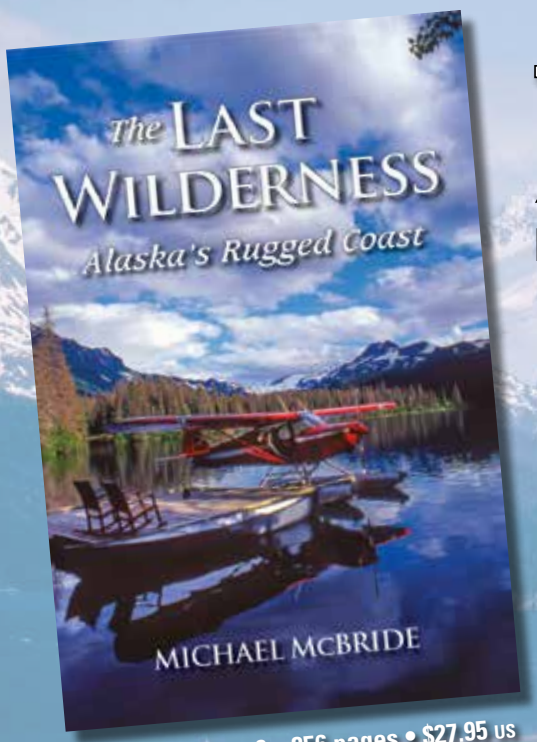
INTERNATIONAL

Journal of Wilderness

In This Issue

APRIL 2015 VOLUME 21, NUMBER 1



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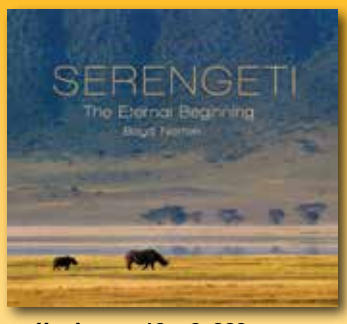

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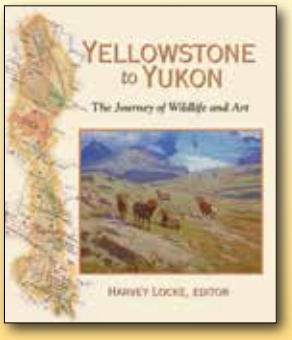

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—John C. Hendee,
IJW Editor-in-Chief Emeritus

On the Cover

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Main image:
Ian Player and his Zulu brother, friend and mentor of 40 years, Magqubu Ntombela.

Inset image:
Magqubu and Ian lead a "wilderness trail" as part of the Wilderness Leadership School, crossing the Black iMfolozi River in the iMfolozi Wilderness Area, KwaZulu Natal, South Africa.

International Journal of Wilderness

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

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EDITORIAL PERSPECTIVES

Proof I Was Here

BY LISA RONALD

In the closing session at the National Wilderness Conference, Monica Patel, a young, poised, articulate wilderness fellow, urged attendees to go home and prove that they were here. Although the success statistics of the 50th anniversary of the Wilderness Act speak for themselves – more than 850 community-level events; the opening of the yearlong "Wilderness Forever" photography exhibit in the Smithsonian's National Museum of Natural History (which will be visited by an estimated 8 million people); the D.C. Wilderness Week that spawned Senate passage of a resolution supporting the 50th anniversary; the National Wilderness Conference, the first national gathering in 25 years of nearly 1,200 members of the wilderness community; 116 agency, nonprofit, and corporate sponsors; and national media coverage – being "here" implies a sustained continuation of these transformative experiences.

Two words from a recent *Orion Magazine* article resonate with me as I think through how to prove I was here: *empowered powerlessness*, the reality that I have a

Continued on page 48

Figures 1–6 – We asked participants at the National Wilderness Conference to fill in the blank on our chalkboard: "Wilderness is ____". Here are the reasons they "were here". Photos by Kasey Rahn.

A Tribute to Ian Player

Global Wilderness Conservation Icon

BY VANCE G. MARTIN and ANDREW MUIR

Vance G. Martin and Ian Player.

Andrew Muir and Ian Player at the opening of his conservation library at the Plains of Camdeboo nature reserve in 2013. Photo by Margot Muir.

Wilderness Conservation Leader and Icon

Dr. Ian Player, globally recognized wilderness and conservation legend, passed away peacefully on November 30, 2014, at age 87, at Phuzamoya, his family homestead in the KwaZulu-Natal Province of South Africa. Dr. Player was a wilderness conservation pioneer, a visionary, and an activist who profoundly influenced conservation and changed the lives of countless people in his native South Africa and around the globe.

Beginning humbly in the post-WWII days of nature conservation in Africa, working for months on end in the wilderness, Ian climbed the conservation ladder of leadership and influence first in his own country and then internationally, battling resource exploiters to save the best remaining areas while introducing the concept and reality of "designated" wilderness in Africa (Linscott 2013). Ultimately his influence and examples extended globally as he helped establish wilderness organizations in other countries, initiated the World Wilderness Congress (WWC), mentored and inspired many current and future conservation leaders, and changed the lives of countless others through his written and spoken words and personal encouragement.

