

INTERNATIONAL

Journal of Wilderness



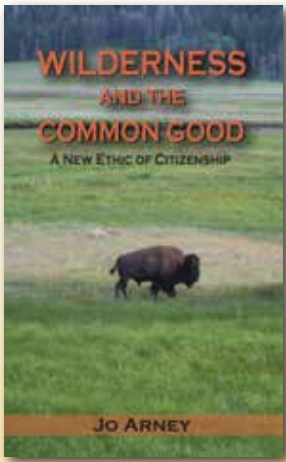
In This Issue

- Building Stewardship Capacity
- Denali Wilderness Experiences
- Wilderness with Honors
- Increasing Wilderness in Italy



AUGUST 2015

VOLUME 21, NUMBER 2



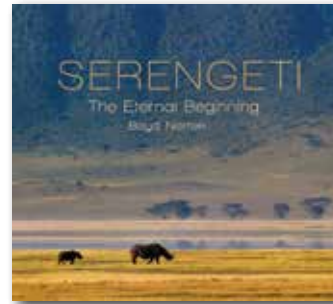
WILDERNESS AND THE COMMON GOOD

A New Ethic of Citizenship

by Jo Arney

Hardcover, 4.5 x 7.25,
80 pages, \$16.95 us

Dr. Arney examines the very nature of modern civic responsibility in protecting the wilderness. Weaving in her own personal narratives, Dr. Arney shows that wild areas do much more than safeguard biodiversity; they are essential for the common good of our society. True and lasting protection for wilderness will be borne out of a shared understanding of how protected wilderness areas enrich all of our lives.



Serengeti The Eternal Beginning

by Boyd Norton

A few copies of the
Limited Edition are
still available

Hardcover, 10 x 9, 260 pages,
color photos, \$35 us

“Boyd Norton has captured the magic of this ancient and majestic ecosystem. Through superb and deeply sensitive photographs and compelling accounts of his experiences there, he introduces its animals and people. Serengeti is profoundly moving—you will understand why it is so important to preserve this place for generations to come.”

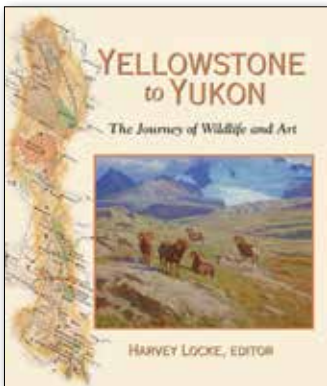
—Jane Goodall

*founder, the Jane Goodall Institute
and UN messenger of peace*

YELLOWSTONE TO YUKON

THE JOURNEY OF WILDLIFE AND ART

edited by Harvey Locke



*Wildlife art of the
vast region between
Yellowstone National Park
and the Arctic Circle*

**150 years of
artistic genius**

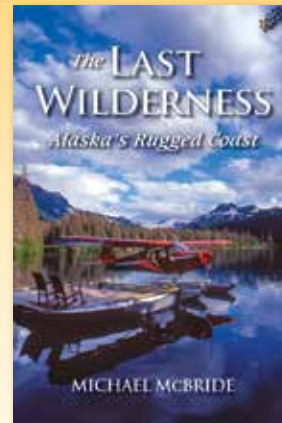
Hardcover, 9 x 10.5, 144 pages,
color photos, \$35 us

This lavishly illustrated book celebrates 150 years of artistic genius and describes how art has played a central role in providing the inspiration to protect and conserve nature in one of the world's best loved mountain regions, the Northern Rocky Mountains.

The Last Wilderness

Alaska's Rugged Coast

by Michael McBride



A remarkable story of pursuing a dream of living close to the land and raising a family in wilderness isolation. In the face of incredible hardships, the McBrides not only carried out their vision, but in the process built the world renowned Kachemak Bay Wilderness Lodge that has become a model for eco-tourism everywhere.

Hardcover, 6 x 9, 256 pages,
\$27.95 us

“A captivating account of decades in the Alaska wilderness as Michael and Diana McBride literally respond to the “call of the wild” A must for any Nature bookshelf.”

—Tom Lovejoy, Founder of the PBS series *NATURE*

Journal of Wilderness

AUGUST 2015

VOLUME 21, NUMBER 2

FEATURES

EDITORIAL PERSPECTIVE

- 3 *A Vision for America's National Wilderness Preservation System*
BY ROBERT DVORAK

SOUL OF THE WILDERNESS

- 4 *Keys to Building Stewardship Capacity for the Next 50 Years of Wilderness*
BY STEPHEN F. McCOOL

STEWARDSHIP

- 7 *Mountaineers' Wilderness Experience in Denali National Park and Preserve*
BY B. DERRICK TAFF, DAVID WEINZIMMER, and PETER NEWMAN

- 16 *Wilderness Stewardship Is Too Important to Not Be Guided by Meaningful Policy*
BY DAVID N. COLE

- 20 *Considering Solitude in Grand Canyon's Corridor*
BY PETER R. PETTENGILL

SCIENCE & RESEARCH

- 25 *Visitor Use, Attitudes, and Perceptions at Mount San Jacinto State Wilderness*
BY KATHERINE E. SOULE and WILLIAM W. HENDRICKS

EDUCATION & COMMUNICATION

PERSPECTIVES FROM THE SOCIETY FOR WILDERNESS STEWARDSHIP

- 31 *Enhancing Wilderness Stewardship through Professional Training and Development*
BY DAVID N. COLE and LINDA MERIGLIANO

- 33 *A Service-Learning Partnership for Wilderness Education in Coastal Georgia*
BY JOHN PEDEN, MADALYN RUSSELL, and MONICA HARRIS

- 38 *Wilderness with Honors*
BY DANIEL DUSTIN, NATE FURMAN, TAYLOR DICKINSON, and NATHAN BRICKER

INTERNATIONAL PERSPECTIVES

- 42 *Increasing Number of Wilderness Areas in Italy*
BY FRANCO ZUNINO

WILDERNESS DIGEST

- 44 *Announcements*

- 47 *Book Reviews*

- 47 ***I Am Coyote: Readings for the Wild***
BY JAY SCHOENBERGER
Reviewed by Chad Dawson

- 47 ***The Edge of Extinction: Travels with Enduring People in Vanishing Lands***
BY JULES PRETTY
Reviewed by Elizabeth Whitwick

Disclaimer

The *Soul of the Wilderness* column and all invited and featured articles in *IJW*, are a forum for controversial, inspiring, or especially informative articles to renew thinking and dialogue among our readers. The views expressed in these articles are those of the authors. *IJW* neither endorses nor rejects them, but invites comments from our readers.

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

On the Cover

Main image:

The wildest Italian Wilderness Area: Valmontina (Veneto Region), in the Dolomite Mountains (Alps). Photo © and courtesy of Franco Zunino

Inset image:

Hiking in the Italian Dolomites, Northern Italy. Photo © and courtesy of Vance G. Martin

International Journal of Wilderness

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

EDITORIAL BOARD

H. Ken Cordell, Southern Research Station, U.S. Forest Service, Athens, Ga., USA
Lisa Eidson, University of Montana, Missoula, Mont., USA
Greg Kroll, Santa Fe, New Mexico, USA
Vance G. Martin, WILD Foundation, Boulder, Colo., USA
Rebecca Oreskes, Gorham, N.H., USA
John Shultis, University of Northern British Columbia, Prince George, B.C., Canada
Alan Watson, Aldo Leopold Wilderness Research Institute, Missoula, Mont., USA

EDITOR-IN-CHIEF

Chad P. Dawson, SUNY College of Environmental Science and Forestry, Syracuse, N.Y., USA

MANAGING EDITOR

Robert Dvorak, Central Michigan University, Mount Pleasant, Mich., USA

EDITOR-IN-CHIEF EMERITUS

John C. Hendee, Professor Emeritus, University of Idaho Wilderness Research Center, Moscow, Idaho, USA

ASSOCIATE EDITORS—INTERNATIONAL

Andrew Muir, *Wilderness Foundation Eastern Cape, South Africa*; Karen Ross, *The Wilderness Foundation, Capetown, South Africa*; Vicki A. M. Sahanatien, *World Wildlife Fund, Minarut, Canada*; Tina Tin, Consultant, *Challes-les-Eaux, France*; Anna-Liisa Ylisirniö, *University of Lapland, Rovaniemi, Finland*; Franco Zunino, *Associazione Italiana per la Wilderness, Murialdo, Italy*.

ASSOCIATE EDITORS—UNITED STATES

Greg Aplet, *The Wilderness Society, Denver, Colo.*; James Barborak, *Colorado State University, Fort Collins, Colo.*; David Cole, *Aldo Leopold Wilderness Research Institute, Missoula, Mont.*; John Daigle, *University of Maine, Orono, Maine*; Joseph Flood, *Minnesota State University, Mankato, Minn.*; Greg Friese, *Emergency Preparedness Systems LLC, Plover, Wisc.*; Gary Green, *University of Georgia, Athens, Ga.*; Kari Gunderson, *University of Montana, Missoula, Mont.*; Dave Harmon, *Bureau of Land Management, Washington, D.C.*; Bill Hendricks, *CalPoly, San Luis Obispo, Calif.*; Cyril Kormos, *The WILD Foundation, Berkeley, Calif.*; Ed Krumpke, *University of Idaho, Moscow, Id.*; Yu-Fai Leung, *North Carolina State University, Raleigh, N.C.*; Bob Manning, *University of Vermont, Burlington, Vt.*; Jeffrey Marion, *Virginia Polytechnic Institute, Blacksburg, Va.*; Christopher Monz, *Utah State University, Logan, Ut.*; Connie Myers, *Arthur Carhart Wilderness Training Center, Missoula, Mont.*; David Ostergren, *Goshen College, Wolf Lake, In.*; Trista Patterson, *USFS, Sitka, Alas.*; John Peden, *Georgia Southern University, Statesboro, Ga.*; Kevin Proescholdt, *Wilderness Watch, Minneapolis, Minn.*; Joe Roggenbuck, *Virginia Polytechnic Institute, Blacksburg, Va.*; Keith Russell, *Western Washington University, Bellingham, Wash.*; Rudy Schuster, *USGS, Fort Collins, Colo.*

International Journal of Wilderness (IJW) publishes three issues per year (April, August, and December). *IJW* is a not-for-profit publication.

Manuscripts to: Robert Dvorak, Dept. of Recreation, Parks and Leisure Services, Central Michigan University, Room 108 Finch Hall, Mount Pleasant, MI 48859; Telephone: (989) 774-7269. E-mail: dvora1rg@cmich.edu.

Business Management and Subscriptions: The WILD Foundation, 717 Poplar Ave., Boulder, CO 80304, USA. Telephone: (303) 442-8811. Fax: (303) 442-8877. E-mail: info@wild.org.

Subscription rates (per volume calendar year): Subscription costs are in U.S. dollars only—Online access \$35; online access and printed journal \$50; online access and printed journal (Canada and Mexico) \$62; online access and printed journal (international) \$74. We do not offer an agency discount price. No refunds.

All materials printed in the *International Journal of Wilderness*, copyright © 2015 by the International Wilderness Leadership (WILD) Foundation. Individuals, and nonprofit libraries acting for them, are permitted to make fair use of material from the journal. ISSN # 1086-5519.

Submissions: Contributions pertinent to wilderness worldwide are solicited, including articles on wilderness planning, management, and allocation strategies; wilderness education, including descriptions of key programs using wilderness for personal growth, therapy, and environmental education; wilderness-related science and research from all disciplines addressing physical, biological, and social aspects of wilderness; and international perspectives describing wilderness worldwide. Articles, commentaries, letters to the editor, photos, book reviews, announcements, and information for the wilderness digest are encouraged. A complete list of manuscript submission guidelines is available from the website: www.ijw.org.

Artwork: Submission of artwork and photographs with captions are encouraged. Photo credits will appear in a byline; artwork may be signed by the author.

Website: www.ijw.org.

Printed on recycled paper.

SPONSORING ORGANIZATIONS

Aldo Leopold Wilderness Research Institute • Central Michigan University, Department of Recreation, Parks and Leisure Services Administration • Conservation International • SUNY College of Environmental Science and Forestry • The WILD® Foundation • The Wilderness Society • University of Montana, School of Forestry and Wilderness Institute • USDA Forest Service • USDI Bureau of Land Management • USDI Fish and Wildlife Service • USDI National Park Service • Wilderness Foundation (South Africa) • Wilderness Leadership School (South Africa)

A Vision for America's National Wilderness Preservation System

BY ROBERT DVORAK

Protect. Connect. Foster.

These concepts summarize the *2020 Vision: Interagency Stewardship Priorities for America's National Wilderness Preservation System*. An agreement between the federal land management agencies (Figure 1), the *2020 Vision* is intended to guide interagency collaboration and efforts toward the continued preservation of America's wilderness resources. For the attendees of the October 2014 National Wilderness Conference in Albuquerque, New Mexico, it was an important moment for the wilderness community and an opportunity to envision what the future might hold for wilderness stewardship.

This vision emphasizes three broad themes: (1) protect wilderness resources, (2) connect people to their wilderness heritage, and (3) foster excellence in wilderness leadership and coordination. As I examine it in its entirety, the priorities outlined are worthy of our dedicated efforts. We need to grow the infrastructure and capacity for wilderness stewardship. This includes institutional commitments to landscape assessment and preserving wilderness character. We need to prepare for ecological change and generate the science necessary to inform wilderness stewardship decisions. This means supporting the interagency Arthur Carhart National Wilderness Training Center, the Aldo Leopold Wilderness Research Institute, and partnerships with universities and academic institutions. We need to cultivate a wilderness workforce, based on a community of practice with consistent skills, training, and education. This means creating the next generation of wilderness stewards and providing them with the expertise and knowledge to manage our wilderness resources.



Figure 1 – The signing of the *2020 Vision* document during the National Wilderness Conference in Albuquerque, New Mexico, on October 17, 2014. Connie Myers (left), director of the Arthur Carhart National Wilderness Training Center, and Chad Dawson, SUNY-ESF professor Emeritus (right) look on as the four directors sign their agency's commitment to the *2020 Vision* document: (left to right) Cam Sholly, National Park Service associate director; Thomas Tidwell, Forest Service chief; Dan Ashe, Fish and Wildlife Service director; and Neil Kornze, Bureau of Land Management director. Photo by Paul Dawson.

However, what resonates most with me is the *2020 Vision* introduction, that “wilderness is every American's story.” For wilderness to be relevant to this generation, and those in the future, how do we make it part of their story? How do we inspire future citizens to embrace wilderness and wild places as both their birthright and as a gift to nurture, protect, preserve, and pass on for future generations? Even more boldly, how can wilderness and wild places gain greater recognition as part of the “human story,” valued by all of us and recognized as vital to the human spirit?

The idea of connecting people to wilderness or nurturing their connection is not necessarily unique. But it is timely, noble, and particularly critical to the success of

Continued on page 32

Keys to Building Stewardship Capacity for the Next 50 Years of Wilderness¹

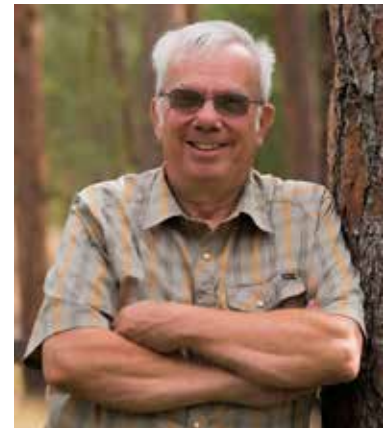
BY STEPHEN F. McCool

Protecting the character of wilderness and providing access to this heritage of national importance for visitors to view, enjoy, learn, and appreciate are among the most significant challenges facing stewards as they enter the second 50 years of wilderness. The federal wilderness stewardship agencies have articulated a vision of their goals and responsibilities in *2020 Vision* (2020 Vision 2014), including one to “reinvigorate commitment to wilderness stewardship” and another to “build workforce capacity and wilderness program resources.” The latter includes developing “workforce capacity plans that identify the right mix and numbers with the right skills and knowledge to preserve wilderness character.”

Staffing the agencies with stewards that provide the leadership, learning, and organizational proficiencies to achieve these goals is critical to the success of this vision.



Figure 1 – Recreational use remains an important challenge and opportunity in many wildernesses, such as the Bob Marshall, which has systematically engaged the public in monitoring and reflection since 1982. Photo by Steve McCool.



Steve McCool has been long engaged in wilderness management and research challenges, beginning with his work in the Boundary Waters Canoe Area in the mid-1960s. Photo by Ann McCool.

In this article, I suggest four keys to developing the capabilities of these stewards and enabling competent performance within an organizational environment subject to the many global and national level processes affecting wilderness and similar areas in the next 50 years (see Stankey 2000) (Figure 1).

1. *Thinking Critically* – In the wicked and messy world of 21st-century wilderness management, learning and thinking critically are paramount. As Jon Kohl and I argue (2016), we can no longer assume that the world is predictable, linear, understandable, or stable. Rather it is dynamic, impossible to completely understand, complex, and ever changing. An ethic of daily learning is required to address the challenges – as well as the opportunities – we encounter in this environment. We need strong critical thinking skills to assess, evaluate, and reflect on the many proposals arriving on our desks. This means we need to be a bit of a skeptic, closely scrutinizing events, from global

¹This article is adapted from an essay originally posted in the author’s blog, *The Pasque Flower* (<http://pasqueflowerparadigms.blogspot.com/>).

to local, and “dive deeper” to understand what they mean and their implications. For example, by using Gunderson and Holling’s (2002) notion of adaptive cycles in ecosystems, we see connections between society and wilderness not as static but rather as always changing in form, content, and intensity.

We build critical thinking skills through several pathways, most notably through higher education, but also through continuing education programs oriented toward creating understanding of why things occur, building frameworks to guide our thinking, and developing networks and communities of practice to test our ideas. Continuing education is generally the domain of universities and colleges because these institutions, while having handcuffs of their own, are not bound by particular wilderness agency policy and culture, are focused on uncovering truth, and often open our minds to ideas we do not see because of our organizational cultures and personal mental models. The Wilderness Distance Learning program at the University of Montana and the Wilderness Stewardship Certificate Program administered by the Eppley Institute at the University of Indiana are two examples of continuing education focused on stewardship. In short, higher education infuses new perspectives and ideas into stewardship.

2. *Acting Competently* – We need stewards who are proficient, who understand how things work, and who propel and operate organizations in ways that are not only effective and efficient but equitable as well. Doing the right things is important, and this is prob-

ably the most valued attribute of managers and protected area staff. We need to build competency in protected area skill application just as we need our staff to think critically. We need stewards who know how to design and implement interpretative programs, enforce rules and regulations, manage visitor use with flexibility and adaptability, apply landscape level restoration, exercise creativity in securing wildlife and their habitat, and administer concession contracts, among other tasks. And while the focus here is on skill development and improvement, understanding the lessons learned from their application is important to competent wilderness stewardship (see for example the Wildlands Fire Lessons Learned Center <http://www.wildfirelessons.net/home>.)

**By empowering
managers, organizations
encourage them to
think critically, act
competently, and decide
confidently.**

Skill development is the domain of training – where staff understand what and how to do things, but not necessarily why they do these things. While universities often provide training, this is properly the domain of vocational programs and agency training centers, such as the U.S. Department of the Interior National Conservation Training Center and the Arthur Carhart National Wilderness Training Center. A university may not be the best place to learn the how-tos of law enforcement or how to design

and implement a field data management program, but a training center or program would be (Figure 2).

3. *Deciding Confidently* – Stewards must be able to make decisions that reflect themselves as self-assured and poised, that they feel good about in terms of having considered the alternatives and their consequences, about which they have interacted with constituencies and staff for a preferred course of action, and for which they have built proper monitoring and adaptive management protocols in the event their assumptions underlying the decision are proven questionable. There is often a fine line between being confident and being arrogant (say a feeling of being of superior intelligence or perception), so I mean here that decisions are made with a sense of humility.

Developing confidence requires mentoring – working jointly with more experienced and poised stewards to appreciate their particular approach to making decisions. In the real-world cauldron of conflict and contention, of choice and uncertainty, and of change and complexity, this sense of confidence is needed for effective leadership. Mentoring and shadowing programs within the agency itself then are needed to help potential managers to develop this sense of confident humility about their decisions. So too can a community of practice – defined by Wenger and Snyder (2002) as “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (such as that being developed by the Society for Wilderness Stewardship) – aid in developing

confidence in that their decisions are appropriate for the situation.

4. *Empowering Environments*

– Stewards work within organizations, be they governmental, nongovernmental, or parastatals. Organizations have cultures, they have norms, they have expectations, they have traditions, and they have bureaucrats. Everybody has a boss with viewpoints, perspectives, and priorities. Bureaucracies are not known as systems of creativity, innovative thinking, and tolerance for new perspectives. This culture may disempower stewards or empower them.

Libby Khumalo and I argue (2015) that empowerment means organizations carefully manage the four types of power they wield, often unknowingly: the *power over*, or the ability to control people, their decisions, and behavior in order to ensure predictability and stability within an organization; the *power to*, or the ability of a person to pursue their own goals within the context of an agency's vision and mission; the *power with*, which deals with collective power, the ability to get things done cooperatively and without formal coercion; and finally, the *power within*, which is an increased will for change, expressed through self-confidence, assertiveness, and awareness.

By empowering managers, organizations encourage them to think critically, act competently, and decide confidently – in other words, to pursue the organization's vision and mission with enthusiasm and with



Figure 2 – Protected area managers from around the world discuss how the U.S. Forest Service interacts with communities about wilderness issues during the International Seminar on Protected Area Management, one of three such continuing education programs available for building critical thinking skills. Photo by Steve McCool.

a focus on learning, both critically needed in the wilderness stewardship world of the 21st century.

Building the capacities needed to steward wilderness for its next 50 years requires progress on all four keys; understanding the unique role of each and attending to them within a systems context will enhance our chances of protecting one of the best things we have in our culture: respect and appreciation for natural processes, undeveloped expanses, and opportunities for common citizens to engage nature on its terms.

References

2020 Vision. 2014. *2020 Vision: Interagency Stewardship Priorities for America's National Wilderness Preservation System*. Retrieved from www.wilderness.net/toolboxes/documents/50th/2020_Vision.pdf.

