cut a traffic-relieving connector highway through the Parque Natural Metropolitano, a 654-acre (265-ha) snippet of wildness within the limits of Panama City. The Parque Natural Metropolitano, already carved up by the Avenida Juan Pablo II and the Corredor Norte, would only suffer more fragmentation if a new highway cuts through it. Fledgling environmental organizations and conservation groups in Panama have had only moderate success in influencing Panamanian politics. Unfortunately, national park status is no guarantee of protection. Many environmentalists fear that as soon as the government can secure funding, mainly from international aid organizations, paving will begin in the Parque Natural Metropolitano as well as in the Darien.

Others like Helena Lombardo, the advisor for external affairs at the Smithsonian's Tropical Research Institute (STRI), say completing the highway isn't even in the foreseeable future. "Of greatest concern right now," she says, "is the very real threat of Colombian guerrillas" (pers. comm. 2003). While hoof-and-mouth disease and screwworm have potentially disastrous economic consequences, they can't compare with the threat to human life that Colombia's civil war has meant for Panama. Dr. Stanley Heckadon-Moreno, a senior STRI scientist, says the institute has banned its scientists from even traveling in the region (pers. comm. 2003). Research and development projects have trickled to almost nothing, and today only one nongovernmental organization, the Fondacion pro ninos de Darien is operating in the region. Asked about the $88 million IDB project, Lombardo says it was targeted for development/sustainability projects for the Darien, and some of it went to extend the highway to its present-day terminus at Yaviza.

Rebels fleeing from Colombian army forces have long crossed the border to hide in the dense jungle, but in recent years, Colombian forces have been pursuing the rebels and bringing their war to Panamanian soil (Loza and Jackson 1999). Thousands of Colombian refugees have fled into Panama over the years, many of them squatting and practicing slash-and-burn agriculture in the rain forest. The government of Panama now discourages tourists from visiting the Darien, although as late as 1995 they were still trying to market ecotourism in the Darien. But rebels, drug smugglers, paramilitary forces, and garden-variety bandits hold sway over the Darien, and tourists as well as local residents are victims of kidnappings, shootings, robberies, and

rapes. As fate would have it, Colombia's civil war is helping to preserve the Darien.

The Kuna Yala

Fortunately, there's another force in place to defend the wilderness: the Comarca of Kuna Yala. Roughly translated as "province" or "territorial limits," the Comarca contains about 911 square miles (2,360 sq km). The Kuna Yala Indians are indigenous to the coral islands off the Caribbean coast and a coastal strip of mainland Panama (including part of the Darien jungle) and have never allowed themselves to be subjected to rule by others (LaFranchi 1998). In 1938, they were granted legal status, including control over their tribal lands, by the Panamanian government. They are governed by a Kuna General Congress, with village leaders and delegates from Kuna communities and organizations.

The northern part of the Darien jungle is often referred to as the "Kuna Yala Wilderness," an idea strengthened in 1983 by the formation of the Study Project for the Management of the Wildlands of Kuna Yala, Panama (PEMASKY) (Chapin 2000). The project was funded at various times by the Inter-American Foundation, the World Wildlife Fund, the Smithsonian Tropical Research Institute, the U.S. Agency for International Development, the McArthur Foundation, and a Kuna workers' union, and it received technical aid from all these as well as the Tropical Agriculture Center for Research and Teaching, the Tropical Science Center, and many other nongovernmental organizations.

The original Kuna proposal was for the establishment of a 148,200-acre (60,000-ha) protected area of rain forest on the southern border of the Comarca. As early as the 1970s, some Kuna realized that the proposed Pan-American Highway would enter their territory, and their goal was to establish a presence in the territory and prevent encroachment by non-Indians and the government. The idea of an indigenous, autonomous people proposing to set aside virgin rain forest as a nature reserve struck a chord with conservation and development organizations around the world, and the Kuna Yala were hailed as independent, forward-thinking conservationists.