His list of awards and prestigious recognitions is extensive, including Knight in the Order of the Golden Ark (Prince Bernhard of the Netherlands); Gold Medal for Conservation (San Diego Zoological Society); Distinguished Meritorious Service (DMS), the Republic of South Africa's highest civilian award; doctor of philosophy, honoris causa – Natal University, South Africa, 1984; doctor of laws (LLD) honoris causa – Rhodes University, South Africa, 2003; and many others.

Getting Started

Ian left secondary school at St. John's College (comparable to U.S. high school) at 16 to join the army and served in the 6th South African Armored Division with the American 5th Army in Italy from 1944 to 1945. On his return from WWII he worked at various jobs, including on the Durban docks, as a fisherman, and underground in the gold mines before finally getting a job as substitute game ranger working in the remote country of Natal (now KwaZulu Natal) Province for the Natal Parks Board. In that organization he ultimately rose to the rank of chief conservator of Zululand before resigning in 1974 to focus his energies on the wilderness movement. In this next phase of his life's work, he worked zealously to protect wilderness and nature, and ultimately was appointed a Natal Parks (governing) board member, the only Parks board staff person ever to do so – and he was reappointed three times. Later in life he also served on the board of SANParks Parks, the South Africa National Parks board.

Men, Rivers, and Canoes

As a soldier in Italy during World War II, reflecting on his passion for canoeing, Ian envisioned a difficult 75-mile (120 km) canoe race from the city of Pietermaritzburg to the coastal city of Durban (SA), and by 1951 he had organized such an event. The first race had eight entrants, but he was the only one who finished despite being bitten by a poisonous snake. Ultimately Ian won the race three times, and today more than 12,300 people have competed in what is now the annual Dusi Canoe Marathon. Ian's canoe adventures are described in his book *Men, Rivers and Canoes* (1964).

Saving the Southern White Rhino

From 1952 going forward, as warden of the iMfolozi Game Reserve, Ian Player spearheaded several important and far-reaching initiatives. The reserve was established in the 1890s to protect an estimated two to three dozen still-remaining wild southern white rhinos. In a 1953 aerial survey Ian found that their numbers in the reserve had grown to more than 400; however, increased hunting, poaching, farming, and the potential for disease made the herd's future survival uncertain. Ian Player addressed this challenge directly, consulting with organizations sharing a common interest in rhino conservation to gain their support, and then launched Operation Rhino, leading a team in pioneering the methods and drugs to immobilize these huge mammals for translocation to disperse gene pools in different countries and venues (Figure 1). Many of these captured rhinos were also moved to suitable habitat in their historic distribution range in national parks and game reserves, private game farms, and zoos and parks around the world (Player 1973) – an effort that is widely credited for saving the endangered southern white rhino from extinction, with a current population estimated to be near 20,000.

Figure 1 – Ian Player and his team pioneered methods to tranquilize rhinos for study and translocation to suitable habitat, parks, game farms, and zoos around the world. This effort is largely credited with saving the southern white rhino from extinction. Photo courtesy of the Player family.

Africa's First Wilderness: Saving Biodiversity and Empowering People

From his first conservation job patrolling in very remote regions and reading material from the wilderness movement in the United States sent to him by wilderness advocate Howard Zahniser, Ian Player learned about the intellectual and legal framework for wilderness protection and about the value of wilderness experiences for the human spirit as well as for biodiversity conservation. Subsequently, as warden for the iMfolozi Reserve, Ian's tireless advocacy led to zoning parts of the iMfolozi and Lake St. Lucia Reserves as wilderness in the late 1950s – the first protected wilderness areas in South Africa and on the African continent. At the same time, Ian's desire to understand the personally transformative power of experiencing wilderness was greatly augmented by his exposure to the visionary work of Swiss psychoanalyst Dr. Carl Jung and his friendship with Sir Laurens van der Post, the explorer, author, collaborator with Jung, and ultimately one of the cofounders with Ian of

The WILD Foundation. One of the most important aspects of Ian's exploration of the human psyche was the importance of dream analysis in unlocking personal meaning and growth. He continued this exploration for decades, and helped found the Cape Town Centre for Applied Jungian Studies, the first such center in Africa. When on a wilderness trail with Ian, a first order of business each morning was sharing dreams.

When taking over management of the iMfolosi Reserve, Ian bonded with one of the black game guards, the late Magqubu Ntombela, who became a mentor and friend to him, teaching him the ways of the bush, the culture of the Zulu people, and more. Ian, affected in his early life by the racial prejudice of old South Africa, always credited Magqubu with changing him from that way of thinking, and together they grew to be a legendary force for conservation. This remarkable story is recounted by Ian in his book dedicated to Magqubu, *Zulu Wilderness: Shadow and Soul* (Player 1998).