Gunderson, L., and C. S. Holling, eds. 2002. *Panarchy: Understanding Transformations in Human and Natural Systems*.

Washington, DC: Island Press.

Kohl, J., and S. F. McCool. Forthcoming 2016. *The Future Has Other Plans*. Denver, CO: Fulcrum Publishing.

McCool, S. F., and L. Khumalo. 2015. Empowering Managers: Enhancing the Performance of Protected Area Tourism Managers in the 21st Century. *Tourism Recreation Research*, doi: ID.1080/02508281.2015.1039333.

Stankey, G. H. 2000. Future trends in society and technology: Implications for wilderness research and management. In *Wilderness Science in a Time of Change Conference, Volume 1: Changing Perspectives and Future Directions*, comp. D. N. Cole, S. F. McCool, W. A. Freimund, and J. O'Loughlin. (pp. 10-23). Proceedings-P-15-VOL-1. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Wenger, E. C., and W. M. Snyder. 2000. Communities of practice: The organizational frontier. *Harvard Business Review* January–February: 139–145.

STEPHEN F. MCCOOL is professor emeritus, University of Montana, Missoula, MT; email: stephen.mccool@umontana.edu.

Mountaineers' Wilderness Experience in Denali National Park and Preserve

BY B. DERRICK TAFF, DAVID WEINZIMMER, and PETER NEWMAN

Abstract: The purpose of this research was to provide Denali National Park and Preserve (DENA) managers with information regarding mountaineers' perceptions of social and resource conditions in the glaciated wilderness encompassing the south side of Mount McKinley. This study focused on DENA mountaineers' wilderness experiences and describes themes related to perceptions of wilderness experience elements that emerged from 31 qualitative interviews in 2012. Emphasis was placed on themes closely connected to mountaineers' experiences with the soundscape in DENA's South District. Results inform current and future mountaineering management and help to ensure protection of resource and social conditions in DENA's wilderness.

Introduction

Mountaineering popularity in Denali National Park and Preserve (DENA) has increased substantially within the past 20 years (National Park Service 2006), and escalating use has raised trepidation regarding potential social and resource condition deterioration. One area of particular concern for DENA managers relates to mountaineers' experiences with soundscapes in the park. Potential impacts to acoustic resources have led to acoustic monitoring studies and informed management of DENA's soundscape (i.e., the park's total acoustic environment, including natural and anthropogenic sounds) (Withers and Adema 2009–2010). Descriptive information, such as the percentage of time motorized noise exceeds natural ambient levels, has been measured and continues to be monitored (Withers and Adema, 2009–2010). However, experiential aspects of the perception of soundscapes (such as attitudes toward the sounds produced by aircraft overflights) have been shown to be important components of wilderness experience (Fidell et al. 1998; Roggenbuck, Williams, and Watson 1993; Tarrant, Haas, and Manfredo 1995), and further research is needed to inform planning and management (National Park Service 2006). Furthermore, social science research regarding mountaineering is scant (Wilson 2012), and this is particularly true for DENA's glaciated wilderness



B. Derrick Taff. Photo by Adam Gibson.



David Weinzimmer. Photo by Rachel Weinzimmer.



Peter Newman. Photo by Siri Newman.

found in the South District (Kedrowski 2009; Watson et al. 2008). Therefore, the purpose of this study is to provide DENA managers with information regarding mountaineers' experiences in the glaciated wilderness encompassing the south side of Mount McKinley. The results inform current and future mountaineering management and help ensure protection of resource and social conditions in DENA.

Mountaineering in DENA

Despite numerous mountaineering opportunities in DENA's South District, the West Buttress route up

PEER REVIEWED

McKinley is the most popular, receiving more than 1,000 climbers annually since 1989 (McIntosh et al. 2010; Norris 2009; Rodway, McIntosh, and Dow 2011). McKinley is one of the “Seven Summits” and considered a paramount mountaineering objective (Ewert 1994; Waterman 1988). Expeditions last approximately one month, during which mountaineers are exposed to extreme weather and terrain laced with crevasses, frequent avalanches, and rock and ice falls (Ewert 1994). These elements create an atmosphere requiring constant humility, for risk of injury or death is ever present (Miller 2005). On average, approximately half of the mountaineers who attempt McKinley successfully summit (McIntosh et al. 2010).

DENA Wilderness Soundscape

Approximately 1.9 million acres (768,902.7 ha) of wilderness were designated in DENA following passage of the Alaska National Interest Lands Conservation Act of 1980 (National Park Service 2006); designated wilderness now covers approximately 35% of the total acreage in DENA (National Park Service 2014). The glaciated South District wilderness is accessed almost exclusively by aircraft (air taxis) from Talkeetna, Alaska (Tranel 2006). Scenic air tours and brief glacier landings for nonmountaineering visitors are also popular within the South District (Watson et al. 2008). Increased levels of mountaineering, air taxis, and air tours have resulted in changes to the soundscape as well as impacts to the social and resource conditions in this wilderness area, which managers are charged with monitoring (Withers and Adema 2009–2010; National Park Service 2006; Tranel 2006). To date, no

studies have examined mountaineers’ perceptions of the DENA South District’s soundscape and how it relates to their experiences. Therefore, in an effort to inform management, this study investigated mountaineers’ perspectives regarding emerging experiential elements, including soundscapes, in the designated wilderness areas in the South District of the park, including the popular West Buttress route to summit McKinley and its surroundings (Figure 1).

Methods

Thirty-one semistructured, qualitative, individual, and group interviews

were conducted with 61 returning mountaineers in Talkeetna, Alaska from June 15, 2012 to June 22, 2012, with a 97% response rate. All interviews were conducted in Talkeetna at various locations, such as the Talkeetna Regional Airport, Roadhouse, and Hostel. Interviews ranged from 8 to 47 minutes.

Instrument

Approximately 30 interview questions were developed in collaboration with park staff and designed to first broadly determine experiential elements regarding DENA mountaineering experiences. For example,

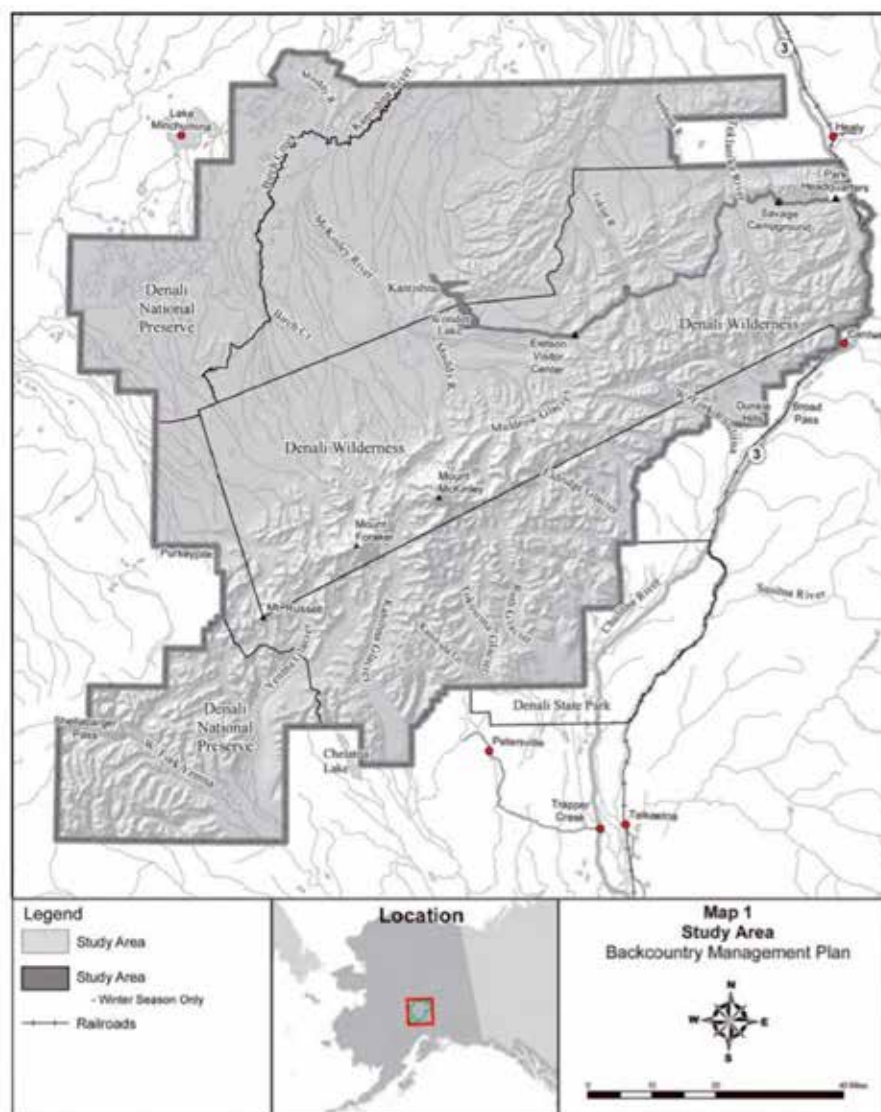


Figure 1 – Map of DENA, showing location of Denali Wilderness, with respect to Mount McKinley. Figure from DENA Backcountry Management Plan (National Park Service 2006).



Figure 2 – The authors interviewing a recently returned DENA mountaineer in Talkeetna, Alaska. Photo by David Weinzimmer.

respondents were asked why they chose to mountaineer in DENA, what they enjoyed most and least, and whether their experiences met their expectations. Subsequently, interview questions narrowed to focus on how natural and anthropogenic sounds affected respondents' experiences. For example, respondents were asked what sounds they heard, where they heard these sounds, and how these sounds affected their mountaineering experience. Finally, additional questions regarding perceptions of mountaineering within DENA wilderness and potential soundscape-related management actions were addressed. For example, respondents were asked whether their trip felt like a true wilderness experience, and what DENA managers could do to potentially preserve the social and soundscape conditions of the area in the future.

Analyses

Interviews were captured using a digital recorder and subsequently transcribed

verbatim. Standardized observation, enumerative, and constant comparison techniques were used to analyze the transcribed interviews (Henderson 1991). Standardized observation was utilized because this study employed semistructured interview questions, and this method allows for deductive processing of qualitative data and subsequently provided emerging patterns. Constant comparison permitted evaluation of responses across the sample. Iterations of coding and categorizing data were conducted by multiple analyzers so that a framework was established where salient themes emerged. Similar methods have been applied with fly-in day-users in DENA (Watson et al. 2008); mountaineers in Chamonix, France (Pomfret 2011; 2012); and on Mt. Everest (Burke and Orlick 2003; Burke et al. 2010).

Results

All respondents had returned from a DENA mountaineering trip within a 36-hour period, and all used air-taxi

services to land and to be extracted from their respective base camps. Most respondents had recently returned from the traditional West Buttress route, but six had climbed or attempted other routes or locations, such as the Cassin, West Rib, Pika Glacier, and Little Switzerland. Only four of the respondents were female, and ages ranged from 21 to 57. Twenty-one of the respondents were from countries other than the United State, including Canada, the United Kingdom, France, Ecuador, and Colombia. The majority of respondents indicated that they were intermediate to expert climbers, and previous years of climbing varied from 5 to 27 years. Ten respondents were guides, 17 were guided participants, and 34 were unguided climbers. Ten respondents had previously mountaineered in DENA, and several had mountaineered on one or more of the other "Seven Summits" such as Mt. Everest or Aconcagua.

Analysis of the interviews yielded four major themes:

1. Extremes leading to challenge, self-, and team-reliance,
2. Social and managerial conditions,
3. Shared access, and
4. Perceived safety through soundscapes.

Some were directly connected to sounds experienced, while others were more tangentially related to the area's soundscape, but all were salient wilderness experience themes. Within each theme, specific wilderness experience elements emerged that provide information for management in the area, which are discussed in the following sections.

Extremes Leading to Challenge, Self-, and Team-Reliance

Respondents repeatedly noted the

extreme nature of the mountaineering experience in DENA leading to expressions of challenge, self-, and team-reliance. Elements that contributed to this theme included experiences with extreme weather, adventure, risk, camaraderie, and the tendency to underestimate the challenge associated with mountaineering in DENA wilderness. Elements of friendship, teamwork, and experiencing the struggles and joys of mountaineering in DENA indicated that many respondents felt camaraderie with their climbing partners and other groups during their trip, which was expressed during seven of the interviews. Often, these sentiments were expressed after discussing the extreme conditions mountaineers experienced together during their expeditions. For many respondents, these topics were mentioned with regard to what they enjoyed most about their DENA mountaineering experience:

I think it was that teamwork, working together, getting up and down the mountain – something I'll always remember for life, like epic type of adventure. (Interview 20)

During all interviews, respondents mentioned the extreme nature of the weather they experienced on the mountain. These responses were commonly elicited after being asked what they enjoyed least about their mountaineering experience. Respondents indicated that they were prepared, and even expected the weather conditions, yet they were still overwhelmed at times by the extreme nature of the weather they experienced:

I would pinpoint [the] cold temperatures.... We knew it was very tough, but we had to live the experience. (Interview 3)

I'd say the unpredictability of the weather is unique. 'Cause even in the Himalayas we can predict [weather] even up to the summit with some degree of certainty. But here it's its own weather. (Interview 24)

During eight interviews, respondents expressed that the extreme elements, self-reliant nature of the expedition, and remoteness of the mountain made them feel as though they had a wilderness experience:

Yeah, you know at times the [West] Buttress can feel like you're just one among the crowd, but as soon as a storm hits or bad weather comes, you get that wilderness feel fast. (Interview 12)

It was a remote area, you know, isolated from the rest of the world – I felt that way. (Interview 20)

Other climbers spoke about the sense of adventure and risk that characterized their DENA expeditions:

I think the West Buttress is a serious route – climbing expedition – you're in danger of underestimating it a bit. I think it's got a reputation of being more straightforward than it is. (Interview 26)

Existing and Future Social and Managerial Conditions

Another emerging theme related to *existing and future social and managerial conditions* on the mountain. Topics for this theme included experiences with rangers, crowding, behavior of other climbers, and disposal of human waste. Many comments focused on the National Park Service (NPS) rangers with whom climbers interacted during their expeditions, and most were extremely positive regarding these interactions:

You know, I really enjoy seeing

[rangers'] presence more than I've ever seen it. I was able to hang out with rangers and chitchat with them at base camp, at 11K, at 14K.... I think it's a resource that needs to get protected. I mean, they saved people's lives while I was up there. (Interview 25)

During 12 interviews, respondents noted the number of other climbers on the mountain:

[My] least favorite part would probably be when you climb in a really crowded area, and a really serious area, watching people make decisions that make you cringe.... It was crowded in spots.... It was a cattle trail. (Interview 28)

Of those who felt crowded, most indicated that the crowding occurred due to weather delays in particular areas or camps:

As soon as the weather broke, you'd have a lot of teams trying to go up, and with that number of people in that area, it can create some major hazards there. (Interview 12)

In addition, during five interviews mountaineers mentioned queuing and crowding, resulting in safety issues near the steep area where the NPS maintains fixed ropes, known as the fixed-lines:

I think when there's people above you, you're always at a little more risk, as far as stuff falling, [and] the fixed-lines on the West Buttress is really the only place where I would worry about other people. (Interview 31)

Expectations for experiencing crowding on the West Buttress were also mentioned:

You can't really expect to go on the West Buttress by yourself, so there's

definitely a crowd at times, but nothing outrageous. (Interview 16)

It's pretty crazy seeing all of the crowds up there, but I kind of knew that's how it would be. (Interview 31)

One climber noted the difference between crowding on the West Buttress and conditions encountered in Chamonix, France:

Double that [number of other climbers] and it wouldn't affect it. It's not like it's ever going to become the Chamonix, where you have 1,000 people a week. (Interview 18)

During a few interviews respondents spoke specifically about the West Buttress route and how the exposure to other climbers affected the wilderness experience of their mountaineering expedition:

It's a good experience, but it's not a wilderness experience ... there's a beaten track even hours after new snow, established campsites all over the place, and just people – it's very rare that you're not seeing people. (Interview 18)

However, there was also acceptance of the number of people on the mountain, as it relates to wilderness experience:

Here you're always seeing someone, but I still say it's wilderness. You know when you get into a camp there's gonna be people there, but it's kind of nice, too. (Interview 28)

In many ways, it is a wilderness with people. (Interview 29)

A common topic that was reiterated throughout several of the interviews involved disruptive and inconsiderate behaviors exhibited by

climbers and unsafe behaviors that could potentially put other climbers at risk. Respondents mentioned that uncooperative climbers interfered with their climbing experience. One climber said that he noticed:

a lack of respect for people up there, trying to share the same experience, [and while it was] little, it was huge up there. (Interview 20)

During six interviews respondents referred to other climbers who inappropriately disposed of waste or behaved in a manner that negatively impacted the mountain environment:

There were a couple of caches where people were just being lazy and didn't dig them deep enough, [and] ravens get 'em or the wind would just tear them up. (Interview 10)

Comments about the clean mountain canisters (CMCs), which DENA requires mountaineers to use to remove their solid waste, were mentioned during eight of the interviews. Respondents noted that given the number of climbers on the mountain, the human waste situation was being managed well through the implementation of the CMCs:

The CMCs work better than all the other things, and I've seen all the other attempts to try and keep the place clean that failed. They had to get a really simple solution that didn't require any education. (Interview 25)

After indicating that the use of CMCs should be kept "the way it is," one respondent said:

Given the amount of traffic that the mountain sees, in a relatively short period of time, I think it's a reasonably clean place. (Interview 1)

Following a discussion about the CMCs, one respondent said:

Denali, I think is the cleanest mountain of the Seven Summits. (Interview 8)

While the CMCs were positively received, during three interviews respondents mentioned the negative impacts associated with urine during their expeditions:

The only thing I found not so good was the pee holes everywhere ... you see it everywhere and if you step in it, it is unenjoyable. (Interview 17)

Shared Access

A *shared access* theme was observed throughout the interviews. Respondents provided their perspectives regarding the presence and appropriateness of air taxis, flightseeing clients, and visitors landing on glaciers in the DENA wilderness. Several comments from the interviews focused on access and equality for climbers, aircraft operators, and flightseers. The tradeoffs associated with maintaining access by aircraft to the mountain ranges in DENA were a common topic for several respondents:

I suppose it'd be kind of nice if [aircraft] weren't there, that's the wilderness experience. But I guess if it wasn't for the sightseers subsidizing, we wouldn't have any aircraft to go in on ourselves. (Interview 9)

I'm pretty cool with the aircraft just in general, just cause it's like an access thing [because] it's like, if we couldn't fly in there, there'd be no way anyone could enjoy it. (Interview 17)

One respondent mentioned that aircraft tourism was one of the big

economic drivers for the nearby community of Talkeetna:

Honestly, there's only a few things that happen in Talkeetna ... air tourism, climbing, and now some beer-brewing. ... But, you know, it's pretty good. I think it's at a good level. (Interview 12)

Another respondent noted that the aircraft operators were very respectful and professional, taking as direct an approach as possible to delivering climbers to their given destinations:

It's not like they're going up there and handing the rangers a bag of power bars like I've seen on Aconcagua, dropping somebody off, pick somebody up, constantly. (Interview 14)

During 12 interviews, respondents mentioned aircraft as a means of access to experience McKinley:

I think it's good for the people that cannot be on the mountain itself. It means they can enjoy some spectacular views. (Interview 17)

That seems really cool and neat, and again, you can't take that away from other people wanting that experience. (Interview 20)

After the interviewer asked respondents how aircraft in DENA should be managed, a respondent said:

I don't think they should limit people's ability to see the mountain and take it in if they want to. (Interview 24)

One respondent recalled his experience in the Ruth Glacier area during 2011, when he experienced more aircraft and, in particular, more glacier landing flights:

[I would get out of my] tent in the morning, and get up and walk

around, and you're like in this pristine environment, and there's like 5 airplanes and 30 people milling around. I think it's important for people to get out and see things, and just kind of accept that that's the way it is. (Interview 31)

Perceived Safety Through Soundscapes

When asked questions regarding DENA's South District soundscape, eight respondents mentioned that the sounds they heard provided information and feelings of safety. Salient topics for this theme included reported experiences with sounds from aircraft and other climbers:

It's not that it's loud or obnoxious, it's just part of the deal. It's actually reassuring because you know that they're flying. So, when you get to camp, you know that you're going to get a ride out. (Interview 10)

It was nice that there was activity, because when we didn't hear planes, I started thinking maybe the weather in Denali's bad – so I was

kind of paying attention to that. (Interview 30)

Others noted hearing helicopters and associated those sounds with rescue operations that may have been occurring on the mountain, which provided a sense of security:

I like that comfort level, just knowing that [a rescue helicopter] is there. (Interview 14)

It was also noted that the sounds associated with helicopters and rescues made other climbers feel as though their permitting fees were being used appropriately:

I'm not just throwing my money out there; they actually have services. And whether or not a dollar goes to that cause, I think it's nice to see and hear. (Interview 20)

For the majority, aircraft were considered to be part of the mountaineering experience in DENA. Many expected the sounds, sights, and subsequent emotions (both positive and negative) from



Figure 3 – Kahiltna Glacier Base Camp view with aircraft landing area. Photo by B. Derrick Taff.

the aircraft they encountered during their expedition:

It didn't really bother me at all ... we kind of expected it. (Interview 19)

During a couple of interviews, aspects of wilderness experience were expressed following questions involving aircraft and aircraft-associated sounds:

For me it was a very wilderness feeling. Even with the traffic of airplanes coming and going, it still feels like a very wilderness area. (Interview 30)

I would say, in general, on the West Buttress, it's just the popularity and the access that people have through flying. If there were no planes, then definitely it would be wilderness because there wouldn't be nearly as many people there. (Interview 31)

Discussion

The purpose of this study was to provide DENA managers with information regarding mountaineers' experiences in the glaciated South District wilderness. This is pertinent given the lack of mountaineering-focused social science generally, and in particular the need for understanding perceptions of the area's soundscape. Results revealed several salient wilderness experience themes and topical areas that emerged, many extending beyond perceptions of the area's soundscape, mostly from mountaineers' experiences on the West Buttress route. With regard to the *extremes leading to challenge, self-, and team-reliance* theme, topical elements included camaraderie, extreme weather, adventure, risk, and underestimation of the challenges associated with mountaineering in DENA. Whether reaching the

summit or safely returning from the expedition, extreme weather, environmental hazards, and risks associated with mountaineering in DENA create an atmosphere that is unique to those who have relied on each other to succeed. In contrast to other types of wilderness, the extremes experienced while mountaineering in DENA provide for a distinct wilderness adventure, where solitude is important, but self- and team-reliance are perhaps most critical. These findings align with previous research suggesting that socialization is often an important component of mountaineering (Burke and Orlick 2003; Kedrowski 2009; Watson et al. 2008). The majority of the respondents in the current study traversed the popular West Buttress route, but despite the number of other climbers they saw on the well-established icy path, the unpredictable and often extreme weather frequently provides for a wilderness-like experience that should not be underestimated.