Many of the projects and activities in the PEMASKY management plan were never completed, but it did result in biological inventories of the flora, fauna, and ecosystems of the Comarca, environmental education programs for children, the initiation of young Kuna professionals in the concepts of conservation biology, and, most important, demarcation and protection of the Kuna Yala border. The emphasis on sustainable agricultural production has not translated into viable projects.

The pressures of development are evident in the region, and the Kuna are facing their own ecological challenges: deforestation on mid- to upper-slopes where spur roads have developed off the Pan-American Highway; encroachment by non-Indian settlers who move in and burn the logged areas to practice agriculture on the nutrient-poor soil; unmanaged, uncontrolled timber harvesting; soil erosion, sedimentation, and pollution of rivers; an influx of rebels, smugglers, and bandits reducing the ecotourism potential; the potential for the Panamanian government to allow gold mining within the Comarca border; and the poverty and malnourishment endemic to subsistence agriculture (Castillo 2002). The northern half of the Darien rain forest reflects a growing deforestation problem; some reports indicate roughly 123,500 acres (50,000 ha) a year are disappearing (World Rainforest Movement 2002).

The Kuna people, however, are astute businesspeople as well as a political force in their country. There are two Kuna Indians in Panama's National Congress, and the Kuna adamantly maintain their control over their homeland. The legacy of PEMASKY may be the environmental consciousness-raising that spurred the Kuna to develop natural resource management plans (Ventocilla et al. 1996) as well as a Strategic Plan for Eco-Tourism in the region (Eco-Index Project 2001). Implementing any management plan in the face of current threats may be impossible for the Kuna alone. If the highway is completed, environmental change could occur at a rate faster than they are able to develop their ability to manage and mitigate it.

Figure 3—Like the Kuna, the Embera people still maintain tradition. Photo courtesy of IPAT.

The Road to Protection

The Kuna will need to flex their political muscle if they hope to stop the completion of the Pan-American Highway. Building a strong scientific case for the negative impacts of such an enterprise may be difficult in a country

Figure 4—Hiking trail in the Panamanian jungle. Photo by Haven Cook.

Figure 5—Logging the Darien. Photo by Tom Kursar.

Figure 6—Where road meets jungle. Photo by Marcos Guerra.

where environmental laws are often flaunted by the government itself, but the fact that the Darien is a global hot spot for biodiversity is a starting point.

The Kuna will need to be able to articulate the reasons why the wilderness should be left untouched. The development of wilderness philosophy and its values and benefits is of interest to Panamanian conservationists. Perhaps Panama would be an excellent place to host an international conference to highlight the threats to wilderness and its biodiversity.

Also needed is for the environmental and conservation movement to gather strength in Panama. Roberto Bruno, Director of the Standards Lab of the Universidad Technologica de Panama and an environmental activist, sees the need to raise Panamanians' environmental awareness and reach a broader segment of the population. Environmental groups will need to develop better organizational and funding resources in order to effectively fight environmental battles and find ways to lobby and influence not only political decision makers in Panama, but multinational organizations that might be disposed to lend the government the roughly $200 to $300 million it would take to complete the road (Medina 1992). In the final analysis, it will be the Kuna people and conservation organizations that will lead the battle to protect the wilderness of the Darien, not the civil war from neighboring Colombia.

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flatly state that "the philosophical underpinnings of ICDPs are irreconcilable with the active protection of parks that comprehensive conservation requires" (p. xviii).

Making Parks Work reviews a number of ICDP case studies from around the tropical world and reviews the successes and failures of the ICDP model itself. What Terborgh et al. call "committed muddy-boots field researchers" are the people who write the vast majority of chapters in this section of the book; there is little academic philosophizing in this volume, although all the excruciatingly difficult moral and ethical issues inherent in this topic are well described. The following section analyzes the numerous challenges faced by parks in non-Western nations (e.g., monitoring and enforcing conservation, illegal logging/hunting, political instability and corruption, revenue sharing, overpopulation) and suggests various solutions based on these real-world experiences. The final section reviews the considerable lessons learned from the evaluation of all these case studies, noting that that both strict (i.e., traditional) and ICDP-type protected areas are needed, depending on various identifiable social, political, geographic, and ecological factors of each nation and proposed protected area.