In 1955, Ian and his team (including Magqubu) founded the now globally recognized Wilderness Leadership School (WLS) to take people "on trail" – guided wilderness trips of several days in small groups – to personally experience wilderness, and each other. This was especially important for promising young leaders selected by WLS to participate on mixed-race trails, thus pioneering multiracial environmental education during the apartheid era. In the wilderness everyone is equal, and as Ian explained, "Lions don't care if you're black or white, man or woman, you're just a potential meal to them." Together, Ian and Magqubu personally led hundreds of young leaders as well as established leaders from many countries on trail (Junkin 1987). Friendships formed on WLS Trails provided a nucleus from which many collaborative organizations emerged, such as The WILD Foundation (WILD, based in the United States), The Wilderness Foundation South Africa (WFSA), The Wilderness Foundation United Kingdom (WFUK), and the Magqubu Ntombela Memorial Foundation, established by Ian in honor of his friend, colleague, and mentor. Together, this Wilderness Network of five NGOs continues to advance and innovate on Ian Player's work, expanding wilderness protection according to and beyond his original vision into a powerful global force for wilderness conservation.

The Wilderness Network

Ian and Magqubu wanted to help support wilderness experiences for people of all backgrounds, races, and nationalities. The WFSA was chartered as a South African nonprofit organization by Ian Player in 1972. The WFUK and WILD were chartered in 1974. These organizations, all inspired, encouraged, or launched by Ian Player and led by his colleagues, helped support wilderness experiences for thousands of people over the decades, spawning a global network of conservationists and leaders from all sectors of life committed to saving wilderness and wildlife everywhere on the planet.

Today, The WILD Foundation, led by Vance Martin, is based in the United States but works globally to protect and connect wilderness and people through field projects; wilderness law and policy at all levels of government and the private sector; written, digital, and visual communications;, and cultural initiatives. WFSA and WFUK are also led by colleagues recruited and mentored by Player: Andrew Muir (WFSA) and Joanne Roberts (WFUK). Their programs focus respectively on African and UK conservation, social intervention, experiential education, and advocacy for protecting wildlands and wilderness, uplifting the lives of citizens, and stimulating environmental ethos among current and future leaders. Andrew Muir worked alongside and was mentored for two decades by Ian Player, and WFSA has become a major force for conservation in southern Africa. Andrew has been globally recognized in his own right for his work integrating social issues with nature conservation solutions. Until very recently, Ian Player continued to serve on the network's boards and otherwise continued encouraging, guiding, and directing them toward a seminal vision of expanding global wilderness that he and Magqubu conceived so many years ago. Despite a lifelong physical challenge posed by an injured leg that steadily deteriorated with age, Ian worked tirelessly for wild nature to the very end of his life.

The World Wilderness Congress

The most internationally far-reaching of Dr. Player's creations for global wilderness protection was conceived with Magqubu in 1974 while sitting on the banks of the iMfolozi River (Figure 2). As Ian describes, Magqubu turned to me and said, "We are doing good work, but we need to do more. We should call an INDABA-KULU, a great gathering, for all people to come together for wilderness." Ian and his colleagues, by then including influential leaders in many countries who had gone on trail with him and Magqubu, answered the call, and the first WWC convened in Johannesburg, South Africa, in 1977, again defying

the apartheid laws by having all races on a single platform. The next WWC followed in Australia (1980), where Ian met Vance Martin. With Ian's initial guidance, Vance organized the 3rd WWC in Scotland (1983). Since then, seven more World Wilderness Congresses have convened every three to four years, implemented by Martin as president of The WILD Foundation on behalf of the Wilderness Network. The World Wilderness Congress now constitutes the planet's longest-running international conservation project and public environmental forum. (For accomplishments of the WWCs, see www.wild.org.) Ian Player opened all the Congresses until the 9th in Mexico 2009, when declining health interfered, and Magqubu participated in both the 1st and 4th (USA) Congresses before his death in 1992.

Vance Martin: My Personal Experience with Ian Player

Ian walked across the foyer at the 2nd WWC in Cairns, Australia, in 1980, looked me in the eye, shook my hand, and said, "You're Vance Martin, you live in Scotland at the Findhorn Foundation and I want to know all about it, and you. Please join Laurens van der Post and me tonight to tell stories. We want to hear yours." This was very heady stuff for me, a 31-year-old who had quit university forestry studies to study English literature, thinking at the time that no one else could understand what I actually felt about nature and what I might want to do with my life, except maybe Laurens van der Post – whose books had held me rapt since I was a teenager – and, as I was soon to learn, Ian Player.

The encounter felt fateful. Ian's gravitas was impossible to ignore, conveying at once a sense of imposing leadership, practical accomplishment, and intellectual depth. I was soon to learn and appreciate that the gravitas was well balanced by a deep sense of humor as bawdy and ironic as it was infectious. And so it began.