The *existing and future social and managerial conditions* theme provides several salient topics: experiences with rangers, crowding, behavior of other climbers, and disposal of human waste. The presence of rangers is extremely important for mountaineers in DENA, particularly on the West Buttress route. A few respondents felt safer when seeing rangers on the mountain, and the presence of rangers signified for some that their permit fees were going to good use. As DENA managers are faced with decisions about allocation of funding and changes in permitting fees, consideration should be given to the staffing of NPS rangers. Respondents in this study noted that rangers had saved lives and improved the DENA mountaineering experience for many climbers.

Perceptions of crowding represent another important topic encompassed within this theme. Respondents suggested that they did not feel overly crowded because they expected the density of other climbers that they experienced. Contrary to previous soundscape research (Pilcher, Newman, and Manning 2009), human-caused sounds, such as voices, were only rarely mentioned as an annoyance and did not impact perceptions of crowding for these respondents. However, the presence of other climbers was frequently cited as a key reason for at least occasionally not having a wilderness experience. Interestingly, respondents suggested that compared to other international mountaineering destinations, including some of the other Seven Summits, DENA's South District was less crowded and less disrupted by anthropogenic intrusions. Furthermore, many noted that there were numerous other mountaineering locations in the South District where they could experience solitude, should they wish to escape crowded conditions. Most crowding-related comments were specific to certain locations on the West Buttress route, such as the fixed-lines area, where respondents noted feeling dangerously crowded, or on departure from camps after waiting for a weather window. Managers should continue to monitor perceptions of crowding, determining precise locations, such as around the fixed-lines and camps, to inform wilderness experience trends and protect social and resource conditions. Managers must consider whether even slight increases in allotted permits will alter wilderness experience conditions within the South District. Furthermore, should crowding persist, climbers that are seeking a more solitude-focused type of wilderness experience may shift

use to other areas, potentially creating unforeseen impacts to resource and social conditions in DENA (Hall and Cole 2007).

Respondents also noted the disruptive, disrespectful, and potentially unsafe behaviors exhibited by other climbers. These behaviors were experienced around camps or in the crowded areas along the West Buttress. Disposing of waste improperly and not stashing caches sufficiently were frequently observed problems. Nearly all respondents had extremely positive comments regarding the effectiveness of the CMCs, which were often mentioned as helping to create a relatively pristine mountaineering experience. However, obvious evidence of urination was a common concern, particularly in the camps. Indirect management techniques, such as increasing education about Leave No Trace practices specific for mountaineers, may be an appropriate approach. Prescribed messaging encouraging staggered departures from camps may decrease crowding, increase safety, and result in behaviors that reduce resource impacts (Ward 2005).

The theme of *shared access* resulted from topics related to mountaineers' views about air taxis, flightseeing clients, and visitors landing on glaciers in the DENA wilderness. Respondents mentioned the tradeoffs associated with access for climbers, aircraft operators, and flightseers. The majority of respondents indicated that aircraft are a critical means of access for all who wish to experience the glaciated DENA wilderness. Several respondents noted the importance of aircraft users to provide economic support for the local communities, suggesting that income from flights was one of the few economic drivers in the area.

The perceived *safety through*

soundscapes theme represents one of the most salient features related to perceptions of the area's acoustic environment. A focal area linked to this theme included experiences with the sounds of aircraft. Mountaineers' perceptions regarding aircraft sounds were generally positive. Respondents suggested that aircraft sounds provide information about the weather (e.g., good weather if they hear aircraft flying; poor weather when no aircraft sounds are audible), which can assist

In contrast to other types of wilderness, the extremes experienced while mountaineering in DENA provide for a distinct wilderness adventure, where solitude is important, but self- and team-reliance are perhaps most critical.

in determining appropriate times to travel. Aircraft sounds also provided a sense of security and safety because the respondents felt that rescue operations could be used, but only if necessary. Despite previous research associating the presence of aircraft sounds in wilderness with annoyance (Fidell et al. 1998; Tarrant, Haas, and Manfredo 1995), most mountaineers indicated that the aircraft conditions they experienced (e.g., sound levels, proximity, and frequency) were appropriate for the environment. Generally, respondents expected the sounds, sights, and emotions associated with the aircraft they encountered during their expeditions. However, it should be reiterated that nearly all respondents were West Buttress route mountaineers who generally expected these soundscape

conditions in this relatively popular area. This aligns with previous research suggesting that attitudes and recreational motives affect perception of soundscapes (Marin et al. 2011; Tarrant, Haas, and Manfredo 1995). Finally, while mountaineers may not be highly sensitive to aircraft sounds, research suggests that other wilderness user-groups are affected by these intrusions (Miller 1999; Taff et al. 2013; Tarrant, Haas, and Manfredo 1995), and managers should consider encouraging flight paths that minimize impacts to wilderness experience for these users.

Recommendations

DENA management should emphasize to future mountaineers that the South District, and in particular the West Buttress route, is not to be underestimated. Despite perceptions regarding the presence of rangers, rescue aircraft (should weather allow), and reliance on features such as the fixed-lines, the area is still designated wilderness and should be recognized as a place of "primeval character" providing "opportunities for solitude or a primitive unconfined type of recreation" (Wilderness Act, Section 2(c), 1964). While this study indicated that current perceptions might not always be congruent with typical "primeval" characteristics, should managers deem it appropriate, they could attempt to alter perceptions through messaging, to align more with wilderness management objectives (Taff et al. 2013). Furthermore, the importance of both self- and team-reliance, a salient topic that emerged from this study, should be highlighted in order to ensure that the South District maintains these characteristics. Finally, use of increased indirect management, such

as Leave No Trace–based educational strategies specific for mountaineers, could be applied to alleviate some of the additional social and resource impacts (e.g., disrespectful behaviors, urine throughout camps) related to the mountaineers’ experiences and themes that emerged from this study.

References

- Burke, S. M., N. Durand-Bush, and K. Doell. 2010. Exploring feel and motivation with recreational and elite Mount Everest climbers: An ethnographic study. *International Journal of Sport and Exercise Psychology* 8(4): 373–393.
- Burke, S. M., and T. Orlick. 2003. Mental strategies of elite Mount Everest climbers. *Journal of Excellence* 8: 42–58.
- Ewert, A. W. 1994. Playing the edge: Motivation and risk taking in a high-altitude wilderness-like environment. *Environment and Behavior* 26(3): 3–24.
- Fidell, S., J. Gramann, R., Kropf, and K. Pearsons. 1998. Response to “comments on ‘effects of aircraft overflights on wilderness recreationists.’” *Journal of the Acoustical Society of America* 104(3): 1729–1732.
- Hall, T. E., and D. N. Cole. 2007. Changes in the motivations, perceptions, and behaviors of recreation users: Displacement and coping in wilderness. Research Paper RMRS-RP-63. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Henderson, K. A. 1991. *Dimensions of Choice: A Qualitative Approach to Recreation, Parks, and Leisure Research*. State College, PA: Venture Publishing, Inc.
- Kedrowski, J. J. 2009. *Climbers’ Perceptions of McKinley (Denali), “The High One” – Climbers’ Perceptions on McKinley: Crowding Concerns, Hazards, and Climber Demographics*. NPS Report. NPS Study # DENA-00789. Denali National Park and Preserve.
- Marin, L. D., P. Newman, R. E., Manning, J. J. Vaske, and D. Stack. 2011. Motivation and acceptability norms of human-caused sound in Muir Woods National Monument. *Leisure Sciences* 33(2): 147–161.
- McIntosh, S. E., M. McDevitt, G. W. Rodway, J. Dow, and C. K. Grissom. 2010. Demographic, geographic, and expedition determinants of reaching the summit of Denali. *High Altitude Medicine & Biology* 11(3): 223–229.
- Miller, D. R. 2005. Humility in the Alaskan wilderness. *International Journal of Wilderness* 11(2): 31–34.
- Miller, N. P. 1999. The effects of aircraft overflights on visitors to U.S. National Parks. *Noise Control Engineering Journal* 47(3): 112–117.
- National Park Service. 2006. *Denali National Park and Preserve final Backcountry Management Plan: General Management Plan Amendment and Environmental Impact Statement*. Final EIS.
- National Park Service. 2014. Denali National Park and Preserve wilderness factsheet. Retrieved from <http://www.nps.gov/dena/parkmgmt/upload/fact2014-March-final.pdf>
- Norris, F. 2009. Mountaineering management on Mount McKinley: Unraveling a crisis at the 17,000-foot level. In *People, Places, and Parks: Proceedings of the 2009 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites*, ed. D. Harmon (pp. 195–201). Hancock, MI: The George Wright Society.
- Pilcher, E. J., P. Newman, and R. E. Manning. 2009. Understanding and managing experiential aspects of soundscapes at Muir Woods National Monument. *Environmental Management* 43(3): 425–435.
- Pomfret, G. 2011. Package mountaineer tourists holidaying in the French Alps: An evaluation of key influences encouraging their participation. *Tourism Management* 32: 501–510.
- . 2012. Personal emotional journeys associated with adventure activities on packaged mountaineering holidays. *Tourism Management Perspectives* 4: 145–154.
- Rodway, G. W., S. E. McIntosh, and J. Dow. 2011. Mountain research and rescue on Denali: A short history from the 1980s to the present. *High Altitude Medicine & Biology* 12(3): 277–283.
- Roggenbuck, J. W., D. R. Williams, and A. E. Watson. 1993. Defining acceptable conditions in wilderness. *Environmental Management* 17(2): 187–197.
- Taff, B. D., P. Newman, S. R. Lawson, L. D. Marin, A. W. Gibson, T. Archie, and A. Bright. 2013. The role of messaging and acceptability of military aircraft sounds in Sequoia National Park. Retrieved from *Applied Acoustics*, <http://dx.doi.org/10.1016/j.apacoust.2013.09.012>.
- Tarrant, M. A., G. E. Haas, and M. J. Manfredo. 1995. Factors affecting visitor evaluations of aircraft overflights of wilderness areas. *Society & Natural Resources* 8(4): 351–360.
- Tranel, M. J. 2006. Denali air taxi: Unique relationships with park and visitors. In *People, Places, and Parks: Proceedings of the 2005 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites*, ed. D. Harmon (pp. 242–248). Hancock, MI: The George Wright Society.
- Ward, W. C. 2005. Minimizing mountaineering impacts in Denali National Park and Preserve. *International Journal of Wilderness* 11(2): 37–40.
- Waterman, J. 1988. *High Alaska: A Historical Guide to Denali, Mt. Foraker, and Mt. Hunter*. New York: American Alpine Club.
- Watson, A. E., K. Knotek, and N. Christensen. 2008. On the outside looking in: Fly-in recreation day use visitor experiences in the South District of Denali National Park and Preserve. *International Journal of Wilderness* 14(2): 19–23.
- Wilderness Act, Definition of Wilderness, Section 2(c). 1964. Public Law 88–577 (16 U.S.C. 1131–1136).
- Wilson, G. A. 2012. Climbers’ narratives of mountain spaces above 8000 metres: A social constructivist perspective. *Area* 44(1): 29–36, DOI: 10.1111/j.1475-4762.2011.01021.x.
- Withers, J., and G. Adema. Winter 2009–2010. Soundscapes monitoring and an overflight advisory group: Informing real-time management decisions at Denali. *Park Science* 26(3): 42–45.

B. DERRICK TAFF is an assistant professor in the Recreation, Park, and Tourism Management Department, Pennsylvania State University, 701H Donald H. Ford Building, University Park, PA 16803, USA; email: bdt3@psu.edu.

DAVID WEINZIMMER completed his master’s in human dimensions of natural resources at Colorado State University, and now works in the outdoor recreation industry in Salida, CO.

PETER NEWMAN is a department head and professor in the Recreation, Park, and Tourism Management Department at Pennsylvania State University.

Wilderness Stewardship Is Too Important to Not Be Guided by Meaningful Policy

BY DAVID N. COLE

To some degree, the United States' Wilderness Act of 1964 codifies in law which activities and actions should or should not be taken in wilderness. Commercial enterprises that are not specifically provided for in the act, such as timber harvesting, are prohibited. Building reservoirs, power projects, and transmission lines are only allowed if the president of the United States deems them to be in the public interest. Actions to control fire, insects, and diseases are to be taken only if they are necessary and deemed desirable by the U.S. secretary of agriculture. The public use of aircraft and motorboats may only be permitted where such use was established prior to wilderness designation. Finally, there are to be “no temporary roads, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport and no structure or installation” except where these activities are the minimum necessary to administer the area for the purpose of the act. In contrast to these generally prohibited uses, wilderness is to be devoted to recreational, scenic, scientific, conservation, and historical use.

The clarity that the Wilderness Act provides about the appropriateness of these activities and action does not extend to all the management decisions that wilderness stewards must make. Where the law can be interpreted in shades of gray, rather than in black and white, clarity regarding what stewards should decide can be provided through agency policy and guidance. Alternatively, if meaningful agency policy and guidance is not provided, decision makers are left with wide discretion to decide whatever they want, based largely on their personal value system and experience, along with outside influences such as traditional ways of doing things and local politics. To the extent that it is important for wilderness stewards to



David Cole below the Nankoweap granaries in Grand Canyon National Park. Photo by Michael Mantell.

make consistent decisions, with outcomes that contribute to societal goals and values, agencies should provide clear and meaningful policy.

Management Dilemmas and Agency Policy

Fifteen years ago, I wrote a paper on management dilemmas facing wilderness stewards at the start of the 21st century (Cole 2001). I discussed two dilemmas, each the result of conflict between two desirable purposes or attributes of wilderness described in the Wilderness Act. One dilemma – not a new one – involves conflict between providing access to wilderness for its “use and enjoyment” and protecting the biophysical conditions and experiences that uniquely define wilderness but are degraded by recreational use. To what extent and in which situations should stewards limit the use and enjoyment of wilderness in order to avoid adverse effects on the environment and experiences? The other dilemma – only publicized



Figure 1 – Outstanding opportunities for solitude are an important attribute of wilderness threatened in some portions of popular wilderness areas close to large urban populations. Where most use is day use, wilderness stewards have little guidance regarding limiting use to protect wilderness experiences. Photo by David Cole.

within recent decades (Cole 1996; Smith 2014) – involves conflict between two desirable attributes of wilderness ecosystems, lack of intentional human manipulation (prescribed in the language of the act as untrammeled and sometimes referred to as wildness) and relative lack of human influence (sometimes referred to as naturalness). To what extent and in which situations should stewards intervene in wilderness ecosystem conditions and processes in an attempt to mitigate anthropogenic impacts? I argued that the future of wilderness and the values it provides will largely be determined by the decisions stewards make in response to these two dilemmas. Therefore, these decisions should be guided by clear federal policy.

Clear, specific, and meaningful policy was lacking in 2000 and is still

lacking today. Regarding how to decide whether recreation use should be restricted, each U.S. federal land management agency’s policy says little more than that restrictions *may* be used to protect wilderness values. Bureau of Land Management policy, which was revised in 2012, provides the most specificity. It states that “solitude is not required on every acre of wilderness” and that “management restrictions are easier to justify if also taken to protect the area’s Natural quality” – rather than just to protect solitude and visitor experience quality (USDI Bureau of Land Management 2012). Given that all

the agencies lack meaningful policy, whether restrictions such as use limits have been implemented is determined more by management agency and length of stay and less by the extent to which wilderness values have been degraded. Most wildernesses with use limits are managed by the National Park Service, most of those limits were put in place more than 30 years ago, and most apply only to overnight use.

Wilderness policy regarding the appropriateness of ecosystem intervention and manipulation is equally ambivalent. It typically states that management will not “intervene” (USDI National Park Service 2006) or “interfere” (USDI Fish and Wildlife Service 2008) with ecosystem processes, that such actions should be used only as “a last resort” (USDA Forest Service 2006). However, it

goes on to state that manipulation “is permitted” (USDI Bureau of Land Management 2012) or processes “may need to be actively managed” (USDI National Park Service 2006) wherever they have “been disrupted by past or ongoing human activities” (USDI National Park Service 2006), have “become unnatural” (USDI Fish and Wildlife Service 2008) or “where natural processes alone cannot recover the area” to conditions that “would likely have developed with minimal human influence (USDI Bureau of Land Management 2012). Since even the most remote wildlands have been disturbed by human activities (Stephenson et al. 2010), the general direction to not intervene is not applicable on most wilderness lands. Given this seemingly contradictory guidance, it is not surprising that the practice of ecosystem intervention (prescribed fire, use of herbicides, etc.) is highly inconsistent. Whether intervention occurs or not has little to do with either the magnitude of human disturbance or the degree to which interventions trammel wilderness.

Decision-Making Frameworks Instead of Policy

In response to widespread confusion about how to resolve these dilemmas and inconsistency in practice, agency scientists and training specialists, particularly those at the Aldo Leopold Wilderness Research Institute and Arthur Carhart National Wilderness Training Center, have developed a number of rational frameworks for making decisions. Perhaps the first of these, devised to help wilderness stewards decide where restrictions on recreation use are appropriate, was the Limits of Acceptable Change planning framework (Stankey et al. 1985). More recently, frameworks

have been devised for deciding on the appropriateness of scientific activities in wilderness (Landres et al. 2010), and a framework is currently being developed for deciding on the appropriateness of ecosystem restoration (Hahn and Landres 2014). The most ambitious of these frameworks is the Minimum Requirements Analysis (MRA), implemented using the Minimum Requirements Decision Guide (MRDG) (Arthur Carhart National Wilderness Training Center 2014). The MRA was originally developed for the specific purpose of deciding whether uses generally prohibited by the Wilderness Act (e.g., temporary roads, motor vehicles, and structures) should be allowed because they are the minimum necessary to administer the area to meet the purpose of the Wilderness Act. Recently, the MRA and MRDG have been expanded and generalized to make them applicable to decisions regarding the appropriateness of virtually any action that might be taken in wilderness.

What these processes have in common is that they lead wilderness stewards through a structured process of documenting the assumptions, facts, and value choices that go into making a decision. They typically consist of a sequenced list of questions or things to consider, often organized as a cost-benefit analysis that assesses whether wilderness values are collectively enhanced or degraded by taking a proposed action. Widespread use of these frameworks has had a number of benefits, including increasing the thoughtfulness and transparency of wilderness stewardship decisions and consistency in how decisions are made. However, use of these frameworks has not necessarily resulted in better decisions – decisions that

are more consistent and more in line with desired outcomes. Decisions are fundamentally choices among competing values. A framework is simply an edifice or structure in which to organize the decisions among competing values that make up the ultimate decision. It is the role of policy and guidance – not the framework – to ensure that such decisions reflect societal values rather than those of whoever happens to have the authority to make decisions. Frameworks guide *how* decisions are made, but only meaningful policy can guide *what* those decisions should be.

This difference between the roles and capabilities of policy and analytical frameworks is not always appreciated. An example can be found in the *2020 Vision* document, a set of interagency goals, objectives, and actions, adopted by the United States' wilderness management agencies at the conference celebrating the 50th anniversary of the Wilderness Act, and intended to guide collaborative stewardship of wilderness into the future. One of the proposed actions is to “minimize management interventions that modify natural conditions by using the Minimum Requirements Analysis process to make decisions on all proposed management interventions” (2020 Vision 2014). Working through the MRA, however, will do little to achieve the desired outcome of minimizing interventions if those making decisions view loss of natural



Figure 2 – Restoration of small-scale disturbances, such as this trail in Alpine Lakes Wilderness in Washington, is generally noncontroversial. However, the appropriateness of larger-scale interventions in wilderness is controversial and decisions are not guided by clear policy.

conditions to be a graver threat to wilderness values than the trammeling that occurs with intervention. If the agencies truly want to minimize interventions they need to incorporate that goal into policy, by making it clear that the untrammeling quality of wilderness is the foremost wilderness quality to protect – that interventions are seldom appropriate, even where conditions have been disrupted by human activity and those conditions cannot recover by natural processes alone. With such a policy in place, using the MRA will have the desired result. Without such policy, it will not.

More Meaningful Stewardship Policy Is Needed Now

Where the collective outcome of numerous decisions, independently made by many different people, is considered important, those decisions

should be guided by clear, specific, and meaningful policy. When the U.S. government got serious about reducing dependence on foreign oil, it did not simply ask car buyers to do a cost-benefit analysis that considers fuel economy along with factors such as performance, appearance, and safety; instead it implemented policy that regulates the fuel efficiency of the nation's cars. Even when it comes to decisions that line officers in the U.S. federal land management agencies make regarding response to wildfire or extraction of timber and mineral resources, decisions are highly constrained by agency policy and guidance. Isn't wilderness stewardship also important enough to be guided by meaningful policy?

There are a number of barriers to the development of meaningful policy, not the least of which are procedural requirements, which generally involve substantial public involvement. Perhaps the foremost barrier, however, is the tendency to avoid making difficult and controversial decisions, particularly when there are few vocal advocates for more specific policy. Consider the dilemma regarding whether to intervene in an attempt to restore humanly disturbed ecosystem processes in wilderness. If policy was developed that discouraged intervention, those who most value self-willed wilderness would be happy, while those who are more concerned with protection of native biodiversity would be unhappy (Smith 2014). Where values conflict, it is easier for agency leaders to ignore this conflict than to confront it by developing policy that clarifies which set of values has priority.