The authors have admirably succeeded in creating a book that will be of considerable applied use to organizations and individuals involved in conservation and conservation-related development in non-Western nations. An excellent reference teeming with case studies from around the tropical world, Terborgh and his associates continue to challenge the sacred cow of ICDP in conservation and protected area discussions and challenge us to ensure that we create and manage protected areas that truly protect the Earth's fragile, fragmented wilderness.

Reviewed by JOHN SHULTIS

Announcements and Wilderness Calendar

COMPILED BY STEVE HOLLENHORST

40th Anniversary Wilderness Summit Canceled

The Wilderness Education and Stewardship Summit planned for this fall in Denver, Colorado has been canceled by the Bush administration until after the 2004 elections. Although wilderness legislation is largely bipartisan, the cancellation appears connected to an administration concern about the public perception of the administration's environmental record. For more information on other Wilderness Act 40th anniversary plans and activities, visit www.wilderness.net.

Bush Adminstration Paves Way for Logging in Tongass

On December 23, the Bush administration opened 300,000 more acres (121,457 ha) of Alaska's Tongass National Forest to possible logging or other development. The decision allows roads to be built within 3 percent of the forest's 9.3 million acres (3.8 million ha) put off-limits to road building by the Clinton administration. Imposed during President Clinton's final days in office, the rule had sought to protect 58.5 million acres (23.7 million ha) of remaining roadless areas located within the national forests. It was struck down in July by a federal district judge in Wyoming and currently is before the 10th U.S. Circuit Court of Appeals. A federal judge in Idaho blocked the roadless ban in May 2001, saying it needed to be amended, but that ruling was overturned last year by the 9th U.S. Circuit Court of Appeals.

Widespread opposition to undoing Tongass roadless protections was expressed last summer when the public sent more than a quarter of a million comments in opposition to the proposal. These comments followed more than 2 million comments supporting the roadless rule in response to prior notices. Forest Service officials said their decision "maintains the balance for roadless area protection" while still "providing opportunities for sustainable economic development" in the 16.8 million-acre (6.8-million ha) Tongass National Forest. "People in 32 communities within the Tongass National Forest depend on the forest for subsistence and social and economic health," officials said in a statement. "Most communities lack road and utility connections to other communities."

"The Bush administration has turned its back on the public, good science, and the law in its effort to clearcut the Tongass," said Tom Waldo, attorney for Earthjustice. "This is obviously a Christmas present from the Bush administration to the timber industry which wants the right to clearcut in America's greatest temperate rainforest." The Tongass National Forest already has over 5,000 miles (8,065 km) of roads crisscrossing it. "To remove Roadless Rule protection for the Tongass is akin to exempting Yellowstone from the National Park system. It makes no sense," said Martin Hayden, vice president of policy and legislation for Earthjustice in Washington, D.C. Source: Environmental News Network—www.enn.com/index.asp; Earthjustice—www.earthjustice.org/index.html.

Canadian Government Changes the Graham-Laurier Provincial Park

Legislative changes to the Parks and Protected Areas Act (Bill 84) removes an 11 km (6.8 mles) corridor of land from Graham-Laurier Provincial Park for oil and gas development. The corridor reduces the park by 1,036 hectares (2,559 acres) and allows for the construction of a road or pipeline through the park. "These legislative changes undermine the ecological values that led to the establishment of the park," noted Eva Riccius, ecosystem specialist for the Canadian Parks and Wilderness Society (CPAWS). "We are very concerned with the direction this government is taking on parks and protected areas."

Submit announcements and short news articles to STEVE HOLLENHORST, *IJW* Wilderness Digest editor. E-mail: stevenh@uidaho.edu.

Graham-Laurier Provincial Park is part of the Muskwa-Kechika Management Area, which took seven years, three public Land and Resource Management Processes (LRMP), and two legislative acts to create. "Dismantling the park is disrespectful to the rights of the Treaty 8 First Nations whose territory the park lies, and of the Kaska Dena Nation who supported the initial legislation," said Riccius. "It also undermines the years of forthright work done by northerners and others to find a reasonable compromise to permit development while protecting wilderness in northern British Columbia."