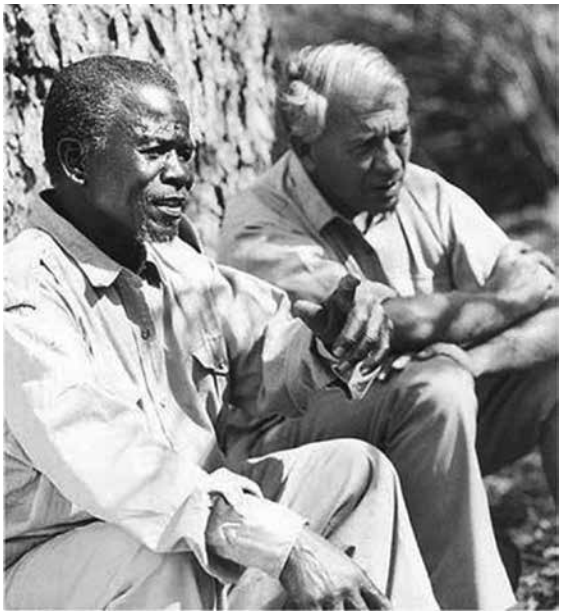

Figure 2 – Ian Player founded the World Wilderness Congresses that have now convened 10 times in various countries, but he credits his Zulu friend Magqubu Ntombela with the idea, urging him to call an INDABA-KULU, a great gathering for people to come together for wilderness. Photo courtesy of the Player family.

In 1984, I returned to the United States to build The WILD Foundation. Ian's offer was characteristic: "There's no money, you'll need to raise it. I'll help." For many years, Ian and I traveled and worked together in Africa, Europe, Russia, Central Asia, India, Australia, and North America, meeting people, exploring country and culture, and searching possibilities for protecting wilderness (Figure 3). Finances were always very tough, and, for many of those years, Ian's identity as a South African was also a burden, despite his documented disagreement with apartheid. The stain of "apartheid-by-association" often affected how he was treated, with people ignoring his personal example of multiracial wilderness programs and his collegial work with Magqubu, regarding him as an apartheid collaborator simply because he lived in South Africa. But we persevered together under WILD's expanding aegis to promote the wilderness concept as a globally relevant idea for international nature conservation, despite opposition from resource extraction industries, and even some environmental quarters where wilderness was considered impractical in all but a few countries.

Working strategically through the WWC, with help and support from the increasing numbers and influence of delegates who have participated in the 10 Congresses hosted in 8 different countries, WILD and the Wilderness Network helped create a framework and tools for advancing wilderness as a global idea, including an accepted international definition of wilderness as a protected area category, now recognized by the International Union for the Conservation of Nature; creation of a Wilderness Specialists Working Group within the World Commission on Protected Areas; and many publications providing a wilderness tool kit for policy makers and managers, including a *Handbook on International Wilderness Law and Policy*, a *Wilderness Management* textbook (four editions), an *International Journal of Wilderness* (for 20 years now, www.ijw.org), publications on tribal/community wildlands, and an archive of proceedings, scientific, and popular publications spawned by the WWCs.

These strategic actions supporting global wilderness, evolving from the Congresses and implemented by

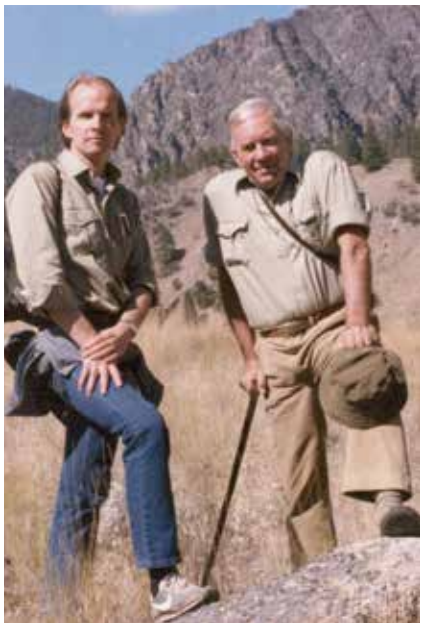

Figure 3 – Vance Martin and Ian Player traveled together around the world meeting people and exploring wilderness and its protection. Here they are in the River of No Return Wilderness in Idaho, United States. Photo by John Hendee.

WILD on behalf of the Wilderness Network and many other collaborators in support of Ian's vision, have helped a growing number of nations (now 11) create national de jure designation of protected wilderness, and many more nations creating de facto wilderness protection through area planning and policies.

Even though he grew up professionally in the rough-and-tumble of postwar nature conservation in Africa, Ian emphatically espoused the spiritual values of experiencing wilderness and was one of the first major resource managers to repeatedly use the word *spiritual* in his presentations on the importance and benefits of protecting wilderness. This was also a core part of what I felt about nature, and contributed to the glue that bonded Ian and me.

It was the unique combination of the sacred and the profane, spiritual and practical, that characterized Ian, befuddled his critics, and informed his decisions and accomplishments. For example, in one of his last official acts before resigning from the Natal Parks Board Ian placed the white rhino back on the hunting list. Years later when I asked him why, he was clear: "I don't understand why someone would want to shoot one of those magnificent beasts. But hunting has a role in conservation, and the fee paid by one hunter for that animal is enough revenue to enable a private owner to keep his land wild for another year, rather than convert it to intensive agriculture or monoculture tree plantations. There's no choice in that for me."