A common argument for not developing specific policy is that managers need the flexibility to respond to diverse situations. This is a valid

concern. The management techniques most appropriate in desert wilderness are likely different from those in high mountains or lush forests. Managers need situational flexibility – the ability to vary how they respond with differences in situational variables such as environmental characteristics. Flexibility becomes problematic, however, when two different decision makers, managing the same situation, seek widely divergent outcomes because they have different personal views about the relative importance of competing values. Good policy will narrow managerial discretion regarding the desired outcome of management, while retaining the situational flexibility to vary how a given outcome is reached.

Decision making has been improved by widespread use of decision-making frameworks. The transparent and thoughtful decisions that result from using these frameworks are better than decisions without those qualities. However, it is even more important to ensure that stewards make the “right” decisions – that their decisions consistently contribute to societal goals and values. This requires more specific policy about the desired outcomes of stewardship – policy that will guide the choices between competing values that are at the heart of any decision, regardless of the decision-making framework employed.

In 1999, the agencies charged with the responsibility of managing wilderness formed an Interagency Wilderness Policy Council to, among other things, “coordinate and improve consistency in the interpretation and implementation of the Wilderness Act.” Wilderness stewardship would benefit greatly if the council moved aggressively, and in an interagency fashion, to increase the clarity and

meaningfulness of wilderness stewardship policy. They could create a task force to listen to stakeholders with varied values and divergent opinions about stewardship issues and policy. The task force could identify policy choices and describe the likely consequences of these choices, providing the Policy Council with the information it needs to develop more meaningful policy. The ultimate result would be more consistent, efficient, and effective wilderness stewardship.

References

- 2020 Vision. 2014. *2020 Vision: Interagency Stewardship Priorities for America's National Wilderness Preservation System*. Retrieved February 17, 2015, from www.wilderness.net/toolboxes/documents/50th/2020_Vision.pdf.
- Arthur Carhart National Wilderness Training Center. 2014. *Minimum Requirements Decision Guide, 2014 Revision*. Retrieved February 17, 2015, from www.wilderness.net/MRA.
- Cole, D. N. 1996. Ecological manipulation in wilderness: An emerging management dilemma. *International Journal of Wilderness* 2(1): 15–19.
- . 2001. Management dilemmas that will shape wilderness in the 21st century. *Journal of Forestry* 99: 4–8.
- Hahn, B., and P. Landres. 2014. *The Unique Legal, Scientific, and Ethical Challenges of Restoration in Wilderness*. Powerpoint presentation retrieved February 17, 2015, from www.wilderness.net/NWPS/webinars.
- Landres, P. ed. 2010. *A Framework to Evaluate Proposals for Scientific Activities in Wilderness*. General Technical Report RMRS-GTR-234. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.
- Smith, J. F. 2014. The wilderness paradox. *Orion* September–October 2014.
- Stankey, G. H., D. N. Cole, R. C. Lucas, M. E. Petersen, and S. S. Frissell. 1985. *The Limits of Acceptable Change (LAC) System for Wilderness Planning*. General Technical Report INT-176. Ogden, UT: USDA Forest Service, Intermountain Research Station.

Continued on page 48

Considering Solitude in Grand Canyon's Corridor

BY PETER R. PETTENGILL

Regardless of its official wilderness designation, Grand Canyon National Park is arguably one of the most iconic wild places in the National Park System. It has drawn more than 4 million visitors a year since 1992, but its backcountry remains a bastion of solitude. As the second century of the U.S. National Park System approaches, park managers at Grand Canyon will have to weigh the importance of preserving solitude in light of contemporary policies aimed at engaging a growing and increasingly diverse population. Wrestling with the relevancy of solitude promises to be at the heart of this issue.

The Importance of Solitude at Grand Canyon

Decades of research demonstrate that solitude, one of the five qualities of wilderness character, is an important motivation among visitors to Grand Canyon's backcountry (Towler 1977; Underhill et al. 1986; Stewart 1997; Backlund et al. 2006). A questionnaire administered to Grand Canyon backcountry users in 1977 found that 96% of respondents considered the opportunity "to get away from the sights, sounds, and smells of civilization" to be either "fairly" or "very important" to their trip (Towler 1977). A similar study conducted nearly a decade later found that 90% of respondents placed some degree of importance on "being alone" during their trip (Underhill et al. 1986). Yet another questionnaire, conducted 10 years later, used open-ended questions to allow visitors to describe the "high point" of their trip. Responses included phrases such as being "away from the world," "away from other people," and "away from civilization" (Stewart 1997). Finally, a recent study of backcountry day hikers noted "solitude" as being an important motivation for 87% of respondents (Backlund et al. 2006). Clearly, solitude is relevant to the backcountry experience at Grand Canyon National Park.



Peter Pettengill in Grand Canyon National Park's backcountry. Photo by Anna Sommer.

Grand Canyon National Park's Proposed, Potential, and Not Wilderness

Approximately 1,143,918 acres (462,927 ha) (94%) of Grand Canyon National Park is proposed wilderness. Of that, 1,117,457 acres (452,218 ha) is recommended for immediate wilderness designation and 26,461 acres (63,386 ha) is recommended for designation as potential wilderness. Therefore, these lands are managed as wilderness as guided by National Park Service (NPS) policy (USDI National Park Service 2006). This includes providing opportunities for solitude as directed by the Wilderness Act of 1964 (Public Law 88-577 1964). However, regardless of visitor motivations for recreation, the park's Corridor management zone has *not* been recommended for immediate or even potential wilderness designation.

The Corridor is one of four backcountry management zones within Grand Canyon National Park (Figure 1). It offers the most developed backcountry recreation opportunities, including the Bright Angel and North and South Kaibab Trails; Cottonwood, Bright Angel, and Indian Garden developed campgrounds; Phantom Ranch tourist lodging; ranger stations; and sewage and water treatment facilities. These amenities increase access to the

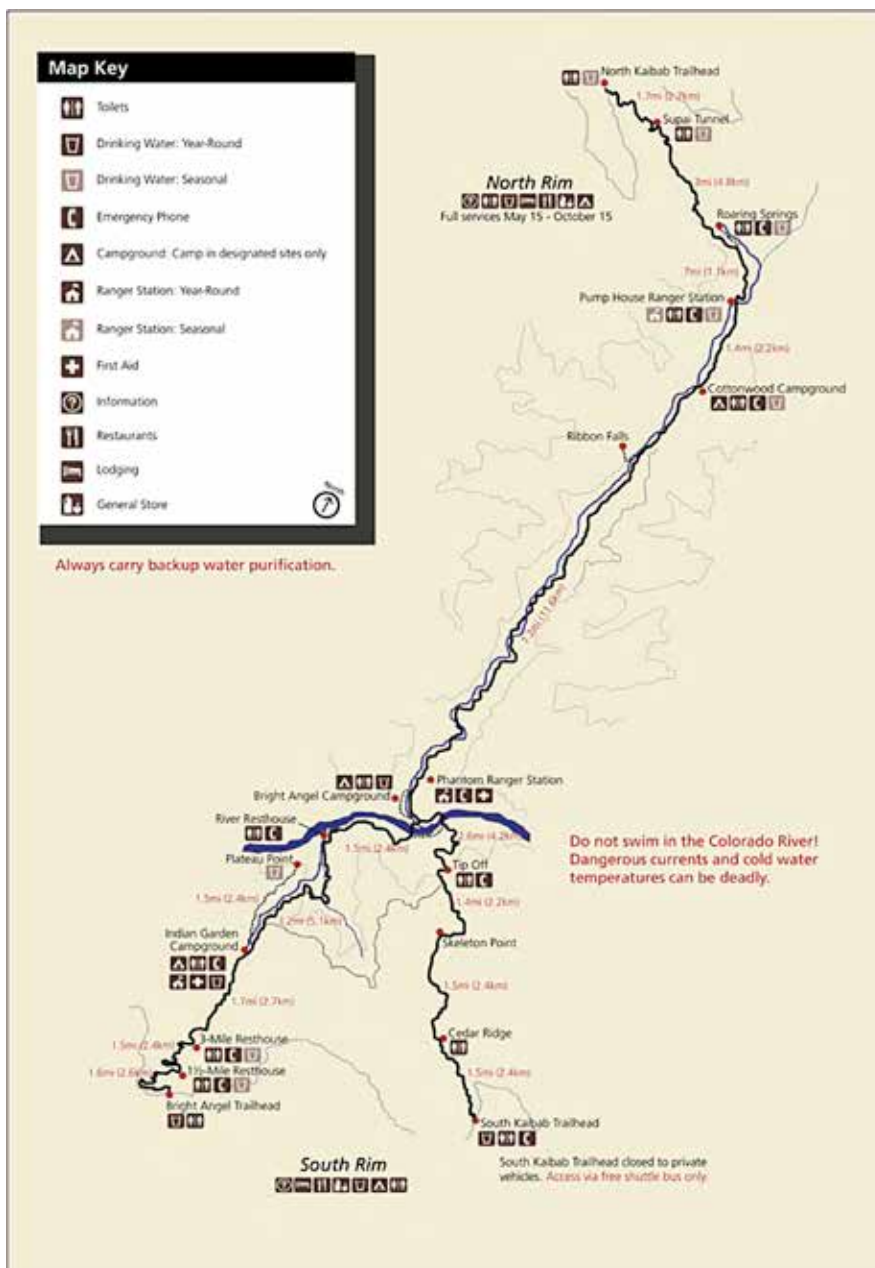


Figure 1 – Park map of Corridor trails and facilities. Courtesy of NPS.

backcountry and support its largest levels of overnight visitation (57% of overnight backcountry use in 2012). While overnight use levels in the Corridor have long been measured, monitored, and managed through an active permit system, day use has remained unconfined by regulation.

Corridor Management Policy

Grand Canyon National Park's 1995 General Management Plan (GMP) promised to "maintain the

opportunity for threshold wilderness experiences" along Corridor trails (USDI National Park Service 1995, p. 36), implying that while the Corridor may not be wilderness it should provide a transition zone or gateway to them. It also stated that use levels are a critical element of visitor experiences and instructed that an active monitoring program, along with indicators and standards, be established to determine visitor carrying capacities on Corridor trails.

Furthermore, the GMP directed that "measures may be taken under the Backcountry Management Plan if carrying capacities are exceeded" (ibid., p. 58), and suggested "the possibility of day use permits or other restrictions" (ibid., p. 60).

The park's 1988 Backcountry Management Plan (BMP) implicitly established indicators and standards for visitor carrying capacities. Indicators have been described as measurable, manageable variables that help define the quality of parks and outdoor recreation areas and opportunities, and standards define the minimum acceptable condition of indicator variables (Manning 2007). One example of an indicator from Grand Canyon's BMP is the "number of daytime contacts with other people" (Backcountry Management Plan 1988, p. 37). This indicator serves as a proxy for solitude, and standards for it were developed for each backcountry management zone.

Various standards for encounters with other overnight groups, day hikers, and river users were distinguished across backcountry management zones, although some were more specific than others. As an example, a standard of "one or fewer contacts with other overnight parties or groups per day" was established for Grand Canyon's Wild Management Zone. As noted earlier, the park consists of four backcountry management zones. These zones provide a range of recreation opportunities, with the Corridor being the most developed and accommodating the highest levels of use, while the Wild Management Zone is largely undisturbed, natural processes predominate, and outstanding opportunities for solitude exist. Standards for contacts with day hikers and rivers users in the Wild Management zone were vague and described as

“probably no contact with day hikers” and “potential contact with many river users in some areas.” Furthermore, other than overnight campground capacities, the 1988 BMP did not prescribe any explicit numeric standard for the Corridor Management Zone. In its case, the minimum acceptable condition for daytime contacts with other people is “large numbers” and does not distinguish between user types. This leaves management of visitor use levels in the Corridor largely under NPS discretion.

Addressing Issues and Assessing Use Levels

On August 27, 2014, Grand Canyon National Park issued a news release announcing an interim Special Use Permit system for organized, noncommercial groups conducting rim-to-rim extended day hikes and runs (information regarding details of the interim policy is available at www.nps.gov/grca/learn/news/interim-permits-r2r.htm). This action was the result of a number of issues associated with increasing use of Corridor trails, including resource impacts, overburdened facilities, mounting pressures on search and rescue operations, and issues related to user conflict and crowding. Each of these issues has been documented by park staff and corroborated by visitor comments in recent years. Furthermore, public scoping for the park’s revised Backcountry Management Plan held in 2011 emphasized many of these same concerns. These emerging issues related to increasing visitation led park staff to begin a pilot study to help measure use levels along Corridor trails in 2013.

Automated trail counters were established several miles beyond the trailheads of the Bright Angel,

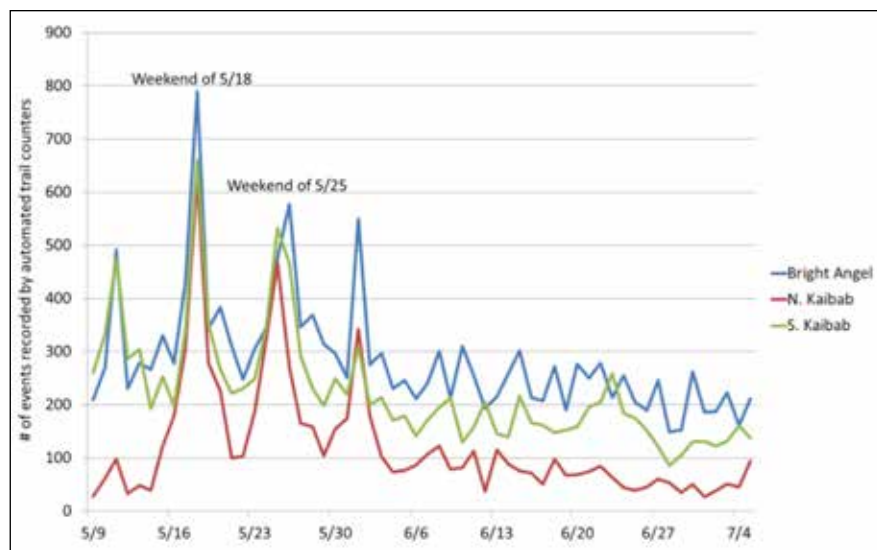


Figure 2 – Automated trail counts illustrating visitor use patterns on Corridor trails in spring.

North, and South Kaibab trails to help estimate use levels. This data, combined with overnight backcountry permit data, allowed park staff to begin assessing use levels and patterns of visitors hiking or running to the Colorado River and back, or across the canyon (rim-to-rim), in a single day. Data from each of the automated trail counters is illustrated in Figure 2. It is important to note that the data from this figure describes the number of events as recorded by each automated trail counter. It is not adjusted to account for back-and-forth travel by individual visitors.

Perhaps more important than the levels of use illustrated in Figure 2 is the pattern it reveals. Peak use periods occur on a handful of weekends in the spring. These high use levels likely correspond to and exacerbate many of the issues described above, but the frequency of these high use periods is intermittent and predictable (e.g., weekends in May) (Figure 3).

Solitude Lost in Light of Contemporary Policy and Current Trends

The NPS estimates up to 800 people are traveling in the inner canyon

during peak weekend days in spring and fall. Of that, 400 to 600 people are hiking or running rim-to-rim in a given day. It is hard to imagine that anyone could experience solitude or even have a “threshold wilderness” experience given these conditions. Undoubtedly, solitude is lost in the Corridor over weekends in the spring and fall. However, what are the potential benefits of accommodating this use?

With the coming of the second century of the U.S. National Park System drawing near, the National Park Service established “A Call to Action” to guide park planning and management in future years. Some of the primary mandates of this call are to “expand the use of parks as places for healthy outdoor recreation that contributes to people’s physical, mental, and social well-being,” and “welcome and engage diverse communities through ... experiences that are accessible to all” (U.S. Department of the Interior 2011, p. 9). In light of this guidance, the stark challenge of managing solitude in the Corridor may become a resounding opportunity to act.

In 2013, the Outdoor Foundation reported that “running,



Figure 3 – A typical scene on a peak weekend (approx. 12 miles/19.3 km into the Corridor’s backcountry). Photo by Peter Pettengill.

including jogging and trail running, was the most popular outdoor activity with more than 53 million participants and a participation rate of 19 percent” (Outdoor Foundation 2013, p. 7). Running is also described as a “gateway” to other types of outdoor recreation (ibid., p. 26) and is the favorite form of recreation for all racial and ethnic groups researched in the study, including African Americans, Asian/Pacific Islanders, Caucasians, and Hispanics (ibid., p. 48). Clearly, introducing visitors to Grand Canyon through extended day use, including trail running, is in keeping with the call to action.

It is also clear that wilderness, including proposed wilderness,

be managed to provide opportunities for solitude (Public Law 88-577 1964; USDI National Park Service 2006). So, is there an inherent conflict between the call to action and long-standing legislation? How might park managers expand the use of parks as places for healthy outdoor recreation while simultaneously introducing the next generation of wilderness stewards to its enduring resources? Contemplating this conflict between access and preservation is more than a contemporary issue.

Wrestling with Solitude and Relevancy

The National Park Service Organic Act of 1916 is frequently cited as a dual mandate. Nearly 100 years ago it set in motion a mission “to conserve the

scenery and the natural and historic objects and the wild life therein and to provide for enjoyment of the same in such manner as will leave them unimpaired for the enjoyment of future generations.” Indeed, it often seems at odds with itself when society frequently associates access with enjoyment and use with inherent impacts to resources. And yet, the national parks have thrived during the last century. Not through a constant conflict within the mission but rather through a thoughtful and creative balancing of the act. This legacy of planning and management should continue in the future. As stated in the *National Parks Second Century Commission Report*, “To

fulfill its mission in the next hundred years, the National Park Service must cultivate both strength of purpose and flexibility of approach” (National Parks Conservation Association 2009, p. 22).

Undoubtedly, a strong purpose of our parks is to protect resources; this includes a commitment to preserving solitude, a key feature of wilderness character. This strength of purpose has been cultivated over the last century. However, solitude is likely best served by a society that finds it relevant; relevant in an increasingly urbanized world and relevant as part of healthy outdoor recreation that includes rejuvenation of mind, body, and spirit. Facilitating opportunities for park visitors to not only access park trails but also experience solitude will help maintain its relevance and serve its long-term protection. So, what flexible approaches may be available to continue facilitating these opportunities?

A Gateway to Solitude

Trails in the Corridor management zone provide the most accessible means of experiencing the canyon’s grandeur from below the rim. Furthermore, in keeping with a vision for *The Future of America’s National Parks* they are quintessential examples of “superior recreational destinations where visitors have fun, explore nature and history, find inspiration, and improve health and wellness” (Kempthorne 2007, p. 13). While the next generation of wilderness stewards’ first exposure to Grand Canyon National Park’s backcountry may be sharing Corridor trails with hundreds of others on a weekend in spring, it may also provide inspiration to return.

Solitude is an enduring resource of wilderness, but Grand Canyon’s

Corridor is *not* wilderness. It can, and often does, however, serve as a gateway to wilderness. Day hikers may return to travel trails on less busy days. They may even find themselves contemplating an overnight stay at Phantom Ranch or planning a backpacking trip that includes Cottonwood, Bright Angel, and Indian Garden campgrounds. Eventually, return visitors may even apply for a backcountry permit in Grand Canyon's proposed wilderness, knowing that the promise of pristine nature and unadulterated solitude is worth the wait.

While the gateway to wilderness described above depicts an idyllic introduction to solitude, it assumes that high use periods on Corridor trails will remain concentrated on a handful of weekends a year. But what if that is not the case? What if use on weekdays begins to resemble that of weekends as visitors seeking solitude begin to understand these use patterns? Furthermore, should visitors seeking solitude during spring months be sanctioned to weekdays for their desired experience?

Many of the issues managers face at Grand Canyon National Park may be addressed through outreach and education: information regarding Leave No Trace principles to reduce resource impacts; information regarding how to Hike Smart (www.nps.gov/grca/planyourvisit/hike-smart.htm) to reduce pressures on search and rescue operations; and information on Trail Courtesy (www.nps.gov/grca/planyourvisit/courtesy.htm) to minimize user conflict. But issues of crowding and loss of solitude may require setting capacities and developing a day-use permit system.

Grand Canyon National Park's GMP specifically notes the implementation of day-use permits as one management action that could address

carrying capacities being exceeded. Yet, carrying capacities for day use have not been established. Furthermore, in light of contemporary policy and acknowledging that perceptions of solitude may vary, one may question the value of a single carrying capacity for the Corridor. Current use patterns demonstrate that the highest demand for recreation on Corridor trails occurs on weekends in the spring and fall. Common sense dictates that summer temperatures may warrant no day hiking in the inner canyon at all (average high temperature is over 100° F/38° C, June through August). And, inclement weather and icy trail conditions may be enough to maintain opportunities for solitude throughout winter months. But, are the climactic conditions of the canyon enough to preserve diverse recreation opportunities?

Conclusion

Grand Canyon National Park's Corridor management zone provides a diverse range of opportunities within a single setting. It accommodates stock users, day hikers, backpackers, and trail runners. Its facilities support high levels of use during peak seasons, but one can still find relative solitude within its bounds throughout much of the year. Furthermore, with each season comes an ebb and flow of visitation, allowing backcountry users to experience a social setting best suited to their desires. This diversity should remain and become more deliberate.

A day-use permit system implemented during spring and fall months would provide flexibility and strengthen the diversity of opportunities in the Corridor. Management of the Corridor need not fall into the trap of either/or but rather provide both high levels of access and oppor-

tunities for relative solitude. This could be achieved through variable use limits rather than a single capacity. A standardized capacity may lead to a homogenized experience as demand potentially increases and balloons into traditionally lower use periods. Variable use limits, based on current conditions and sound professional judgment, would not only preserve diverse opportunities in the Corridor but also maximize access to healthy recreation while maintaining opportunities for relative solitude.

The National Park Service piloted a visitor use study to help measure use levels on Corridor trails in 2013. It has allowed park managers to not only identify peak periods of use but also to acknowledge the wide range of use levels over the course of a year. Currently, accommodating high use on a handful of weekends in the spring and fall may serve solitude best by introducing multitudes to intermittent moments of peace and quiet below the rim. But, as these visitors return seeking more, the onus will be on park managers to continue to provide it. It is clear that managers are mandated to preserve solitude in proposed wilderness. However, it should not be unreasonable for visitors to expect relative solitude throughout much of the year, even in the Corridor.