CPAWS notes that the changes were drafted without any consultation with First Nations, LRMP participants, or provincial organizations concerned with parks. Source: Canadian Parks and Wilderness Society—www.cpawsbc.org; Contact: Eva Riccius, ParkWatch coordinator, CPAWS, British Columbia Chapter, parks@cpawsbc.org.

Federal Judge Blocks Bush Plan to Expand Snowmobile in Yellowstone

A federal judge has blocked a Bush administration plan to expand the use of snowmobiles in Yellowstone National Park, giving a victory to environmental groups in what has been a long and contentious debate over motorized recreation at one of the country's natural wonders. Ruling only hours before the park's winter season for visitors began, U.S. District Judge Emmet G. Sullivan said the move by Bush officials to overturn a Clinton administration plan that would have phased out snowmobiles at Yellowstone appeared to be "completely politically driven." He said it contradicted recent National Park Service conclusions on the issue. Under the Bush plan, nearly 1,000 snowmobiles would have been allowed into the park per day beginning Wednesday, an increase from past winters, but now park officials must limit the number this winter to less than 500 per day and restrict their use to small guided tours. Next winter, snowmobiles will be outlawed there. The same rules apply to Grand Teton National Park, another hub for snowmobiling.

Opponents of the Bush plan praised the judge's decision, saying it would greatly reduce noise and air pollution in the park and protect its wildlife. "Our duty is to take care of our national parks as fully as possible so that we pass them in good health to our grandchildren," said Denis P. Galvin, the deputy director of the Park Service during the Clinton administration. "Had we let that principle slip in Yellowstone to benefit the snowmobile industry, it would have set a terrible precedent in all our national parks."

Advocates of the Bush plan vowed Wednesday to challenge the ruling. Interior Secretary Gale A. Norton said it would limit or deny many Americans access to Yellowstone's beauty. Norton said that the Bush plan is a balanced response to the snowmobile debate because instead of banning visitors from using the popular vehicles, it would force them to use new models that are much cleaner and quieter. She said the rules created during the Clinton administration did not take into account new and environmentally friendly advances in snowmobile technology. "The Park Service plan can be adapted to ensure that wildlife, park personnel, park resources and the public are protected," she said. Source: *Washington Post*—http://www.washingtonpost.com.

Annual PAN Parks Conference

Europe's Wilderness Days, held in Gabrovo, Bulgaria, October 4 to 9, 2003, reports many positive outcomes for conservation initiatives in Europe. The conference was attended by 80 people from all over Europe as well as from Japan, Mongolia, the United States, and Canada, and was a successful forum for discussion and introduction of new ideas for the PAN Parks Foundation. The highlight of the conference was the official PAN Parks certification of Central Balkan National Park, presented by His Excellency, Simeon Saxe Cogurg Gotha, the prime minister of Bulgaria. Attendees took part in three days of presentations and workshops given by representatives from PAN Parks Foundation, certified PAN Parks, and interested parties from the business sector. In addition to participating in the official business of the conference, participants took part in a field-trip day when they had the chance to hike into the mountains of Central Balkan National Park. Outcomes of Europe's Wilderness Days include the commitment from six European countries to nominate parks for PAN Parks verification by 2005. Also, an agreement was reached for next year's Cannon Volunteer Camp to be held in Scandinavia. Finally, the decision was made to develop a noncompetitive research program. The success of Europe's Wilderness Days indicates progress and growth for PAN Parks and for conservation of European Protected Areas. For further information, contact Edit Borza at eborza@panparks.org For details on the PAN Parks program, visit http://www.panparks.org.