Over 34 years after first sharing our stories at the 2nd WWC, Ian, like a great tree, has fallen to the ground. Despite the ample warning we could see in his gradual decline, his death – like that of a great tree – will leave a gaping hole in the canopy. But that hole is being filled by a host of people who were inspired, energized, and informed by his presence, example, and undying commitment to a world in which wild nature and humans exist and evolve together. I will deeply miss him!

Andrew Muir: My Personal Experience with Ian Player

I remember meeting Ian for the first time in his study at his home in the Karkloof, introduced by our mutual friend Dr. Ian McCallum. It was 1987 and I was a 22-year-old without a job and had just completed a 400 km (248 mile) youth leader expedition with a racially mixed group of young South Africans down the western coastline of South Africa. Ian was not necessarily impressed by the expedition itself but instead by the fact that I had raised the funds for the event, and that we made this leadership course happen despite breaking a number of apartheid laws at the time.

I had a love for wild places and a desire to find ways to help heal the wounds of apartheid and reunite people with nature and wildlife. Ian gave me the opportunity to realize my dreams by offering me a position at the newly formed Wilderness Leadership School in Cape Town, to begin and run their trail programs there full-time. He employed me with the words, "I can give you ZAR500 ($45 US) per month for the first six months, but after that you must raise your own funds." How could I refuse such an offer?

By the mid 1990s, I had taken over running the WLS out of Durban, and in 2000 Ian handed over the reigns of the WFSA to me. Since then we have expanded the organization's influence through holistic social intervention strategies, incorporating a powerful wilderness and conservation ethos into successful projects targeted specifically at vulnerable youth. The WFSA is built on the values of respect for all living things, a passion for conservation and education, integrity and transparency, sustainability, and innovation.

Following Ian's vision, the conservation projects pioneered, supported, or managed by the WFSA featured protected areas, ensuring such areas and reserves are well managed and are providing benefits for their surrounding communities. The success of Ian's work through Operation Rhino is in danger of being reversed by the resurgence of poaching, with a rhino being poached every eight hours each day. The Forever Wild Conservation Program, launched in 2011 by the WFSA and Wilderness Network in response to the rhino poaching crisis, works tirelessly toward the protection of all rhinos, maintaining populations of free-ranging rhinos within state and privately managed conservation areas.

Ian worked tirelessly until his last day, fully committed to his life's work of nature conservation.

Due to the HIV/AIDS pandemic throughout the continent of Africa, huge numbers of youth were left orphaned and vulnerable, stuck in a cycle of poverty with little hope of a brighter future. There was a dire need for holistic (well-balanced) social intervention programs that could offer these youth a chance at becoming successful contributors to society through their education, personal growth, and training, all leading to future employment. Through various social intervention projects (including the Umzi Wethu academies) conducted by the WFSA, young people are being prepared and empowered to become financially independent entrepreneurs and breadwinners for their families.

South Africa's history has confined most South Africans to townships or degraded rural areas and has fractured traditional cultures. Even today, experiences in nature reserves are beyond the economic reach of most South Africans. The WFSA pioneers, supports, or manages a number of leadership and experiential education projects that aim to develop ecological leadership in the country's youth and senior decision makers. Through experiential education, thousands of youth, community leaders, and others are able to rediscover their natural heritage every year. This leads to personal growth and a greater understanding of conservation in its broader context.

Since meeting Ian Player at his family homestead 27 years ago, I have been engaged in work responding to his vision, personal inspiration, and the opportunities and challenges to which they led me. WFSA projects and initiatives have directly impacted and uplifted more than 100,000 people, mostly South Africans from previously disadvantaged backgrounds. My deep friendship and bond with Ian was founded on our shared belief that a direct experience of nature, ideally in wilderness, was the best way to inspire individuals to the highest ideals of conservation.

By continuing this work I will honor his legacy.

A Tireless Wilderness Icon

Despite physical challenges that hounded him all his life, Ian worked tirelessly until his last day, fully committed to his life's work of nature conservation (Figure 4) and his quest to understand the human spirit and psyche. His legacy is without parallel; his example without equal.

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ANDREW MUIR is CEO of The Wilderness Foundation South Africa and former CEO of the SA Wilderness Leadership School. A close colleague and confidant of his mentor Ian Player for 25 years, Andrew expanded wilderness experiences into successful social intervention programs (such as Imbewu and Umzi Wethu) to train and place former township youth in South Africa's tourism and conservation industry. Andrew received the prestigious Rolex Award and is a Schwab Foundation Fellow (Africa) for his conservation-social action leadership initiatives; email: andrew@sa.wild.org.

Figure 4 – In Ian Player's final trip in the iMfolozi wilderness. As he neared the trailhead to depart, a large southern white rhino bull emerged from the bush – as if in a final tribute to Ian for saving his kind from extinction. Photo by Margot Muir.

Wild Waters for Wild Trout

Looking to the Next 50 Years

BY AMY L. HAAK and JACK E. WILLIAMS

As we celebrate the 50th anniversary of the Wilderness Act in the United States, conservationists across the country can be proud of the 757 areas encompassing nearly 110 million acres (44,515,420 ha) that currently comprise our National Wilderness Preservation System (NWPS). However, in the contiguous United States this represents less than 3% of the land base, and as the number of threatened and endangered species continues to rise, it is important to assess the role and effectiveness of wilderness preservation in species conservation, particularly in an era of rapid environmental change.