Grand Canyon National Park is currently in the process of revising its Backcountry Management Plan. For more information regarding the planning process and how you can be involved, please visit <http://www.nps.gov/grca/parkmgmt/bmp.htm>.

References

- Backlund, E., W. Stewart, and Z. Schwartz. 2006. *Backcountry Day Hikers at Grand Canyon*

Continued on page 32

Visitor Use, Attitudes, and Perceptions at Mount San Jacinto State Wilderness

BY KATHERINE E. SOULE and WILLIAM W. HENDRICKS

Abstract: This study examines visitor use, attitudes, and perceptions at Mount San Jacinto State Wilderness. During summer 2008, 122 visitors participated in a survey administered using handheld computers. The participants agreed with statements indicating that area conditions were safe, adequate ranger patrols were present, and use levels were appropriate. Overall, participants reported low levels of dissatisfaction. However, participants reported noticing several negative environmental and social impacts.

Introduction

Mount San Jacinto is the second highest mountain in southern California, rising 10,834 feet (3,302 m) above the shrub-studded desert below. The trail leading to the mountain peak extends 11 miles (17.7 km) through wilderness with the last stretch rising rapidly in elevation. From the boulder-strewn peak, one observes a peerless, expansive view, encompassing San Geronio Pass, the Pacific Ocean, the Colorado Desert, and lands in Mexico. This unique region is rich in biodiversity, home to hundreds of native plant species, and numerous threatened or endangered animal species (Cantu et al. 2002). The mountain is located within the 12,465-acre (5,044 ha) Mount San Jacinto State Wilderness, which was established in 1974.

In California, state wildernesses can be “established within the boundaries of other state park system units” (California State Parks 2010, p. 110), and Mount San Jacinto State Wilderness is housed within the larger Mount San Jacinto State Park (Figure 1). Propst and Dawson (2008) explained: “State-owned wilderness areas is a category of wilderness that can be confusing and, at times, misleading as to whether an area is wilderness in name only or by objective criteria and legal designation” (p. 19). In California, however, state wilderness areas are established by both objective criteria and legal designation, and are managed to protect and preserve the area’s natural



Katherine E. Soule.



William W. Hendricks.

conditions, which include four conditions very similar to those in the U.S. Wilderness Act such as “appears generally to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable” (California State Parks 2010, p. 110).

Federal wilderness lands border Mount San Jacinto State Wilderness. Both California and the Wilderness Act of 1964 define wilderness as “areas where the earth and its community of life are untrammelled by man and where man himself is a visitor who does not remain” (California State Parks 2010, p. 110; USDA Forest Service 1975, p. 29). Although side-by-side, the federal and state wildernesses are managed by separate agencies, and the visitor usage policies differ between the areas. For example, in the nearby federal wilderness areas visitors can camp in one of five camping zones, whereas state

PEER REVIEWED

wilderness visitors must camp in designated camping sites.

The complexity of visitor access confounds the unique situation of Mount San Jacinto State Wilderness. Most visitors (an estimated 97.6% in 2008) access the wilderness area via the Palm Springs Aerial Tramway, which transports customers 5,873 feet (1,790 m) from the desert floor to its mountain terminus. The Palm Springs Aerial Tramway provides easy access to the wilderness area, and high-elevation hikers encounter an uncommonly high number of day visitors. Park visitation is increased during weekends and summer. During summer months, the wilderness camping areas often reach the established occupancy limits and numerous potential campers are turned away.

Manning (2011) states that “agencies have an obligation to manage parks and related areas to meet the needs of society, and these agencies are ultimately subject to sanctions (e.g., public disapproval, legal challenge) if they are perceived to fail to live up to this obligation” (p. 190). In fact, in their analysis of state wilderness areas, Propst and Dawson (2008) developed six criteria to evaluate these wildernesses, which include “development of management plans to formally define area objectives and to guide managers in activities and decision making that fosters those objectives” (p. 20). In an effort to maintain quality visitor experiences and uphold ecological integrity, management of the Mount San Jacinto State Wilderness requested an investigation of wilderness use and visitor information to assist in the formation of management policies, resource protection, and planning. This article discusses the assessment of Mount San Jacinto State Wilder-

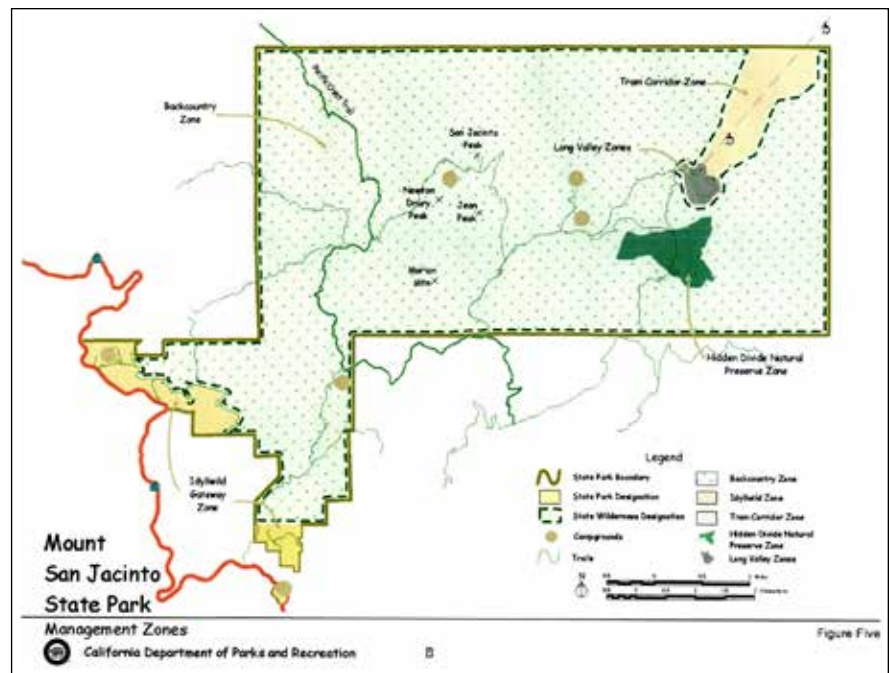


Figure 1 – Map of Mount San Jacinto Peak area.

ness and visitor attributes, visitor attitudes and preferences, and visitor perceptions of environmental and social impacts.

Visitor attributes provide a glimpse into the behaviors and characteristics of wilderness users. Watson et al. (2000) define visit attributes as “relevant characteristics of visits” (Watson et al., p. 9). Such information may include the length of stay, group size, travel method(s), temporal and spatial use distribution patterns, or activity participation. Visitor attributes describe the “traits characterizing wilderness visitors” (Watson et al., p. 9). This may include information such as race, gender, education, income, or past wilderness experience and knowledge.

Visitor attitudes and preferences consider visitors’ opinions, both positive and negative, about specific recreation areas or activities, as well as particular management issues and actions. Understanding visitor attitudes and preferences is particularly important when visitors are dissatisfied, experience

recreation conflict, or engage in problematic behaviors (Lucas 1987; Needham and Rollins 2009).

Since visitor perceptions affect experiences and satisfaction, it is important that resource managers have a clear understanding of their visitors’ perceptions (Christian et al. 2009). This understanding allows researchers to establish a picture of the problems that concern visitors through an understanding of visitors’ perceptions of conditions, their reactions to perceived conditions, and how visitors perceive conditions to be changing over time (Watson et al. 2000).

Methods

The research protocol for this study was developed in conjunction with the state park management to examine aspects of wilderness use that the park management found most pressing. Data collection occurred over four randomly selected weekends during the months of July, August, and September in 2008, which were identified by park management as periods of high



Figure 2 – Day hikers at Mount San Jacinto Peak. Photo by Diana Heinz.

visitation. During these weekends (Friday to Sunday), eight separate four-hour contact periods were randomly selected during which researchers invited wilderness area visitor groups who passed through the Long Valley Ranger Station, located within the Mount San Jacinto State Wilderness (MSJSW), to participate in this study. All visitor groups, whether they were entering and exiting the MSJSW, were invited to participate. In this way, probability sampling was employed to obtain a sample representative of wilderness area visitors.

If the researchers approached two or more visitors in a group, the researchers requested participation from the visitor who was 18 or older and whose birthday was closest to that day. If MSJSW visitors agreed to participate, researchers read the participants an informed consent statement, advising that participation was voluntary, responses were anonymous, participation posed no risks, and that participation provided

an opportunity to assist the Mount San Jacinto State Park in better serving park visitors.

The questionnaire in this study consisted of 30 questions, which were adapted from prior research (Cole 2001; Graefe et al. 2005; Hendricks et al. 2003; Hendricks et al. 2007; Manning 1999; Watson et al. 2000) to examine visit attributes, visitor attributes, attitudes, preferences, and perceptions of environmental impacts.

Researchers used Compaq's Ipaq PDA (2006) to conduct the interviews and to collect data. Utilizing the handheld PDAs enabled efficient and paper-free data collection as the researchers read each question aloud and recorded participant responses. Completed questionnaires were uploaded from the PDA unit to a web-based survey and questionnaire software. Once data collection was completed, the data was transferred to the SPSS (2008) for data analysis.

Results

One hundred twenty-two participants completed the survey, resulting in a 94.9% response rate. The study participants were mostly male (69.7%), married (55.4%), and white (86.1%). Ages ranged from 19 to 70, with the average age being 46 years old. Most lived in California (91%) and had some college education (91.8%) and relatively high levels of income, with 43.7% reporting annual household incomes above \$100,000. Most respondents had visited the park once (16.4%), twice (13.1%), three times (11.5%), or five times (8.2%). All other numbers of previous park

visits were each reported by less than 6% of respondents. During this visit, most respondents visited the park alone (18.0%), in a group of two (45.9%), in a group of three (9.8%), in a group of four (5.7%), or in a group of five (6.6%). All other sizes of visitor groups were each reported by less than 2.5% of respondents.

The majority (76.2%) of respondents were day-use visitors, and all but three obtained the required day-use permit. The average number of hours spent in the wilderness area was 4.7 hours. All study participants hiked between 1 and 36 miles (Figure 2). Although most participants reported hiking approximately 5 miles (the mode) during this visit, a substantial number of participants (36.9%) hiked more than 10 miles. Participants most frequently reported using the following trails: Round Valley Loop (88.9%), Mount San Jacinto Peak Trail (47.0%), Willow Creek Trail (12.8%), and Pacific Crest Trail (3.4%).

Those who did stay overnight (28%) spent a mean of 1.8 nights in the wilderness with all but one subject having obtained the required overnight permit. Participants reported using the following camping areas: Round Valley (65.5%), Tamarack Valley (24.1%), Little Round Valley (13.8%), and Strawberry Junction (6.9%).

During their visit to the wilderness, participants most frequently reported participating in hiking (95.1%), photography (59.0%), picnicking (31.1%), viewing wildlife (30.3%), bird-watching (28.7%), and bouldering (12.3%). As they traveled through Mount San Jacinto State Park to enter or leave the wilderness, participants visited the gift shop (23.0%), the visitor center (17.2%), and ate at the snack bar (28.7%).

Table 1 – The attitudes and preferences of visitors to Mount San Jacinto Peak.

Attitudes and preferences	Percent					
	SD	D	N	A	SA	DK
Adequate ranger patrols	4.1	4.1	9.8	49.2	14.8	18.0
Conditions are safe	0.0	0.8	0.0	72.1	0.0	27.0
Too many people at Mountain Station	4.1	64.8	11.5	6.6	2.5	10.7
Avoided parts of park because too many people	14.8	76.2	3.3	1.6	0.0	4.1
Prefer to see fewer people	3.3	56.6	5.7	22.1	9.8	2.5
Stayed away from park during parts of the day because too many people	9.0	77.0	0.8	4.9	2.5	5.7
Plenty of campsites available	0.0	10.7	3.3	20.5	3.3	62.3
Easy to make campsite reservation	0.0	9.0	4.1	13.1	3.3	70.5

Scale: 1 – strongly disagree (SD) to 5 – strongly agree (SA), with a don't know (DK) response option.

Participants agreed or strongly agreed with the statements that there are adequate ranger patrols (60.0%), and that conditions are safe (99.1%) (Table 1). Participants disagreed or strongly disagreed with statements that there are too many people at Mountain Station (68.9%), that they have avoided areas because of too many people (91.0%), and that they have stayed away from the park during parts of the day because there are too many people (86.0%). However, 31.9% of participants indicated that they agreed or strongly agreed that they would prefer to see fewer people during their visits. Although the majority of participants agreed or strongly agreed (65.6%) with statements that there are plenty of campsites available, more than 10% disagreed. A separate question asked if the participants thought the current capacity of 400 wilderness camping permits issued daily was an appropriate limit. The majority of the participants (71.3%) agreed that the current limit was appropriate. One participant said no, and the remaining participants responded that they did not know (22.1%).

Crowding at Mount San Jacinto State Park was measured with a

9-point crowding scale (1 = not at all crowded, 3 = somewhat crowded, 6 = moderately crowded, 9 = extremely crowded). The mean crowding score was 3.6 with 57.4% of the respondents rating crowding from not at all crowded to somewhat crowded, and 27.1% rating crowding from moderately crowded to extremely crowded.

Respondents did not perceive any of 16 potential environmental and social impacts to be a problem (Table 2). Negative environmental and social

impacts were noticed by more than 10% of participants, including noise of others (15.6% slight to big problem); litter along a trail, campsite, or picnic area (13.9% slight to moderate problem); encountering larger groups on a trail (13.1% slight to moderate problem); and restrooms that needed cleaning (13.1% slight to big problem). Of the 64 participants who hiked to the peak and could respond to this item, 17.2% perceived that there were too many people on Mount San Jacinto Peak.

Visitors were asked whether they noticed any of 14 environmental conditions within the park (Table 3). Participants indicated that they noticed side trails, worn trails, trail erosion, downed trees, as well as tree root exposure and vegetation loss on trails.

Discussion

Overall, the wilderness visitors' ratings of attitudes, preferences, and perceptions for nearly all conditions and issues measured indicate that visitors have low levels of dissatisfaction in regards to Mount San

Table 2 – The perceptions of visitors to Mount San Jacinto Peak.

Perception	Percent				
	Not	Slight	Moderate	Big	NA
Litter along trail, campsite, picnic area	86.1	12.3	1.6	0.0	0.0
The behavior of other visitors	90.2	6.6	2.5	0.0	0.8
Noise of others	84.4	10.7	3.3	1.6	0.0
Encounter large groups on trail	82.8	8.2	4.9	0.0	4.1
Encounter groups >15 in wilderness	83.6	3.3	0.8	0.0	12.3
Restrooms need cleaning	67.2	4.9	4.9	3.3	19.7
Too close to other campers	48.4	0.8	0.0	0.0	50.8
Too many people Wellman's Divide	59.8	1.6	0.0	0.0	38.5
Too many people at San Jacinto Peak	43.4	4.1	4.1	0.8	47.5
People washing dishes stream/faucet	59.8	0.8	0.0	0.0	39.3
Evidence illegal campfires	62.3	1.6	0.0	0.0	36.1
Human waste along trail/campsite	68.9	2.5	0.0	0.0	28.7
Finding a route to top of peak	50.0	4.1	1.6	0.0	44.3
Seeing other visitors smoking	77.9	0.8	0.0	0.0	21.3

Scale: 1 – not a problem (Not) to 4 – big problem (Big); not applicable (NA) option also available.

Table 3 – Frequency with which visitors notice environmental conditions.

Condition	N	Percent
Worn trails	41	33.6
Side trails	67	54.9
Campsite vegetation loss	1	0.8
Vegetation loss on trails	10	8.2
Vegetation loss at a picnic area	0	0.0
Campsite erosion	4	3.3
Erosion along trails	39	32.0
Downed trees along trails	29	23.8
People breaking branches	3	2.5
Tree damage caused by humans	7	5.7
Campsite root exposure	0	0.0
Tree root exposure on trails	28	23.0
Cigarette butts littered on trails or around park	9	7.4

Jacinto State Wilderness. Nearly all participants accessed the area by way of the Palm Springs Aerial Tramway and had previously visited the park only a few times. Since most respondents reported that they were married, white, highly educated, averaged 46 years of age, and were from California, they are similar to many federal wilderness visitors throughout California (Chavez 2001). However, Mount San Jacinto State Wilderness visitors differ from other wilderness visitors as they have considerably high levels of income. This may be in part due to the park's location with relatively easy access from southern California, one of the wealthiest regions of the country.

The attitudes and preferences expressed by the participants indicate that visitors are not greatly dissatisfied with park and wilderness area conditions. Additionally, participants express feeling safe in the park. Although a substantial percentage of participants (31.9%) would prefer to see fewer people during their visit, participants disagreed with statements indicating that the park is crowded or that they were displaced

because of crowding. These results may reflect that the majority of the study participants were day users.

Participants noticed several negative environmental (condition of the trails) and social impacts (noisy visitors, litter, large groups, restrooms needing cleaning, too many people at the peak). However, participants still reported low levels of dissatisfaction. Manning (1999) refers to the cognitive dissonance theory when

hypothesizing that as “recreation activities are voluntarily selected and sometimes involve a substantial investment of time, money, and effort, some people may rationalize their experience and report high levels of satisfaction, regardless of conditions” (p. 97). Although this study focused on visitors' levels of dissatisfaction rather than satisfaction, the cognitive dissonance theory may also be helpful when considering these visitors' experiences.

Previous wilderness research measuring perceptions of visitors and managers found that visitors often do not perceive environmental conditions the same as wilderness managers (Shin and Jaakson 1997; Watson et al. 1998); however, visitors to Mount San Jacinto State Wilderness have reported that they noticed some undesirable trail conditions that might require attention. In addition to increased trail maintenance, educational programs that emphasize reducing impacts to resources may help address some of the environmental and social impacts (e.g., Leave No Trace education programs).



Figure 3 – Scenic view in Mount San Jacinto Peak. Photo by Diana Heinz.

During interviews for this study, many participants expressed surprise when learning of a designated state wilderness area, since the main purpose of their trip was to ride the Palm Springs Aerial Tramway for the scenic views (Figure 3) rather than visit the wilderness. The attitudes, preferences, and perceptions of primary purpose wilderness visitors are expected to be different from the needs of the accidental visitors to wilderness. Future research at Mount San Jacinto State Park and Wilderness should attempt to survey visitors who enter the wilderness without taking the tram and those who have a primary purpose to visit wilderness.

References

California State Parks. 2010. *General Planning Handbook*. Sacramento, CA: California State Parks General Plan Program Manager.

Cantu, Rita, Skyanne Housser, Richard Hoffman, and Jane Rohling. 2002. *Interpretive and Environmental Education Concept Plan*. Prescott, AZ: USDA Forest Service, Enterprise Team.

Chavez, Deborah J. 2001. *Managing Outdoor Recreation in California: Visitor Contact Studies 1989–1998*. General Technical Report PSW-GTR-180. USDA Albany, CA: Forest Service, Pacific Southwest Research Station.

Christensen, Neal. 2011. Local economic importance of designated wilderness. *International Journal of Wilderness* 17(3): 24–27.

Christian, Colmore S., Thomas E. Lacher Jr., William E. Hammitt, and Thomas D. Potts. 2009. Visitation Patterns and Perceptions of National Park Users – Case Study of Dominica, West Indies. *Caribbean Studies* 37(2): 83–103.

Cole, David. N. 2001. *Day Users in Wilderness: How Different Are They?* RMRS-RP-31.

Visitors have low levels of dissatisfaction in regards to Mount San Jacinto State Wilderness.

Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Graefe, Alan R., James D. Absher, Y. J. Ye, and Gyan P. Nyaupane. 2005. *Shasta and Trinity Lakes Boating Carrying Capacity Study*. RWU-4902 Technical Report. Riverside, CA: USDA Forest Service, Wildland Recreation and Urban Cultures Research Work Unit.

Hendricks, William W., Teresa Love, and Lynn Hamilton. 2003. *Economic Impact of Morro Bay State Park Visitors*. San Luis Obispo, CA: California Polytechnic State University, Recreation, Parks, and Tourism Administration Program.

Hendricks, William W., Lynn Hamilton, and Sheridan Bohlken. 2007. *Economic Impact of Oceano Dunes SVRA Visitors*. San Luis Obispo, CA: California Polytechnic State University, Recreation, Parks, and Tourism Administration Program.

Lucas, Robert C. 1987. Perspectives on the history of wilderness research. In *Proceedings: National Wilderness Research Conference: Issues, State-of-Knowledge, Future Directions*, comp. R. C. Lucas. (pp. 15-28). General Technical Report INT-220. Ogden, UT: Intermountain Research Station.

Manning, Robert E. 1999. *Studies in Outdoor Recreation: Search and Research for Satisfaction*, 2nd ed. Corvallis: Oregon State University Press.

———. 2011. Defining and managing visitor capacity in national parks: A program of research in the U.S. national park system. *Journal of Tourism and Leisure Studies* 17(2): 183–214.

Needham, Mark D., and Rick Rollins. 2009. Social

science, conservation, and protected areas theory. In *Parks and Protected Areas in Canada: Planning and Management*, 3rd ed., ed. Philip Dearden and Rick Rollins (pp. 135–168). Ontario: Oxford University Press.

Propst, Blake M., and Chad P. Dawson. 2008. State-designated wilderness in the United States: A national review. *International Journal of Wilderness* 14(1): 19–24.

Shin, Won S., and Reiner Jaakson. 1997. Wilderness quality and visitors' wilderness attitudes: Management implications. *Environmental Management* 21: 225–232.

State of California. 2012. Final Initial Study (IS)/Mitigated Negative Declaration (MND): Long Valley Management Plan. Unpublished report.

[USDA] U.S. Department of Agriculture Forest Service. 1975. *A Summary of the Program and Assessment for the Nation's Renewable Resources*.

Wassenberg, K. 2009. Mount San Jacinto State Park Visitor Attributes, Preferences, and Perceptions. Unpublished master's thesis. California Polytechnic State University

Watson, Alan E., Neal A. Christensen, Dale J. Blahna, and Kari S. Archibald. 1998. *Comparing Manager and Visitor Perceptions of Llama Use in Wilderness*. USDA Forest Service Research Paper RMRS-RP-10. 12 pp.