International Parks and Protected Areas Seminar

The fourth annual International Seminar on the Management of Parks and Protected Areas will be held from August 5 to 21, 2004, 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 examines strategies to conserve the world's most special places. The program, sponsored

by the USDA Forest Service International Programs and the Universities of Montana, Idaho, and Colorado State, will evaluate policies and institutional arrangements that sustain both people and natural resources. Themes will include (1) Integrated Planning for Protected Areas; (2) Community Involvement; (3) Tourism, Concessions, and Visitor Management; and (4) Communication, Marketing, and Environmental Education. The seminar is under the leadership of Wayne Freimund, director of the Wilderness Institute of the University of Montana and Bill McLaughlin of the University of Idaho. Noted researchers, planners, and protected area managers from throughout the United States will provide program presentations. Key public agency personnel from the USDA Forest Service, the U.S. Park Service, and the U.S. Fish and Wildlife Service will join the program and assist with program operations. Leaders in protected area management from nongovernmental organizations and private enterprise will also provide their insights and instruction. The application deadline is May 1, 2004. The cost is $4,750 for each participant, which will include all instruction, lodging, and food throughout the program. Travel that occurs within the United States during the operation of the program will also be covered by the tuition fee. Air travel expenses to and from the seminar are the responsibility of participants. For an online application, visit http://www.fs.fed.us/global/is/ispam/welcome.htm.

Indigenous Protected Areas of Australia

Australia harbors a growing body of formal experiences in comanagement of protected areas and indigenous protected areas as well as a growing recognition of histories of customary aboriginal land management regimes. Indigenous Protected Areas (IPA), a specific protected area category created in the country to accommodate conservation efforts of aboriginal communities, have been a particularly exciting development both at policy and field levels in bridging the gap between protected area systems and the aboriginal conservation values and practices. The Australian government defines IPAs as "areas of land in relation to which Traditional Aboriginal Owners have entered into a voluntary agreement for the purposes of promoting biodiversity and cultural resource conservation." The concept of IPAs evolved through long consultations at regional, national, and international levels. From an international conservation perspective, the IUCN Protected Area category system and guidelines were examined closely and found sufficient to describe indigenous land use and associated cultural concerns. Indeed, this provided a window of opportunity for IPAs to become reality. Source: http://www.iucn.org/themes/wcpa/wpc2003/pdfs/postwpc/news/ippasaustralia_021003.pdf.

Wild Foundation Launches Wild Planet Project

Despite increasing evidence of the critical biological and economic importance of wilderness and innovative projects showing that wilderness conservation can be achieved in a socially beneficial manner, we continue to lose wilderness at an alarming rate, and the wilderness conservation debate seems to be becoming ever more contentious and polarized. There are perceptions of the wilderness movement that it is too recreation-focused at the expense of local communities and indigenous groups, and that wilderness is separate from and less of a priority than sustainable development. In response, the Wild Foundation has launched the Wild Planet Project. The project has four objectives:

1. to assemble the case for wilderness protection, and to make those findings widely available;
2. to act as an "incubator" for new field conservation initiatives;
3. to generate new wilderness legislation around the world; and
4. to produce a stronger consensus within the environmental community on the importance of wilderness and on wilderness conservation strategies.

The initiative will involve six working groups: ecosystem functions, economics, social, biodiversity, freshwater and marine, and law and policy. Each working group will be tasked with assessing the state of knowledge in their area, identifying gaps in the knowledge, and working to fill those gaps. Working groups also will be tasked with developing field projects to apply their work. Results will be presented at the 8th World Wilderness Congress (WWC) in Alaska in 2005. Because of this WWC location, the Wild Planet Project will emphasize Pacific Northwest issues and examples.

The WILD Foundation will coordinate the Wild Planet Project, with the IUCN-WCPA Wilderness Task Force serving as a steering committee, and will take the lead on two of the working groups—Social and law and policy. WILD will look to partners to take on the leadership of the other Working Groups. The Wild Planet Project will provide a flexible and participatory framework to integrate and build on current work while avoiding duplication. This work is not intended to compete with existing efforts, but rather to help leverage this work through better cooperation and communication. Source: www.wild.org/international/wpp_more.html.