A federal designation of wilderness is the highest form of land protection provided to any federal wildland and as such could provide a safety net for the nation's biodiversity. However, a history of protecting higher-elevation scenic areas while many of our more biologically diverse environments have gone unprotected (Groves et al. 2000; Scott et al. 2001) has diminished the potential effectiveness of the NWPS in biodiversity conservation. While this bias has been recognized for more than a decade, current efforts to rectify the situation are often stymied by divisive politics over wilderness preservation and increasing development pressure on the more productive mid- and lower-elevation public lands. Rapid environmental change and increasing uncertainty due to climate change have added to the complexity of prioritizing land protection for biodiversity conservation while simultaneously increasing the need. Recognition of these challenges has led to a growing emphasis on strategic conservation planning at the landscape scale.

Although there are numerous approaches to systematic conservation planning for biodiversity conservation (Pressey et al. 1993; Margules and Pressey 2000), most are based on terrestrial species and habitats. The protection of freshwater habitats is seldom a strategic driver in landscape-scale prioritization processes, and the development of a parallel approach for aquatic ecosystems has been slow to emerge (Linke et al. 2011; Haak and Williams 2013). The linear nature of rivers and the interconnectedness of drainage systems provide many challenges to the management of protected areas that are typically based on terrestrial features and land ownerships (Williams et al. 2011). Therefore, it is not surprising that nearly 40% of freshwater and diadromous fish species native to North America are at risk of extinction (Jelks et al. 2008), as are nearly half of all freshwater crayfishes (Taylor et al. 2007) and two of every three species of freshwater mussels (Williams et al. 1993), despite expenditures for aquatic threatened and endangered species that exceed their terrestrial counterparts (Williams et al. 2011).

Amy L. Haak. Photo by John Wheaton.

Jack E. Williams. Photo by Cindy Deacon Williams.

Before looking ahead to the next 50 years of wilderness protection, we first take a look back at how well the previous 50 years have protected freshwater biodiversity. To do this we use the historical range (circa 1850) and current distribution of native trout to provide an overview of how well the existing wilderness system protects aquatic biodiversity. Based on our findings, we propose an integrated approach to conservation planning that explicitly incorporates freshwater habitats into landscape-scale conservation initiatives in a manner that will not only increase the resilience of native aquatic species to climate change but will also improve the aquatic integrity of existing wilderness areas.

Figure 1 – A comparison of migratory (panel A) and resident (panel B) Bonneville cutthroat trout. Migratory fish are significantly larger, have a higher fertility rate, and are more resistant to predators. Photographs by Warren Colyer.

Native Trout as Indicators of Aquatic Diversity

We chose native trout as a proxy for freshwater biodiversity in our analysis of the wilderness system for several reasons. First is the simple fact that native trout are in trouble – nearly every species and subspecies is in decline and some are listed pursuant to the Endangered Species Act, while the remainder are considered sensitive species by state and federal agencies. Therefore native trout should be target species for land protection strategies that encompass cold-water habitats. Second, native trout tend to be sensitive to environmental disturbance, especially climate change, and their presence or absence is a good barometer of local and watershed-scale habitat conditions. Third, we lack distribution and status information for many aquatic species, whereas trout are relatively well studied and broadly distributed with detailed spatially explicit population information available from state and federal agencies.

In cold-water habitats, native trout function as a keystone species, serving as both the top predator in the aquatic system as well as prey for a variety of terrestrial species (Koel et al. 2005; Varley and Schullery 1998). Their diverse life history strategies have not only enabled trout to survive and prosper for 10,000 years but also serve an important ecological role. Spawning runs of migratory populations move nutrients upstream from lakes and rich valley bottom habitats to headwaters where they are available for use by local flora and fauna (Tronstad 2008), while their facultative migratory behavior enables them to abandon habitats rendered unsuitable by a disturbance event and subsequently recolonize these habitats once they recover (Rieman and Dunham 2000). The larger size of these migratory fish also contributes to increased fecundity and resistance to nonnative predators (Figure 1).

Unfortunately, the broader ecological value of native trout is less commonly realized today because of habitat fragmentation and management practices that isolate remaining populations from the larger native fish community. It is a common conservation trade-off for native trout to be isolated in small headwater streams as a means to protect them from invading nonnative fishes in downstream areas (Fausch et al. 2009). Hatchery-based stocking programs for native and nonnative trout also obfuscate the conservation status of populations. Nonetheless, the presence of large, self-sustaining populations of native trout throughout an interconnected stream network is indicative of aquatic systems that are more likely to be ecologically intact than those without these populations.