Watson, Alan E., David N. Cole, David L. Turner, and Penny S. Reynolds. 2000. *Wilderness Recreation Use Estimation: A Handbook of Methods and Systems*. RMRS-GTR-56. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

KATHERINE E. SOULE is the youth, families, and communities advisor for San Luis Obispo and Santa Barbara Counties, Agriculture and Natural Resources Division, University of California; email: kesoule@ucanr.edu.

WILLIAM W. HENDRICKS is professor and department head, Recreation, Parks, and Tourism Administration, California Polytechnic State University, San Luis Obispo; email: whendric@calpoly.edu.

PERSPECTIVES FROM THE SOCIETY
FOR WILDERNESS STEWARDSHIP

Enhancing Wilderness Stewardship through Professional Training and Development

BY DAVID N. COLE and LINDA MERIGLIANO

In the previous issue of *IJW*, we discussed the need to increase the professionalism of wilderness stewardship and identified a number of ways that professionalism could be enhanced. Several of the requisites of professional stewardship involve ensuring that talented individuals are in federal land management stewardship positions, that these individuals get the training required to effectively fulfill their responsibilities, and that there is a career ladder that gives these individuals an opportunity to advance into higher leadership roles. The Arthur Carhart National Wilderness Training Center (ACNWTC) has been working for the past 20 years on these issues, efforts that recently have been assisted by other groups, most notably the Society for Wilderness Stewardship.

A decade ago, the Arthur Carhart National Wilderness Training Center identified the technical core competencies and the knowledge, skills, and abilities needed by wilderness stewards (Arthur Carhart National Wilderness Training Center n.d.). These were adopted by all four U.S. federal land management agencies as the official competencies for wilderness stewardship, to be used to guide employee development, direct competency-based training programs, and support a wilderness career path. Although these competencies have been used to improve employee development and training, the wilderness career ladder remains broken. A report by the USDA Forest Service Wilderness Advisory Group (2013) describes the problems that result from lack of a career ladder, explores reasons the ladder remains broken, and, most importantly, offers recommendations that can guide future efforts to fix the problem, most

of which involve changing procedures involved in the hiring and promotion of qualified employees. It is long past time to come together as a wilderness community and get this fixed.

As we look toward the future, mastery of foundational field skills, coupled with social and natural science knowledge and the ability to connect with diverse audiences will be essential to fulfill the Wilderness Act of 1964's mandate to preserve wilderness character and other wilderness conditions and values. How can we ensure that those individuals charged with stewarding wilderness have the knowledge and skills they need? Many professions ensure the competency of professionals through a certification program. Emulating this approach, the ACNWTC and Society for Wilderness Stewardship have partnered with the Eppley Institute for Parks and Public Lands at Indiana University to create the Wilderness Stewardship Certificate Program (WSCP). The WSCP is an online certification program where participants receive one-on-one mentoring provided by experts in the field of wilderness stewardship. The mentors guide the students through the series of courses, assist in selecting wilderness study sites, and provide feedback and evaluation.

Wilderness professionals need to continuously hone their knowledge and skills by having access to training and continuing education.

Finally, wilderness professionals need to continuously hone their knowledge and skills by having access to

training and continuing education. This is the central mission of the ACNWTC, which has worked over the past several decades to develop toolboxes on www.wilderness.net, online training courses, and classes that target federal agency employees. Recently, these efforts have been enhanced by training that the Society for Wilderness Stewardship has assisted with, such as the 50th anniversary preconference training,

the Wilderness Skills Institute in North Carolina, and the interagency wilderness ranger academy in northern California. The Society seeks to extend, rather than duplicate, the role of the ACNWTC by focusing more on field skills and training future wilderness leaders.

References

Arthur Carhart National Wilderness Training Center. N.d. Wilderness technical core

competencies. Retrieved from www.wilderness.net/NWPS/competencies.

USDA Forest Service Wilderness Advisory Group. 2013. The Forest Service wilderness career ladder: In search of the missing rungs. Retrieved from www.wilderness.net/NWPS/documents/FS/WAG_Wilderness%20career%20ladder.pdf.

DAVID N. COLE and LINDA MERIGLIANO are board members of the Society for Wilderness Stewardship; email: dncole.work@gmail.com

Continued from A VISION FOR AMERICA'S NATIONAL WILDERNESS PRESERVATION SYSTEM, page 3

the National Wilderness Preservation System. Every day that we delay to engage the next generation of wilderness stewards, advocates, and enthusiasts is an opportunity lost in continuing a wilderness legacy that fosters lifelong connections between people, places, and wild nature.

Protect. Connect. Foster.

In the *2020 Vision*, these words represent more than just themes, or well-intended rhetoric to a supportive wilderness community. They demonstrate a recognition that successful wilderness steward-

ship requires these concepts to be pursued in unity, not independently. Our efforts cannot be divided across ecosystem protection, engaging the next generation, and professionalizing stewardship. Instead, efforts need to find synergy within these themes to progress wilderness stewardship in the next five years and beyond.

In this issue of *IJW*, John Peden, Madalyn Russell, and Monica Harris describe service-learning partners for wilderness education. Derrick Taff, David Weinzimmer, and Peter Newman examine the experience of

mountaineers in Denali National Park and Preserve. In addition, Stephen McCool presents the keys to building wilderness stewardship capacity for the next 50 years.

For access to the interagency *2020 Vision*, visit http://www.wilderness.net/toolboxes/documents/50th/2020_Vision.pdf.

ROBERT DVORAK is managing editor of the *International Journal of Wilderness* and associate professor in the Department of Recreation, Parks, and Leisure Services Administration at Central Michigan University; email: dvora1rg@cmich.edu.

Continued from CONSIDERING SOLITUDE IN GRAND CANYON'S CORRIDOR, page 24

National Park. Urbana: University of Illinois at Urbana-Champaign.

Kemphorne, D. 2007. *The Future of America's National Parks: A Report to the President of the United States by the Secretary of the Interior Dirk Kempthorne*. Retrieved from <http://www.nps.gov/foda/learn/management/upload/FutureofAmericaNationalParksFINAL.pdf>.

Manning, R. 2007. *Parks and Carrying Capacity: Commons without Tragedy*. Washington, DC: Island Press.

National Parks Conservation Association. 2009. *Advancing the National Park Idea: National Parks Second Century Commission Report*. Retrieved from http://www.npca.org/assets/pdf/Commission_Report.PDF.

Outdoor Foundation. 2013. *Outdoor Partici-*

pation Report. Retrieved from <https://outdoorindustry.org/images/researchfiles/ParticipationStudy2013.pdf?193>.

Stewart, W. 1997. *Grand Canyon Overnight Backcountry Visitor Study: Use of Diary-like Techniques*. Report submitted to Grand Canyon National Park, Grand Canyon, AZ.

Towler, W. 1977. Hiker perception of wilderness: A Study of social carrying capacity of Grand Canyon. M.S. thesis, University of Arizona.

Underhill, H., W. Stewart, R. Manning, and E. Carpenter. 1986. *A Sociological Study of Backcountry Users at Grand Canyon National Park*. Technical Report 17, National Park Service, Cooperative Parks Studies Unit, University of Arizona.

USDI National Park Service. 1988. *Backcountry*

Management Plan. Grand Canyon National Park, AZ.

———. 1995. *General Management Plan*. Grand Canyon National Park, AZ.

———. 2006. *Management Policies 2006*. Washington, DC.

United States Department of the Interior. 2011. *A Call to Action: Preparing for a Second Century of Stewardship and Engagement*. Policies. Washington, DC: National Park Service.

PETER R. PETTENGILL is an assistant professor of environmental studies at St. Lawrence University in Canton, NY. He was formerly an outdoor recreation planner stationed at Grand Canyon National Park, Arizona; email: ppettengill@stlawu.edu.

A Service-Learning Partnership for Wilderness Education in Coastal Georgia

BY JOHN PEDEN, MADALYN RUSSELL, and MONICA HARRIS

I believe we have a profound fundamental need for areas of the earth where we stand without our mechanisms that make us immediate masters over our environment.
 – Howard Zahniser

At the 2014 National Wilderness Conference in Albuquerque, New Mexico, a clear theme inherent in many of the keynote addresses and concurrent sessions was the need for more wilderness education. Former U.S. president Jimmy Carter, U.S. Department of the Interior secretary Sally Jewell, and New Mexico senator Martin Heinrich, among others, emphasized the need to connect young people to wilderness and educate diverse audiences about the benefits of an enduring and expanded system of federally protected wilderness. This is particularly important in an age where youth are spending less time involved in nature-based outdoor activities (Larson, Green, and Cordell 2011; Louv 2008). This article reports on a service-learning partnership between the Savannah Coastal Refuges Complex and a public university in the southeastern United States. We discuss the advantages of service-learning as a means of promoting wilderness education from the



Madalyn Russell and John Peden (right). Photo by Madalyn Russell.



Monica Harris. Photo by Monica Harris.

perspectives of the managing agency and students who participated in the project. We also offer recommendations and resources for establishing similar partnerships in other areas of the United States.

Wilderness Education

Wilderness education encompasses a broad array of approaches for connecting people with wilderness, promoting awareness of wilderness benefits, developing understanding of wilderness legislation, and encouraging sound stewardship of wilderness resources. It occurs in both educational and recreational settings, and involves stakeholders within government agencies, as well as those external to such organizations. Examples include the Wilderness Management Distance Education Program at The University of Montana (www.wmdep.wilderness.net), the Wilderness Stewardship Certificate Program offered by the Eppley Institute for Parks and Public Lands (www.eppley.org), the field courses, e-courses, and webinars



Figure 1 – Blackbeard Island Wilderness Area. Photo by Monica Harris.

available through the Arthur Carhart National Wilderness Training Center (www.carhart.wilderness.net), and educational and interpretive programs offered by agencies that manage wilderness. Although the goals of these programs vary based on intended audiences, management objectives, and other factors, they share the common purpose of improving communication and decision making as it pertains to the preservation of wilderness character.

Most wilderness education that takes place in the United States is targeted at agency personnel with the intention of improving internal communication and decision making. Although a clear need exists to educate the public about the importance of wilderness, such programs appear to be relatively rare. This is due in part to a lack of resources and competition with other management priorities. For example, personnel with the U.S. Fish and Wildlife Service recognize the importance of preserving wilderness character and promoting stewardship of wilderness resources. Wilderness education is considered to be a valuable management tool, but staff members rarely have the time to design and implement programs that educate the public about local wilderness resources. As a result, most wilderness education

efforts are dependent on nonpersonal interpretive approaches (e.g., brochures, kiosks, websites), which have been shown to be less effective than interpretive talks, guided tours, educational programming, and other personal approaches (Manning 2003). In today's fiscal environment, agency personnel are often required to seek creative solutions when offering wilderness education programs to the public.

Service-Learning

Service-learning is a form of experiential education that requires students to conduct meaningful volunteer work that enhances learning outcomes in academic courses. Effective service-learning requires a clear link between academic course objectives and the needs of the partner organization. Additionally, it should involve structured reflection designed to promote understanding of course content, broader knowledge of the discipline, and a sense of civic responsibility (Bringle and Hatcher 1996). Service-learning has been shown to influence higher order thinking, cultural awareness, personal and interpersonal development, academic motivation, self-efficacy, and civic engagement (Warren 2012).

Service-learning has been used as a pedagogical strategy in a wide

range of fields, including nursing, child development, physical education, and teacher education (Whitley and Walsh 2014). Despite its seeming applicability in natural resource management, Newman, Bruyere, and Beh (2007) note that service-learning remains underutilized and understudied. They emphasize that students in such fields value experiential learning and are attracted to their respective majors, at least in part, by the desire to work outside in a hands-on environment. Service-learning has considerable potential as a means of providing wilderness education – one that benefits students, wilderness managers, community members, and academic institutions alike. It is a way for students to learn about the value of wilderness, while strengthening their interpretive skills and educating others about the importance of local wilderness resources. It also allows understaffed and underfunded agencies to ensure that the important story of wilderness is communicated to the public.

Natural Resources Discovery Day

In March 2014, Georgia Southern University students in an environmental education and interpretation course planned and delivered formal and informal interpretive talks on the Wilderness Act of 1964



Figure 2 – Students conducting wilderness education programs. Photo by Monica Harris.



Figure 3 – Wolf Island Wilderness Area. Photo by Monica Harris.

and Leave No Trace principles for Natural Resources Discovery Day, a community event hosted by the Savannah Coastal Refuges Complex of the U.S. Fish and Wildlife Service. Spanning more than 100 miles (161 km) of coastline in South Carolina and Georgia, the complex includes seven national wildlife refuges and two federally protected wilderness areas – Blackbeard Island Wilderness (3,000 acres/1,214 ha) and Wolf Island Wilderness (5,126 acres/2074 ha).

The purpose of Natural Resources Discovery Day is to increase public awareness of the Coastal Refuges Complex and the mission of the U.S. Fish and Wildlife Service. First held in 2011, this full day event has expanded to include a broad array of partner organizations that conduct interpretive talks, educational programs, and recreational activities at the Refuge Visitor Center. Georgia Southern's involvement originated when the visitor services manager contacted the course instructor about opportunities for collaboration. Wilderness was selected as the topic because of an identifiable need for wilderness education within the region.

One of the objectives of the interpretation course was that all students would plan and deliver an interpretive talk. Students were invited to participate in Natural Resources Discovery Day and had the option to conduct their talk during the event. They were told that the general topic would be wilderness, and that they would be responsible for working with the visitor services manager and the course instructor to refine their ideas. A total of six students, working

in teams of two, developed formal interpretive talks that explained the Wilderness Act of 1964, its relevance throughout the last 50 years, the benefits of local wilderness areas, and the importance of wilderness stewardship. They also conducted Leave No Trace (LNT) demonstrations and informal interpretive talks that focused on the importance of minimizing deprecative behavior in local wilderness areas.

The development and delivery of personal interpretive programs was covered in class during the weeks preceding the event. Students were responsible for creating outlines that included purpose statements, objectives, and themes. They discussed delivery methods, time limitations, and how they would incorporate the interpretive principles covered in class. The outlines were reviewed by the visitor services manager and the course instructor prior to the event, feedback was incorporated, and the students rehearsed in advance.



Figure 4 – Wilderness education and Leave No Trace demonstration station. Photo by Monica Harris.

Student Perspectives

Successful service-learning experiences result in application of course material, perspective transformation, a developed sense of citizenship, and personal and interpersonal development (Eyler and Giles, as

cited in Warren 2012). Structured reflection on student involvement in Natural Resources Discovery Day was conducted through written responses to a series of open-ended questions that focused on the objectives of the project. Analysis of these responses revealed three primary themes: improved understanding of interpretive principles, increased awareness and understanding of wilderness, and personal and professional development.

Improved Understanding of Interpretive Principles

Effective wilderness education requires an understanding of wilderness legislation, the benefits of wilderness, and threats to existing wilderness resources. However, it is equally important that this information is communicated in a relatable manner that sparks interest and retention among diverse audiences. Students learned about Tilden's Six Principles of

Interpretation (Tilden 2008) and applied what they learned to effectively communicate with their audience. One student stated: *"The project allowed for even further and more technical use of the interpretive strategies discussed in class."* Students relied on all six of the principles during their experience at Natural Resources Discovery Day, with the first (information must be presented in a manner that is relevant to the audience),

third (interpretation is an art), and sixth (interpretation should be developmentally appropriate) proving to be particularly important: *"This project really helped me appreciate the importance of knowing information thoroughly and understanding its*

significance to the audience.” The students also acknowledged the importance of creativity when choosing interpretive strategies: *“In order to be an effective wilderness educator, seeing the interpretive talk as a form of art, rather than simply an educational seminar is key.”* The importance of developmentally appropriate messaging was illustrated by a student who stated: *“Sharing the presentation with such a wide variety of participants required the talk to be tailored to specific ages, interests, and education levels.”* Finally, students emphasized that working outside of the typical classroom setting was beneficial to their understanding of interpretation: *“We need this type of experience to truly understand and implement interpretive strategies in our current coursework and future careers.”*

Increased Awareness and Understanding of Wilderness

The heart of service-learning resides in meaningful volunteer work that ultimately results in enhanced educational outcomes. Natural Resources Discovery Day provided students with the opportunity to interpret one of the most significant pieces of environmental legislation in history (Dawson and Hendee 2008). Doing so not only broadened the audience’s understanding of wilderness but also enhanced students’ knowledge and instilled a personal desire to develop the next generation of wilderness stewards. Prior to participation in the project, students had a basic understanding of the Wilderness Act and how it has changed the way land is valued and managed. The preparation that went into the project led to increased knowledge of wilderness legislation and the management actions taken to protect these unique natural areas:

“The project provided valuable insight regarding ways that wilderness areas are protected and managed.” Students also developed greater appreciation for the benefits of wilderness: *“Participating in this project taught me a lot about wilderness and what makes it so special.”* Although the students did not visit Blackbeard Island and Wolf Island Wilderness Areas, simply observing the environmental integrity of the complex exemplified the definition of wilderness and benefits of the act: *“Seeing the natural beauty of the refuge allowed our talks to come to life, and my appreciation for the refuge grew.”* Transformed perspectives on the importance of wilderness ultimately led to an enhanced sense of civic engagement: *“We made a difference in the way the public saw and understood wilderness areas, which is truly the point of my education.”*

Personal and Professional Development

Applying educational and interpretive skills at the Savannah Coastal Refuges Complex provided students with critical field experience necessary to succeed in their careers. Students were able to practice their skills and experience firsthand how federal agencies provide special events for the public: *“Seeing Monica at work, leading groups of all ages at Savannah National Wildlife Refuge gave me an idea of what my career could potentially entail.”* Students were also inspired to gain additional knowledge about wilderness and more experience as educators. One student noted the motivation instilled by the opportunity to apply concepts

learned in class: *“This was not just for a grade. I was there to test myself, evaluate my performance, and convey a message to help shape values.”* Another student explained how the experience transformed her perspectives on the importance of wilderness education: *“Today’s upcoming generation is so buried beneath progress and technology. Participants at this event gave me a new appreciation for today’s youth and a sense of optimism about the future of wilderness.”* Students in general were inspired to promote wilderness education within their communities and felt that events such as Natural Resources Discovery Day are necessary to spread awareness about wilderness and other unique ecosystems that the public often overlooks.

Conclusions and Recommendations

Natural Resources Discovery Day led to the application of course material, perspective transformation, a developed sense of citizenship, and personal and interpersonal development, all of which are critical indicators of successful service-learning (Eyler and Giles, as cited in Warren 2012). The project also proved beneficial to the Savannah Coastal Refuges Complex. One refuge employee stated: *“Many people*



Figure 5 – Tidal freshwater marsh – Wolf Island Wilderness Area. Photo by Monica Harris.

don't realize that refuges often have designated wilderness areas within their boundaries. They tend to think of wilderness as any remote place without development, and don't realize that designating a wilderness area requires congressional action." The students' work also assisted the FWS in communicating rules and regulations designed to protect wilderness and promote quality visitor experiences: *"Be it within a national wildlife refuge or other public lands, there are regulations and ethics specific to wilderness that the public needs to be aware of prior to visiting. These regulations are above and beyond those that apply to the refuge itself, and prior awareness can help ensure that visitors have a safe and enjoyable experience."*

Reviewing successes and areas for improvement reinforces the benefits of service-learning while strengthening the value of the experience. Consultation between students, the FWS, and the instructor led to several recommendations for those interested in using service-learning projects to promote wilderness education.

A common constraint identified by students was the variety of age groups within the audience. This led to different understandings of the term *wilderness* and challenged students to present information in a relatable manner. Wilderness educators should employ best practices in interpretation to create awareness and instill values that promote behavioral change and a sense of stewardship. For example, developmentally appropriate interpretation practices can be used to engage younger audiences by comparing the benefits of a backyard wilderness to those of a federally protected wilderness area.

Second, Leave No Trace principles should be incorporated into wilderness education programming

to demonstrate the impacts that outdoor recreation has on other visitors and the environment (Marion 2014). Many of the audience members were unfamiliar with LNT principles and did not understand the importance of using these practices to protect wilderness character. This connection could have been strengthened by having the students identify a common purpose and interpretive objectives across teams. Instead, each team planned separately with individualized goals and objectives. In order for the audience to understand the connection between LNT principles and the preservation of wilderness character, talks should incorporate complementary ideas and outcomes.

Effective interpretation allows the audience to form emotional connections with natural and cultural resources (Bacher et al. 2007). This is more likely to occur when wilderness educators have forged those connections themselves. A third recommendation is to provide opportunities for students to visit the areas they will be interpreting in advance. This was particularly challenging with Natural Resources Discovery Day because the two federally designated wilderness areas within the Savannah Coastal Refuges Complex are located offshore, and are only accessible by boat. However, visiting these areas in advance would have allowed the students to share their own firsthand perspectives on the experiential, scientific, spiritual/symbolic, and economic benefits inherent in these unique areas.

Finally, it is important to plan for continuity. Although service-learning projects do not have to be repeated to be effective, a primary rationale for wilderness education partnerships is to provide federal agencies with a reli-

able and effective means of delivering programs to the public.

A lasting partnership makes this possible, and also helps justify the considerable time and effort required to successfully plan and implement service-learning projects. Agency representatives and their university counterparts should discuss the long-term goals of the partnership, along with plans for implementation. The project described in this article will continue to be incorporated into a spring course, and additional opportunities to utilize service learning as a means of promoting wilderness education are currently being explored. The ultimate goal is to provide a beneficial service to public land managers, promote awareness of local wilderness resources, and develop the next generation of wilderness stewards.