Wilderness Expert Wesley Henry Dies

Wesley Raymond Henry Jr., 55, a wilderness specialist with the National Park

Service, died of cancer on December 16 at Thomas Jefferson University Hospital in Philadelphia. Mr. Henry studied the effects of aircraft noise in parks and wilderness areas and worked to protect wilderness in the United States and Kenya. He received a special achievement award this month for promoting wilderness protection and natural soundscapes in the national park system from the George Wright Society, a professional association of those who work on behalf of the scientific and heritage values of protected areas. Mr. Henry was born in Carlisle, Pennsylvania, and received a bachelor's degree from Principia College, a master's degree from the University of Michigan, and a doctorate in resource and recreation planning from Colorado State University. He was a research associate at the Institute for Development Studies at the University of Nairobi from 1973 to 1977 and taught at the East African Outward Bound Mountain School on Kilimanjaro. He then worked for the United Nations Environmental Program in Kenya for a year before joining the U.S. Bureau of Land Management's recreation, cultural, and wilderness division, where he was the principal staff officer. In 1985, he joined the National Park Service and worked as a budget analyst and natural resources specialist. He was certified as a mountaineering instructor by the National Outdoor Leadership School in Lander, Wyoming, where he also taught mountaineering and low-impact camping. Source: www.washingtonpost.com.

International Wilderness Guides Conference

The 2nd International Wilderness Guides Conference is scheduled for October 11 to 16, 2004, in Stellenbosch, South Africa. Hosted by the Renaissance Foundation of South Africa and the Wilderness Guides Council, the theme of the conference is Integrating Nature and Humanity, with a focus on topics such as Personal Transformation, Life Passages, Youth Development, and HIV/AIDS. The conference is aimed at eco-therapists, deep ecologists, and wilderness guides who "conduct rites of passage in the wilderness, who midwife the birth of youth into adulthood in wilderness places, who consider Mother Nature to be the best teacher." For more information, visit http://www.wildernessguidescouncil.org/wgc/home.html.

Book Reviews

Wilderness: Earth's Last Wild Places

By Russell A. Mittermeier et al., 2002. CEMEX, New York, NY. 573 pp., $75.00 (hardcover).

This book is the third in a series produced by Conservation International and Agrupación Sierra Madre, with sponsorship by CEMEX (a conservation-minded, multi-national cement company based in Mexico). Whereas the first two books documented the global state of biodiversity and biological hot-spots, this book focuses on identifying and describing the Earth's remaining wilderness areas.

Four criteria were used to define wilderness: size, intactness, human population density, and biodiversity. To qualify as wilderness, the areas had to cover at least 10,000 square kilometers or 1 million hectares (2.47 million acres, approximately the size of Connecticut); have 70 percent or more of their original vegetation and a "maintained faunal assemblages of large mammals and birds;" have five inhabitants/kilometers (0.326 sq mi) or less; and either 0.5 percent of global plant diversity or 1,500 endemic plants in the wilderness area. However, these criteria were seemingly rather flexible, as some wilderness areas, especially those in the high latitudes (e.g., Arctic tundra and Antarctica), did not seem to meet all the minimum biodiversity requirements. Notwithstanding, the authors conclude that the 37 wilderness areas identified contain 54.2 percent (81 million km^2: 31.3 million sq miles) of the Earth's surface but only 5.2 percent of the world's population. Protected areas currently cover only 7.4 percent of the remaining wilderness areas identified.

The introductory chapter (with an impressive list of co-authors including *IJW*'s International Editor, Vance Martin and Cyril Kormos, The WILD Foundation's Vice President for Policy) provides a basic history of social attitudes toward the concept of wilderness, identifies the problems with defining wilderness, and reviews the results of the analysis undertaken for this research project. The remaining text—and stunning pictures—is divided into six sections, which each cover one major biome: tropical rain forests; tropical woodlands, savannas, and grasslands; wetlands; deserts; temperate forests; and high latitude wilderness areas. Each of the biomes contain from three (tropical rain forests) to 11 (deserts) distinct wilderness areas. A separate chapter documents each of the 37 wilderness area's a) size and extent, b) existing biodiversity, c) flagship species, d) human cultures (e.g., population levels, characteristics of inhabitants), e) threats (e.g., civil unrest, poverty), and f) existing conservation measures (e.g., current protected areas and conservation partnerships).

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