We use six subspecies of inland cutthroat trout (*Oncorhynchus clarkii* sspp.) to assess the efficacy of the wilderness system in preserving aquatic diversity. We look first at the question of representation as it pertains to the protection of distinct aquatic communities within the wilderness system of the Intermountain West. This is followed by an evaluation of how well designated areas have retained their "wilderness character" as it pertains to aquatic ecosystems. The results of these analyses are used to inform a broader discussion of the management implications and role of wilderness in the conservation of aquatic diversity.

What Trout Can tell Us about Aquatic Diversity

Representation of Aquatic Diversity within the NWPS

The principle of complementarity is the foundation of many conservation-planning approaches that seek to balance the larger preservation portfolio with the protection of underrepresented elements of diversity. In order to identify what is missing, it is first necessary to assess what has been captured. Historically, the seasonal migration of cutthroat trout from cold headwaters

downstream into warmer waters defined a basin-specific assemblage of coevolving aquatic species, including sculpins (*Cottus* spp.), suckers (*Catostomus* spp.), chubs (*Gila* spp.), and dace (*Rhinichthys* spp.), among others similarly isolated in these river basins. Therefore, the historical distribution of extant cutthroat subspecies within the interior West (Figure 2) provides a reasonable proxy for distinct aquatic communities that have been evolving in isolation from one another since the last glacial retreat in North America more than 10,000 years ago (Behnke 2002).

Table 1 summarizes the percentage of stream habitat historically occupied by each cutthroat subspecies that is currently within the existing NWPS. (Yellowstone, Teton, and Glacier National Parks were also included in the wilderness column due to the wilderness management emphasis of the National Park Service for each of these parks). As Table 1 shows, habitat associated with Westslope cutthroat is the most prevalent within the wilderness system, both in terms of actual miles protected (7,080 [11,394 km]) as well as a percentage of the total historical habitat (13%). In contrast, Bonneville cutthroat trout (BCT) habitat has very little representation within the current wilderness system (less than 1%), and so it may then be surmised that habitat for other native fishes that evolved with BCT in the Bonneville basin is also lacking wilderness protection.

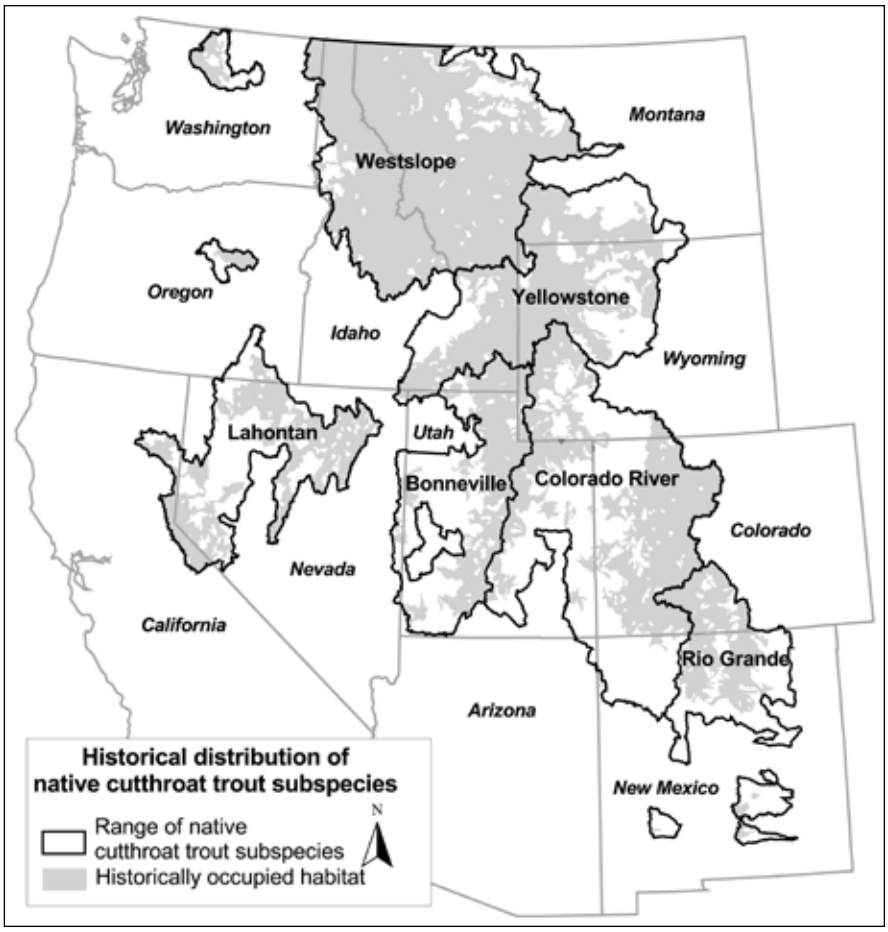

Figure 2 – Historical distribution of six native cutthroat trout subspecies. These subspecies serve as proxies for distinct aquatic communities that have evolved in isolation from one another for the past 10,000 years.