References

- Bacher, K., A. Balthrus, B. Barrie, K. Bliss, D. Cardea, L. Chandler, D. Dahlen, J. Friesen, R. Kohen, and B. Lacombe. 2007. *Foundations of Interpretation Curriculum Content Narrative*. USDI National Park Service. Retrieved from www.nps.gov/idp/interp/101/FoundationsCurriculum.pdf.
- Bringle, S. R., and J. A. Hatcher. 1996. Implementing service-learning in higher education. *Journal of Higher Education* 67(2): 221–239.
- Dawson, C. P., and J. C. Hendee. 2008. *Wilderness Management: Stewardship and Protection of Resources and Values*, 4th ed. Golden, CO: Fulcrum Publishing.
- Larson, L. R., G. T. Green, and K. H. Cordell. 2011. Children's time outdoors: Results and implications of the national kids survey. *Journal of Park and Recreation Administration* 29(2): 1–20.
- Louv, R. 2008. *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder*, 2nd ed. Chapel Hill, NC: Algonquin Books.
- Manning, R. E. 2003. Emerging principles for using information/education in wilderness management. *International Journal of Wilderness* 9(1): 23–27.

Continued on page 41

Wilderness with Honors

BY DANIEL DUSTIN, NATE FURMAN, TAYLOR DICKINSON,
and NATHAN BRICKER

In 1893, the historian Frederick Jackson Turner delivered his now famous paper, “The Significance of the Frontier in American History,” in which he pronounced both the end of the frontier and its centrality in shaping the American character (Turner 1893). What had been largely a rural society at the dawn of the 19th century was now an urbanized society at the beginning of the 20th century. This trend toward increasing urbanization of the United States continues to this day with a corresponding sense of the populace’s increasing separation from nature. What the 21st century will bring remains to be seen, but there is reason for concern about a society that is detached more and more from its biological moorings. Might Americans lose sight of their fundamental dependence on nature for their existence and in so doing lose sight of their obligation to be good stewards of the land community?

Under the circumstances, reacquainting each new generation with the natural world appears to be a wise investment in the future. This is true even for a state such as Utah, where one would expect to find a predominantly rural population. Utah, however, is one of the most urbanized states in the country, with approximately 90% of its residents living along Interstate 15, a concrete corridor connecting Provo, Salt Lake City, and Ogden. Utahans are disconnected from the land that sustains them as well (Pergams and Zaradic 2006). They spend 95% of their time indoors (Robinson and Godbey 1997). Utahans, too, could thus benefit from reconnecting with their fundamental ground of being.

Wilderness with Honors

The University of Utah’s Experiential Learning and Outdoor Recreation Education (U-EXPLORE) program is dedicated to facilitating that connection for its student body. Recognizing that the vast majority of Utah’s students come from urban backgrounds, and recognizing further that the university may represent the last best hope for introducing students to the state of Utah’s rich and varied landscape,



(from left) Taylor Dickinson, Nate Furman, Nathan Bricker, and Daniel Dustin

U-EXPLORE’s mission is to cultivate enlightened generations of concerned citizens who will protect and preserve their natural heritage by exposing them to it, educating them about it, and showing them how to enjoy it in a socially and environmentally responsible manner.

U-EXPLORE offers field-based learning experiences under the auspices of the College of Health’s Department of Parks, Recreation, and Tourism. In addition to delivering a curriculum consisting of 60 outdoor recreation skill development courses for Utah’s general student body, U-EXPLORE has recently partnered with the university’s residential Honors College to offer a wilderness orientation experience for Honors freshmen. The intent of the residential Honors College is to challenge intellectually gifted incoming students by immersing them in hands-on learning experiences that ready them for making a positive difference in the world via community engaged projects.

Students of all academic persuasions who choose to reside in the Honors College’s Outdoor Recreation and Leadership Community begin their collegiate years with a four-day float trip down Utah’s Green River through the Gates of Lodore in Dinosaur National Monument (Figure 1). In cooperation with O.A.R.S., one of the country’s premiere river running companies, the students complete the university’s orientation curriculum, which is intended to create a sense of community among them as they learn



Figure 1 – “Wilderness with Honors” students learning firsthand about recreation ecology on Utah’s Green River. Photo by N. K. Bricker.

about the university and one another while negotiating river rapids, going for day hikes, cooking and camping together, and otherwise familiarizing themselves with the landscape that is Utah. The river trip promotes bonding, and it serves as a warm welcome to a university that can otherwise be characterized by feelings of isolation and anonymity because of its size (28,000 students) and commuter character. Most students travel to and from the University of Utah rather than live on campus. Commuter universities often have difficulty retaining students because of the absence of campus life, so the bonding that occurs during “Wilderness with Honors” is critical for developing a sense of community among the participants.

The “Wilderness with Honors” orientation experience is followed by the on-campus fall semester course Outdoor Recreation and Leadership, during which the Honors students learn additional outdoor recreation skills, develop an increased sensitivity toward the natural world through continued outdoor and environmental education, and demonstrate what they have learned about leadership in the context of outdoor recreation ecology. The class culminates in an end-of-the-course community-engaged learning project serving elementary schoolchildren from Salt

Lake’s inner city. Typically, the project is conducted at the Silver Lake Nature Center in nearby Big Cottonwood Canyon (Figure 2). The Honors students are stationed at different points along the lake’s perimeter, and fifth graders visit each station to learn about the area’s natural and cultural history. The project brings closure to “Wilderness with

Honors” in a way that demonstrates the relevance of what the students have learned in their first semester of college about their dependence on the natural world for their health and well-being.

“Wilderness with Honors” instructors understand that the “stripping down to the essentials” that wilderness outings entail illuminates human/nature interrelationships in a way that traditional classroom practices do not. The lessons stick because they are relevant to the students’ immediate circumstances. The instructors further understand that “nature’s university” (Dustin 2012) “is a place for celebrating the nonhuman side of life. People are not quite so special there. Rather, it is the unique function of nature’s university to cast human accomplishments and aspirations in their proper

perspective” (Dustin 2012, p. 30). This is a significant lesson for young people to learn. At a time in their life when everything seems possible, it is important for them to consider their place in the order of things, to consider their limits, and to reflect on the meaning of restraint.

A Signature Learning Experience

The University of Utah is committed to offering students a “signature learning experience” before they graduate (Figure 3). “Wilderness with Honors” satisfies this commitment at the beginning rather than the end of an undergraduate student’s collegiate experience. Moreover, while the university is understandably enthused about “Wilderness with Honors” because of its ability to help attract and retain high-quality students, U-EXPLORE’s enthusiasm is rooted in the effectiveness of wilderness as an experiential classroom for creating lasting impressions that will stay with students long after they leave the university. In this regard, “Wilderness with Honors”:

1. Ensures that students attending the University of Utah are well aware of the biodiverse landscape that is Utah before they begin their four-year matriculation.

They are thus better positioned to make the most of their undergraduate years at Utah. Anecdotal reports suggest that students who have been through the “Wilderness with Honors” program tend to take a more active role in university life, feel more allegiance to the university, and otherwise take fuller advantage of what the university has to offer.



Figure 2 – “Wilderness with Honors” students ready to greet their fifth graders at the Silver Lake Nature Center with lessons in natural and cultural history. Photo courtesy of N. K. Bricker.

“I can’t imagine a better scenario or a better way to have started college.”

2. Facilitates bonding among students who otherwise would begin their college days amid a sea of strangers. After only four days on the river, students report a strong sense of camaraderie.

“I had a lot of fun, found a great community, and made memories I’ll keep for the rest of my life.”

3. Introduces students from all academic disciplines and departments to issues in recreation ecology that illustrate the power of experiential education and learning by doing.

“Before arriving in Utah, the only outdoors I cared for was my own yard in New Jersey. I had never really thought about how to care for nature or even what that entailed. The outdoors was simply at my disposal to use for whatever I wanted. It was an afterthought as to how I affected my surroundings. It was not until I took this class that I realized the importance of mindfully caring about the environment.”

Future Prospects

In its second year, “Wilderness with Honors” has grown in size from an initial group of 21 to the current group of 31. The Outdoor Recreation and Leadership course is now offered in the fall and spring semesters in seminar format to accommodate all of the students who participated in the preceding summer’s wilderness orientation experience. Clearly a success in the Honors College, other units of the university are now making inquiries about the possibility of



Figure 3 – “Wilderness with Honors” student contemplating the meaning of a “signature learning experience.” Photo by N. K. Bricker.

expanding the program to serve their incoming students as well, including the law school, which would be a unique offering for a professional program. Where it will end is anyone’s guess, but U-EXPLORE’s goal is to make sure all students attending the University of Utah have an opportunity to get to know the land that is Utah and especially the wilderness that is Utah, in addition to the campus that is Utah. Indeed, a university-wide freshman wilderness orientation experience is not out of the question. To that end, U-EXPLORE’s leadership is now focusing on the following groundbreaking initiatives:

1. Creating discipline-specific wilderness orientation experiences highlighting the geology, geography, botany, biology, history, and so forth of Utah demonstrating the immediate relevance of what otherwise might be seen as esoteric subject matters in helping resolve pressing social and environmental problems; additionally, U-EXPLORE aspires to match new students with University of Utah faculty members

who have an interest in, and passion for, promoting sustainable futures, including the future of wilderness; as one “Wilderness with Honors” alumnus put it:

“Having experts come in to talk to a class about their given expertise is one thing, but being able to go out with the same class and physically relate the topics of those talks to the real world is a great way to give students a deeper understanding of what sort of implications those topics have for real life—whether you are talking about watersheds, resource extraction, land use debates, or simply how and why we should care about and take care of the natural world and wilderness as a whole.”

2. Attaching U-EXPLORE’s 60 outdoor recreation skill-development courses to Honors College writing courses (and potentially university-wide writing courses) to provide a wilderness context for writing about environmental issues; this initiative is intended to demonstrate the relevance of U-EXPLORE’s wilderness-based outings to the humanities as well as the natural and social sciences.
3. Cultivating Honors College student mentors (previous enrollees in “Wilderness with Honors”) to assist in teaching and writing about the benefits of the program and to aid in student retention at, and engagement in, the University of Utah at large.

Conclusion

The University of Utah is fortunate to have an Honors College program that understands the value of experiential learning and outdoor recreation education. The university

is also fortunate to be located in a part of the United States that is rich in environmental history, beauty, and diversity. The ongoing challenge is to make sure that a higher education at Utah includes a fundamental understanding of, and appreciation for, the natural world that sustains humankind, no matter one's academic specialty or professional calling. "Wilderness with Honors" is but a first step in that direction.

If, as Chawla (1998) concluded, young people should be exposed to nature early in life if they are to grow into adults who care about and protect the natural world, then the nascent learning-by-doing efforts described here should be expanded across land and sea to cultivate a worldwide citizenry that cares about and protects nature. Colleges and universities are well situated to carry on this important work (Schwab, Greenwood, and Dustin 2014), and wilderness provides an ideal outdoor

classroom within which to conduct the lessons. To that end, we encourage other colleges and universities to expand on U-EXPLORE's approach and apply it to their unique landscapes and wild places. Individually, we can make a positive and lasting difference in the lives of students within our sphere of influence. Collectively, we can change the world.

References

- Chawla, L. 1998. Significant life experiences revisited: A review of research on sources of environmental sensitivity. *Journal of Environmental Education* 29(3): 11–21.
- Dustin, D. 2012. Inside, outside, upside down: The Grand Canyon as a learning laboratory. In *The wilderness within: Reflections on leisure and life*, 4th ed. (pp. 27–30). Urbana, IL: Sagamore Publishing, LLC.
- Pergams, O., and P. Zaradic. 2006. Is love of nature in the United States becoming love of electronic media? 16-year downtrend in national park visits explained by watching movies, playing video games, Internet use, and oil prices. *Journal of Environmental Management* 80(4): 287–293.
- Robinson, J., and G. Godbey. 1997. *Time for Life: The Surprising Ways Americans Use Their*

Time. State College, PA: The Pennsylvania State University.

Schwab, K., B. Greenwood, and D. Dustin. 2014. Service first: Embracing the scholarship of teaching and learning through active engagement in park and recreation education. *Scholar: A Journal of Leisure Studies and Recreation Education* 1: 26–36.

Turner, F. 1893. The significance of the frontier in American history. A paper read at the meeting of the American Historical Association in Chicago, July 12.

DANIEL DUSTIN is a professor in the Department of Parks, Recreation, and Tourism at the University of Utah.

NATHAN BRICKER and NATE FURMAN are co-coordinators of the Department's University-Experiential Learning and Outdoor Recreation Education (U-EXPLORE) program. For further information about "Wilderness with Honors," email Nate.Bricker@hsc.utah.edu or Nate.Furman@utah.edu

TAYLOR DICKINSON is an Honors student mentor and alumnus of the "Wilderness with Honors" program.

Continued from A SERVICE-LEARNING PARTNERSHIP FOR WILDERNESS EDUCATION ... , page 37

Marion, J. L. 2014. *Leave No Trace in the Outdoors*. Mechanicsburg, PA: Stackpole Books.

Newman, P., B. L. Bruyere, and A. Beh. 2007. Service-learning and natural resource leadership. *Journal of Experiential Education* 30(1): 54–69.

Tilden, F. 2008. *Interpreting Our Heritage*, 4th ed. Chapel Hill: University of North Carolina Press.

Warren, J. L. 2012. Does service-learning increase student learning? A meta-analysis. *Michigan Journal of Community Service Learning* 56–61.

Whitley, M. A., and D. S. Walsh. 2014. A framework for the design and implementation of service-learning courses. *Journal of Physical Education, Recreation & Dance* 85(4): 34–39.

JOHN PEDEN is an associate professor at Georgia Southern University where he seeks to inspire the next generation of wilderness stewards; email: jpeden@georgiasouthern.edu.

MADALYN RUSSELL is an undergraduate student at Georgia Southern University with a passion for connecting people with the natural world; email: madyr@comcast.net.

The ultimate goal is to provide a beneficial service to public land managers, promote awareness of local wilderness resources, and develop the next generation of wilderness stewards.

MONICA HARRIS is the visitor services manager for the Savannah Coastal Refuges Complex. She is a nature-lover, Girl Scout leader, and environmental educator; email: monica_harris@fws.gov.

Increasing Number of Wilderness Areas in Italy

BY FRANCO ZUNINO

The designation of wilderness areas in Italy has a long and colorful history of incremental growth, public support, and strong advocacy by

Associazione Italiana per la Wilderness (Zunino 1995, 2001, 2005, 2007; Martin et al 2008). Since 1989, the number of wilderness areas in Italy has grown to

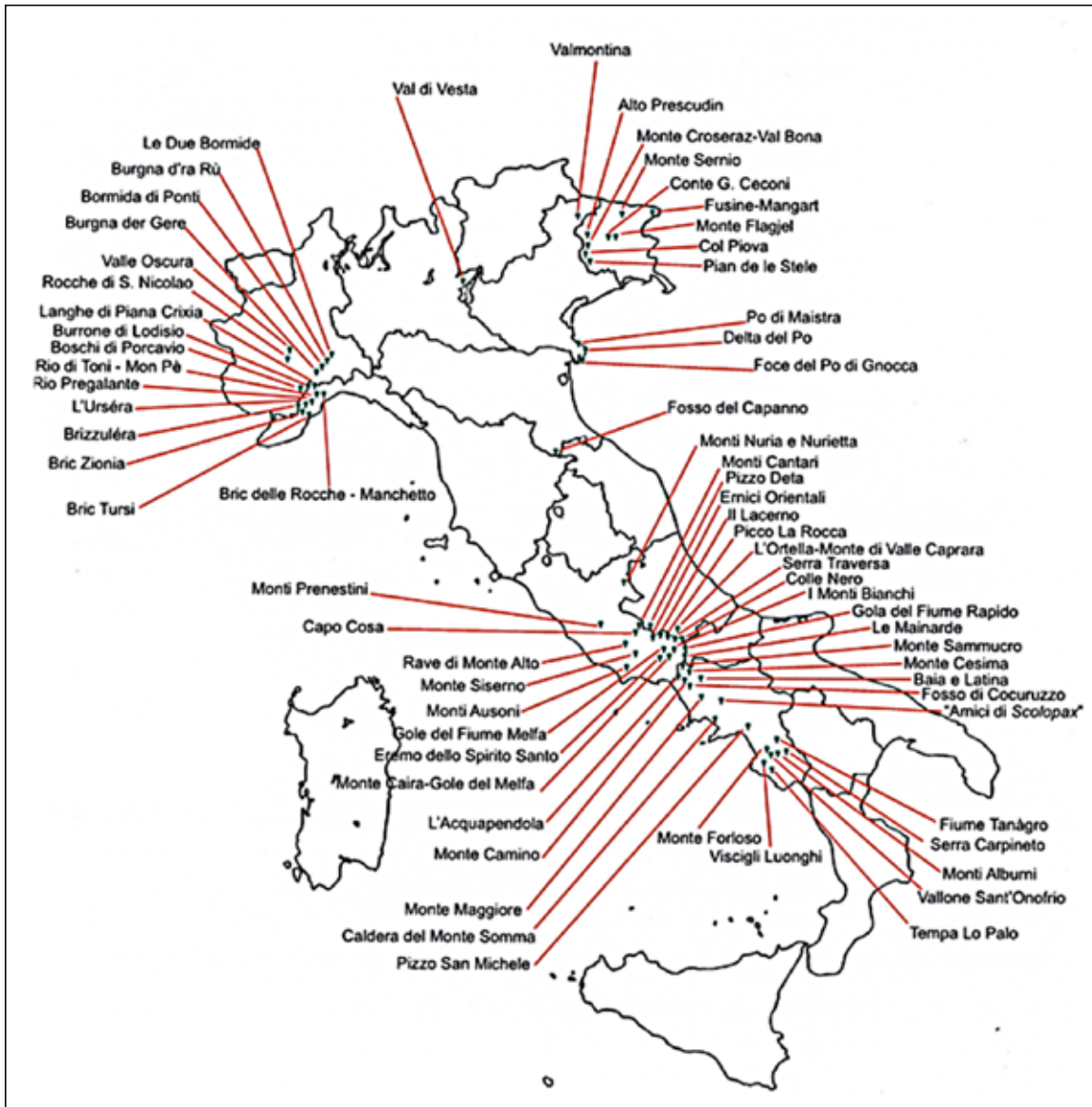


Figure 1 – A map locating the 65 wilderness areas in Italy. Map courtesy of the Associazione Italiana per la Wilderness.

65 and now totals 50,172 hectares (124,000 acres).

The first public wilderness area – Monte Cesima – established in Italy by a public authority (the Mignano Monte Lungo Common)

The number of wilderness areas in Italy has grown to 65 and now totals 50,172 hectares (124,000 acres).

was abrogated in 2003 in favor of a proposed project that was later rejected after many and long years of political conflict. The same area was unanimously redesignated on March 30, 2015, by a new municipal administration.

The Monte Cesima Wilderness Area in the Campania Region, not far from Naples, includes 1,250 hectares (3,089 acres) and protects a wild stretch of the South Apennine Mountains. This area has a high level of biodiversity with many rare species of flora and fauna, a large expanse of holm oak and hornbeam forest, alpine pasturage, and historic and cultural sites. This wilderness area was formally dedicated to the 50th anniversary of the 1964 Wilderness Act in the United States and to the many American military soldiers killed during the Monte Lungo battle of World War II (this battle included Audie Murphy, one of the most decorated American soldiers of WWII).

The formal dedication read:
The City of Mignano Monte

Lungo, first Italian and European municipality to have designated a wilderness area, believes the redesignation of the Monte Cesima Area Wilderness as an act participatory to the 2014 – fiftieth anniversary of the American law that protects the wilderness (“The Wilderness Act”); also, in memory of the American soldiers that during the war have lost their lives to liberate Italy from the occupying German army in the local battle of Monte Lungo.

The municipality of Alatri, recently designated a 1,600 hectare (3,954 acres) “Valle dell’Inferno” (Hell Valley) Wilderness Area in the Monti Ernici (Lazio Region), expanding the one designated by the Common of Vico nel Lazio. It is the wildest and most isolated part of the Ernici mountain range and now includes five protected wilder-

ness areas. This new area has great natural value due to the presence of many typical species of flora and fauna found in the Apennines.

References

- Martin, V., C. F. Kormos, F. Zunino, T. Meyer, U. Doerner, and T. Aykroyd. 2008. Wilderness momentum in Europe. *International Journal of Wilderness* 14(2): 34–38, 43.
- Zunino, F. 1995. The wilderness movement Italy – a wilderness model for in Europe. *International Journal of Wilderness* 1(2): 41–42.
- . 2001. A perspective on wilderness in Europe. *International Journal of Wilderness* 7(2): 35–39.
- . 2005. Wilderness is more than “nature.” *International Journal of Wilderness* 11(1): 35–37, 20.
- . 2007. A perspective on wilderness in Europe. *International Journal of Wilderness* 13(3): 40–43.

FRANCO ZUNINO is the founder of Associazione Italiana per la Wilderness and segreteria generale wilderness Italia; email: segreteria generale@wilderness.it.



Figure 2 – The mountain landscape of the Monte Cesima Wilderness Area. Photo by Franco Zunino.

Announcements

COMPILED BY GREG KROLL

Roger Semler Named as NPS Wilderness Chief

Roger Semler has been selected to serve as the new chief of the National Park Service's (NPS) Wilderness Stewardship Division in Washington, D.C., where he will be the principal advisor to the NPS director for decisions affecting the 44 million acres (17.8 million ha) of Park Service wilderness lands.

Semler has held several previous NPS positions at both park and regional levels, including chief of operations at Gates of the Arctic National Park and Preserve, Alaska, and wilderness manager at Glacier National Park, Montana. He served as the NPS Leave No Trace coordinator from 1994 to 2000, and was honored with the Director's Wilderness Stewardship Award in 1998. Most recently, Semler served as the assistant administrator and chief of operations for Montana State Parks, where he was responsible for overseeing management of 56 state parks with a staff of 100 employees. He has a bachelor's degree in geology from Western State College in Gunnison, Colorado. (Source: NPS, Washington Office)

"Father" of Costa Rica's National Park System Dies at Age 69

Álvaro Ugalde, who has long been considered the father of Costa Rica's world-famous national park system, died of a heart attack in his home close to San José, a day short of his 69th birthday. He was an environmental leader who cofounded the Costa Rican National Park System which now encompasses nearly 25% of the country's land surface.

Eduard Müller, president of the University for International Cooperation, who worked closely with Ugalde, said: "Costa Rica has lost a founding member of the National Parks Service and the conservation world has lost a dear friend. He will be remembered for his work all over Costa Rica, particularly in the Corcovado National Park on the Osa Peninsula in southwestern Costa Rica, [work] which he maintained throughout his life. ... Just days before his passing he met with President Luis Guill-

ermo Solís trying to get greater protection for Osa from the threat of hunters and gold miners that have again taken hold in the park." During the last years of his life, Ugalde devoted half his time as a volunteer caring for elders and the rest of the time actively involved in conservation efforts, working with journalists, conservationists, and several organizations.

In the 1960s, Costa Rica's rain forests were being obliterated in the guise of development. Ugalde, then a 22-year-old biology student, had other ideas. Having visited various parks across Canada and the United States, he realized that his homeland had enormous potential if it had the foresight to preserve its remaining forests. Working alongside his colleague Mario Boza, he began to develop their national park system, protecting key areas such as Corcovado.

Álvaro Ugalde received many awards in recognition of his lifelong conservation work, including the J. Paul Getty World Wildlife Award, presented by U.S. president Ronald Reagan; the Environmental Leader of the Century Award, from *Time* magazine; and Environmentalist of the Year Bravo Award, bestowed by *Latin Trade* magazine. (Source: IUCN, February 25, 2015)

New Map Illustrates Sound Levels Across the United States

Based on 1.5 million hours of acoustical monitoring from places as remote as Dinosaur National Monument, Utah, and as urban as New York City, scientists have created a map of noise levels across the country on an average summer day. Developed by the National Park Service's (NPS) Natural Sounds and Night Skies Division, the map is based on acoustic data fed into a computer algorithm to model sound levels across the country, including variables such as air and street traffic. Not surprisingly, locales such as Yellowstone National Park, Wyoming, and Great Sand Dunes National Park, Colorado, have background noise levels lower than 20 decibels – a silence likely as profound

Submit announcements and short news articles to GREG KROLL, *IJW* Wilderness Digest editor. E-mail: wildernessamigo@yahoo.com

as that before European colonization. In comparison, most cities have noise levels averaging 50 to 60 decibels.

The NPS is using the map to identify places where human-made noise is affecting wildlife. For example, bats and owls, whose ears are up to 20 decibels more sensitive than human ears, are affected by human-made noise that drowns out the faint sounds produced by insects and rodents that they need to discern in order to hunt. (Source: *Science*, February 16, 2015)

Mixed News for the Boundary Waters Canoe Area

Two privately owned properties located on the northern peninsula of Fall Lake adjacent to Minnesota's Boundary Waters Canoe Area (BWCA) have been preserved for public use and protected from development in a recent land transfer facilitated by the Friends of the Boundary Waters Wilderness. According to the Friends, the two properties, totaling 28 acres (11 ha) and featuring 1,000 feet (300 m) of lake frontage, adjoin the wilderness for a quarter mile (400 m). The land, primarily upland forest and some forested wetlands, was acquired with the Friends' Edge of the Wilderness Fund. The revolving fund is designed to let the private nonprofit act quickly to acquire lands from willing sellers, and then hold them while federal funding is secured to transfer them to public ownership. According to the Friends' newsletter, "These parcels were highly developable as they are located on a motorized entry point to the [wilderness]."

Meanwhile, two proposed radio towers near the BWCA have been shortened after concerns were raised about visual impacts on the Boundary Waters and the surrounding

landscape. Instead of the original lighted 330-foot (100 m) towers, the Minnesota Department of Transportation (MnDOT) agreed to build the towers 200 feet (60 m) high. The change in plans came after the Cook County commissioners and residents said the towers would violate the county's land use plan and that the safety lights could be seen from inside the wilderness, resulting in potential litigation. One commissioner said he had heard that the Friends of the Boundary Waters had already drawn maps with sight lines from the prospective towers to lakes in the BWCA where the flashing red lights could be seen.

The towers are part of the statewide Allied Radio Matrix Emergency Response (ARMER) network, which is being built to provide unified communications for first responders from a variety of agencies. An MnDOT representative told the county commissioners that the shorter towers will provide the necessary coverage for the ARMER system. These towers should not be confused with the cell phone tower previously installed by AT&T near the BWCA (*IJWDigest*, December 2011 and December 2012).

Finally, the conservation community lost a decadelong fight to prevent the U.S. Forest Service (USFS) from building the South Fowl snowmobile trail next to the BWCA Wilderness. When the USFS first approved the trail in 2006, it ignored the negative impacts on the area's wilderness character and rejected an alternative route. Then Wilderness Watch, the Izaak Walton League of America, Sierra Club Northstar Chapter, and Northeastern Minnesotans for Wilderness won a district court decision that required the USFS to complete an environmental impact statement analyzing the snowmobile trail's impacts

on the area's wilderness character. Ultimately, the court ruled against the plaintiffs, even though the judge agreed that the new trail will introduce new and louder snowmobile noise into the wilderness. The judge described the case as a "close call." (Sources: Quetico Superior Foundation, January 9 and February 26, 2015; Wilderness Watch *Guardian*, March 2015)

Every Kid in a Park Initiative Launched

The U.S. Department of the Interior (DOI) has launched a new Every Kid in a Park initiative, which calls on each Interior agency to help all children visit and enjoy the American outdoors. Starting in September 2015, every fourth-grader in the United States will receive an Every Kid in a Park pass that will be good for free admission to all of America's federal lands and waters – for them and their families – for a full year. According to the DOI, "Young people are spending more time in front of screens than outside, and that means they are missing out on valuable opportunities to explore, learn and play in the spectacular outdoor places that belong to all of them. Because we know that a big reason many kids don't visit these places is because they can't get there easily, we will also help schools and families arrange field trips and visits by providing key trip-planning tools, and helping to cover transportation costs for schools with the greatest financial need."

The National Park Foundation, the congressionally chartered foundation of the National Park Service, is expanding its program to award transportation grants for kids to visit parks, lands, and waters. President Barack Obama has also requested new funding in his FY 2016 budget

to fund youth education programs and to support transportation for school outings to parks for students from low-income areas. (Source: Department of the Interior, February 19, 2015)

Grand Teton National Park Debuts Web-Based eClimb

A new interactive virtual tour produced by the staff at Grand Teton National Park, Wyoming, entices users to summit the park's 13,775-foot (4,200 m) Grand Teton "through the convenience of their personal computer and the comfort of a home office or living room," according to the National Park Service (NPS). The NPS goes on to say this virtual mountaineering excursion – or eClimb – provides an introduction to the features, geology, history, and "excitement of scaling the granite ledges and spires that form the Grand Teton massif: the highest peak in the Teton Range and second highest mountain in Wyoming." The web-based tour introduces viewers to the various elements (rocky terrain, plants, and wildlife) that exist in Grand Teton's forest and alpine communities.

eClimbers can control images and sounds at each stop along their virtual tour, and they can activate videos to explore the human and natural history related to each location along the climbing route. By hovering the mouse over a photograph, hidden

images are revealed through the click of a button. According to the NPS, the "eClimbers can also use videos to imagine scrambling over boulder fields and wedging through rocky alcoves as they experience the thrill of climbing and drama of a mountain rescue in a virtual landscape."

"After the success of our String Lake eHike that we posted in early 2013, we knew an eClimb could provide an exciting experience for visitors who either don't have the time or the ability to reach such a high mountain summit," said Vickie Mates, Grand Teton National Park's chief of interpretation and partnerships. "We hope children and adults alike enjoy this virtual journey to the alpine zone and the summit of the Grand Teton. And we hope that those who discover our suite of electronic experiences will also be tempted to make a live visit to Grand Teton National Park to explore firsthand the exquisite Teton peaks and the wildlife that lives in their majestic shadow," added Mates.

The eClimb can be accessed at nps.gov/features/grte/grandteton/eClimb.html.

Peru Slashes Environmental Protections to Attract Mining and Fossil Fuel Investment

Peru has passed a new law, signed by President Ollanta Humala, which overturns many of its environmental protections and essentially guts

the Ministry of Environment. In an attempt to kick-start dwindling investment in mining and fossil fuels, the law significantly reduces most fines for environmental damages, forces environmental impact studies to be completed in just 45 days, and will allow mining and fossil fuel exploitation in any newly established protected area. The law also undercuts the Ministry of Environment, which was only established in 2008, by no longer allowing it to set standards for air, soil, and water quality. Finally, the new law enacts large tax breaks for foreign mining companies operating in the country.

Peru enacted the law in response to its slowing economic growth, which dropped from 6.3% in 2012 to 5% in 2013. Currently, mining makes up 60% of exports, with gold accounting for one-third of that. About 70% of the Peruvian Amazon has been auctioned off to oil companies for exploration.

Environmentalists were heartened by some developments in Peru since Humala's election. In 2013 Peru declared a state of emergency due to decades of oil pollution in the Pastaza River in the Amazon basin. This state of emergency, which compelled oil giant Pluspetrol to clean up the area, was brought about by the Ministry of Environment's nascent soil and water standards, which the new law eliminates. (Source: mongabay.com, July 23, 2014)

Book Reviews

JOHN SHULTIS, BOOK REVIEW EDITOR

I Am Coyote: Readings For the Wild

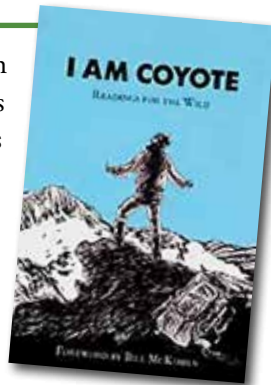
By Jay Schoenberger. 2014. Kimbrough Knight Publishing, San Francisco, CA. 275 pp. \$18.95 (pb).

This anthology was compiled with more than 60 excerpts from famous writers and poets and their writings about wild places, nature, and wilderness. The collection is meant to be read in wild places as a sort of traveling companion to take along as inspiration from such famous writers and poets as Mark Twain, John Muir, Jack London, Edward Abbey, Henry David Thoreau, Annie Dillard, Wallace Stegner, Ralph Waldo Emerson, Charles Darwin, Robert Frost, Walt Whitman, and others.

The book begins with a brief foreword by Bill McKibben and an introduction by Jay Schoenberger who explains that the book originated from the many pages he copies of passages from a variety of books he enjoyed, but when they became hard to read through wear, he searched for a book that was “a compilation of the great wilderness-related essays, poems, and passages. I wanted a book I could throw in my pack and read in the backcountry or enjoy at home when I itch for a connection to the wilderness” (p. 4). Unable to locate such a book, he eventually decided to compile his own collection to share with other readers.

Schoenberger organized the writings he selected into five chapters:

- **To Any Place That Is Wild** – focuses on the lure of adventures and journeys into wild places especially to get away from the confines and limitations of civilization.
- **The Tonic of Wildness** – shares the excitement and joyful experiences of travelers in the wild settings of nature and time spent out on a trail.
- **Mountains a Thousand Miles High** – relives the discomfort and challenge of traveling in difficult country, the fear of becoming lost, and the bittersweet end to a wilderness trip.



- **What Is the Use?** – embraces the maturation from wilderness traveler and adventurer to becoming an advocate or spokesperson for conserving or preserving wild places.
- **Saving the Geography of Hope** – rekindles the hope of conservation and preservation that has shaped the movement for parks and wilderness today and will do so into the future.

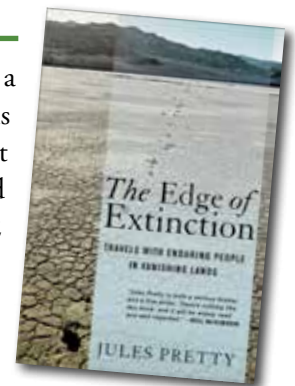
This inspired collection contains works that will reassure and remind longtime backcountry adventurers, advocates for wild places, admirers of nature, and armchair enthusiasts about the value of and benefits from preserving wilderness and visiting those natural landscapes. This historic collection is also a cross section of current and historical writings and poems that will speak to those who have not yet experienced the backcountry and may be called through these writings and poems to embrace their own travels and learn of the solace and renewal in reconnecting with wild places.

REVIEWED BY CHAD DAWSON, *IJW* editor in chief and professor emeritus at the SUNY College of Environmental Science and Forestry, Syracuse, NY; email: cpdawson@esf.edu.

The Edge of Extinction: Travels with Enduring People in Vanishing Lands

By Jules Pretty. 2014. Cornell University Press, Ithaca, NY. 240 pp. \$27.95 (hc).

The Edge of Extinction is a narrative of Jules Pretty's travels across the world. Starting at the international dateline and moving west, he seeks out 12 beleaguered peoples and regions which have a clear connection and relationship. From Maori people in New Zealand/Aotearoa to Americans living in the California desert,



Pretty documents the peoples and places that are rapidly vanishing as modernity encroaches.

Pretty blatantly defies the Western notion of wilderness as an isolated natural space without human presence or activity. Instead, he notes that the entire world has been cultivated noticeably by the people who occupy and rely on these landscapes. This occupation was and still can be done in harmony with the land, respecting natural cycles to prevent the catastrophic changes that seem to be happening around us. Wilderness as “shaped and used by people” (p. 14) can still seem natural and untouched: this is a common theme throughout the book.

Pretty does not propose a quick fix to our unsustainable way of life. He suggests our redemption could be a slow creeping change, starting from these wild places where indigenous cultures and local peoples are

adapting on their own terms. These cultures take what is good and useful in the modern world as their own and reshape it to conform to their own culture, challenging the separation of nature and culture and demonstrating a potential way forward.

Pretty conceives the potential extinction of these seemingly remote places as a reflection of our own self-destruction via our consumer society. For it is from these natural places that industries harvest the resources to fuel our consumption. An ever-increasing demand for commodities is conceived as a vain effort to find satisfaction as the world withers around us: “Modern civilization has chased us here, consuming all” (p. 196).

Pretty believes that without the wild places of the world there will be nothing left to survive on, either physically or metaphysically. He has attempted to highlight the undeniable connection between humans and the

landscapes they live on, identifying those who live in a way that challenges the dominant ideology of humans existing separately from nature, one of the key root causes for the degradation of natural areas today.

In the end, Pretty offers no shining beacon of hope for the future, only an image of what could be, what would need to be for the Western way of life to continue. It is not about ceasing consumption, but altering the practices of production so that they benefit the environment. He is adamant that humanity and nature have and can coexist. Each chapter provides example of this in a culturally distinct context so as to illuminate a way forward from our current environmental problems.

REVIEWED BY ELIZABETH WHITWICK, a student in the Ecosystem Science and Management Program at the University of Northern British Columbia; email: whitwick@unbc.ca.

Continued from WILDERNESS STEWARDSHIP IS TOO IMPORTANT ... , page 19

Stephenson, N. L., C. I. Millar, and D. N. Cole. 2010. Shifting environmental foundations: The unprecedented and unpredictable future. In *Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change*, ed. D. N. Cole and L. Yung (pp. 50–66). Washington, DC: Island Press.

USDA Forest Service. 2006. *FS Manual Chapter 2320 – Wilderness Management*. Washington, DC.

USDI Bureau of Land Management. 2012. *BLM Manual 6340 – Management of BLM Wilderness*. Washington, DC.

USDI Fish and Wildlife Service. 2008. *FWS Manual, Natural and Cultural Resources Management Chapter – Part 610 Wilderness Stewardship*. Washington, DC.

USDI National Park Service. 2006. *Management Policies 2006*. Washington, DC.

DAVID N. COLE is emeritus scientist with the Aldo Leopold Wilderness Research Institute and on the board of the Society for Wilderness Stewardship. The views expressed in this article are the author's and should not be attributed to either of these organizations; email: dncole.work@gmail.com.

For the young conservationists in your family

John Muir • Rachael Carson • Henry David Thoreau



Hudson
The Story of a River
Thomas Locker and
Robert C. Baron



Rachel Carson
Preserving a Sense of Wonder
Thomas Locker and
Joseph Bruchac



John Muir
America's Naturalist
Thomas Locker



Walking with Henry
*Based on the Life and Works of
Henry David Thoreau*
Thomas Locker

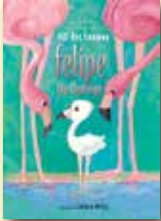
Images of Conservationists series

Illustrated by award-winning children's book artist

Thomas Locker

Each book is 11 x 8 1/2 • 32 pages
full-color illustrations • HC \$17.95

Also in Spanish!



Felipe the Flamingo
Jill Ker Conway, Illustrated by Lokken Millis
Felipe, a young flamingo, is left behind when his flock migrates to find more food. As he awaits his parents he learns many life lessons.
10 1/2 x 7 1/2 • 32 pages • full-color illustrations • HC \$12.95
PB version in Spanish \$9.95



Sand to Stone and Back Again
Nancy Bo Flood
Photos by Tony Kuyper

A beautiful combination of photographs, drawings, and text illustrates the life cycle of sandstone in the landscape of the desert Southwest. Written for ages 4 and up. **8 1/2 x 8 1/2 • 32 pages • full-color photos • PB \$9.95**



Alphabet Kingdom
Lauren A. Parent
Illustrated by mo mcgee
This animal-centered alphabet book, offers an abundance of images and subtle surprises on every page.
10 x 10 • 40 pages • full-color illustrations • PB \$8.95



Gas Trees and Car Turds
A Kids' Guide to the Roots of Global Warming
Kirk Johnson and Mary Ann Bonnell
This colorfully illustrated book makes carbon dioxide, an invisible odorless gas responsible for global warming and plant growth, into something that can be imagined and understood by children. **7 x 10 • 40 pages • full-color illustrations • PB \$9.95**



The Girl Who Married the Moon
Tales from Native North America
Gayle Ross and Joseph Bruchac

This collection of traditional stories explores the significance of a young girl's rite of passage into womanhood. Each of these stories originated in the oral tradition and have been carefully researched.

Joseph Bruchac, author of the best-selling Keeper's of the Earth series, and noted storyteller, has been entrusted with stories from elders of other native nations which ensures that the stories collected in this book are authentic.
6 x 9 • 128 pages • PB \$9.95



Flying with the Eagle, Racing the Great Bear
Tales from Native North America
Joseph Bruchac

In this collection of Native American coming-of-age tales, young men face great enemies, find the strength and endurance within themselves to succeed, and take their place by the side of their elders. Joseph

Bruchac is the award-winning author of books for children and adults.
6 x 9 • 128 pages • PB \$10.95

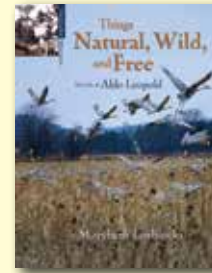


Tales of the Full Moon
Sue Hart
Illustrated by Chris Harvey

Children of all ages love these wonderful tales of the African bush. A timeless collection of memorable stories centered on lovable characters.

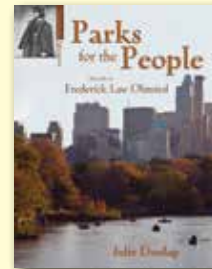
7 1/2 x 10 1/2 • 96 pages • full-color illustrations • PB \$16.95

Conservation Adventures series



Things Natural, Wild, and Free
The Life of Aldo Leopold
Marybeth Lorbiecki

Adventure—as a child Aldo Leopold was always looking for it as he wandered over the bluffs along the Mississippi with his dog, Spud. This led Leopold to become a for-ester, wildlife scientist, author, and one of the most important conservationists in history. Award-winning author Marybeth Lorbiecki brings Leopold to life in this vivid new biography. Featuring resource and activity sections, a time line, a bibliography, and historic black-and-white photographs.
7 x 9 • 112 pages • PB \$12.95

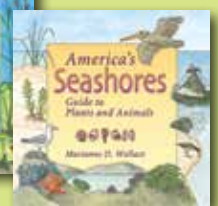
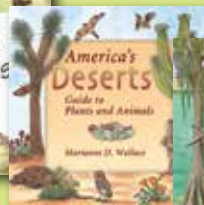
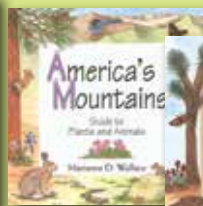
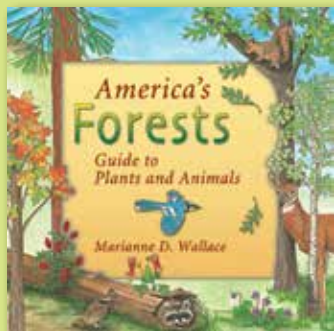


Parks for the People
The Life of Frederick Law Olmsted
Julie Dunlap

Growing up on a Connecticut farm in the 1800s, Frederick Olmsted loved roaming the outdoors. A contest to design the nation's first city park opened new doors for Olmsted when his winning design became New York's Central Park, just one of Olmsted's ideas that changed our nation's cities. Award-winning author Julie Dunlap brings Olmsted to life in this memorable biography, featuring resource and activity sections, a time line, and a bibliography, as well as black-and-white historical photographs.
7 x 9 • 112 pages • PB \$12.95

America's Ecosystem series

A series of six books, each exploring a different biome, its plants, and its animals



Each book is 9 x 9 • 48 pages • full-color illustrations
maps and glossary • PB \$11.95



FULCRUM PUBLISHING

4690 Table Mountain Drive, Suite 100 • Golden, Colorado USA 80403
Phone: +1 303-277-1623 • Fax: 303-279-7111

To order or to learn more about other titles at Fulcrum Publishing, visit:

WWW.FULCRUMBOOKS.COM

The WILD Foundation

717 Poplar Avenue
Boulder, CO 80304 USA

► WWW.WILD.ORG

NONPROFIT
ORGANIZATION
U.S. POSTAGE

PAID

Boulder, CO
Permit No. 63

I N T E R N A T I O N A L Journal of Wilderness

For Wilderness Worldwide

► WWW.IJW.ORG

Sponsoring Organizations

Conservation International

Central Michigan University, Department of Recreation, Parks and
Leisure Services Administration

Aldo Leopold Wilderness Research Institute

SUNY College of Environmental Science and Forestry

The WILD® Foundation

The Wilderness Society

University of Montana, College of Forestry and
Conservation and Wilderness Institute

USDA Forest Service

USDI Bureau of Land Management

USDI Fish and Wildlife Service

USDI National Park Service

Wilderness Foundation (South Africa)

Wilderness Foundation (UK)

Wilderness Leadership School (South Africa)

Wilderness Specialist Group (WCPA/IUCN)