Preserving the "Wilderness Character"

The Wilderness Act's mandate to preserve the "wilderness character" of designated areas provides the foundation for management policies that restrict resource development on wilderness lands and seeks to maintain the values that made an area worthy of designation. By definition, a wilderness area is an "area of undeveloped Federal land retaining its primeval character and influence … which is protected and managed so as to preserve its natural conditions" (the Wilderness Act, 1964, Section 2(c)). Therefore, we can generally assume that aquatic habitat within a designated wilderness area is high quality and less likely a limiting factor for resident species. However, the interconnected nature of aquatic ecosystems makes them vulnerable to both upstream and downstream impacts outside of the

Table 1—Rangewide historical stream habitat

Cutthroat subspecies	Total miles (km)	Wilderness miles (km)	Percent
Westslope	56,522 (90,964)	7,080 (11,394)	13%
Yellowstone	16,930 (27,245)	2,017 (3,246)	12%
Bonneville	6,756 (10,873)	54 (87)	<1%
Lahontan	8,912 (14,342)	530 (855)	6%
Colorado River	21,182 (34,090)	2,160 (3,485)	10%
Rio Grande	6,660 (10,718)	677 (1,092)	10%

Table 1 – Representation of historical cutthroat trout stream habitat within the NWPS. Habitat associated with each subspecies is a proxy for a distinct aquatic community.

wilderness boundary. This is particularly problematic for highly mobile species such as trout. The presence or absence of native trout within their historical habitat is a good indicator of the health of the larger aquatic ecosystem both within and beyond the wilderness boundary.

Invasive aquatic species, particularly nonnative fishes, complicate this picture. Nonnative trout have been widely introduced throughout the western United States. Most introductions occur outside of wilderness areas, but the interconnected nature of riverine habitats facilitates upstream invasion into protected zones. In the past, there have been many introductions of nonnative trout in historically fishless wilderness lakes, but concerns over amphibians and other species that have been negatively impacted by past introductions (Knapp et al. 2001) have curtailed this practice in recent years.

Table 2 provides the percentage of historical stream habitat within designated wilderness areas that is currently occupied by subspecies of native cutthroat. Here we see that although Yellowstone cutthroat (YCT) and Colorado River cutthroat (CRCT) have a similar amount of historical stream habitat within wilderness areas (more than 2,000 miles [3,000 km]), there is a significant difference in the amount of that habitat that is still occupied. Only 14% of the CRCT historical habitat is still occupied, while 97% of the YCT historical habitat continues to support populations of native cutthroat. Although not included in our summary of stream and river habitat, large wilderness lakes, such as Yellowstone Lake, also provided habitat for YCT and Westslope cutthroat, but CRCT and most other cutthroat subspecies lacked these large lake habitats. Very little of the protected historical habitat for Rio Grande and Lahontan cutthroat is currently occupied. The loss of these native fishes from their historical habitat in protected areas is likely the result of displacement by nonnative species, downstream barriers that prevent fish from accessing the wilderness waters, or degraded conditions external to the wilderness that have rendered the entire watershed unsuitable for cutthroat habitat. Although nonnative trout (e.g. rainbow, brook, brown trout) may now occupy these streams, they do not serve the same ecological function as the native species and may jeopardize the long-term viability of the larger native assemblage that evolved with the cutthroat.

While the presence of native trout is a good indicator of habitat quality and watershed conditions, it is not necessarily indicative of natural ecological processes that are also important to the preservation of an area's wilderness character. Aquatic ecosystems that support small isolated resident populations rather than the historically large migratory populations have been diminished in several ways. The loss of the large spawning runs has eliminated an important source of seasonal food for a diverse array of aquatic and terrestrial predators and reduced the delivery of nutrients to the typically nutrient-poor headwater streams. The remaining small isolated populations have little resiliency to environmental disturbances and are at increased risk of extirpation from wildfire, flood, and drought (Haak and Williams 2012). Historically, migratory populations would have been able to vacate an area rendered unsuitable and thus survive the disturbance. Populations could also have recolonized the habitat once it recovered. The ability to repopulate disturbed sites is particularly important for wilderness areas where disturbances are increasing and recovery is driven by natural processes rather than management intervention. Without migratory populations and interconnected habitat, the aquatic diversity of disturbed watersheds may not be restored.

Populations of native trout that occupy high quality interconnected stream habitat are considered stronghold populations. These populations are less vulnerable to climate change than small isolated populations because populations are larger, occupied habitats are more diverse, and fish are able to move in response to changing environmental conditions. For the purposes of this analysis we refer to Haak and Williams (2012) and classify those populations occupying at least 17.25 miles (27.8 km) of interconnected stream habitat in a patch of at least 24,700 acres (10,0000 ha) as strongholds.

Table 2—Miles of stream habitat within wilderness

Cutthroat subspecies	Historical (km)	Occupied (km)	Percent
Westslope	7,080 (11,394)	5,342 (8,616)	76%
Yellowstone	2,017 (3,246)	1,957 (3,156)	97%
Bonneville	54 (87)	42 (68)	78%
Lahontan	530 (855)	55 (88)	10%
Colorado River	2,160 (3,485)	313 (505)	14%
Rio Grande	677 (1,092)	117 (188)	17%

Table 2 – Percent of historical stream habitat within NWPS that is currently occupied by native cutthroat trout. Loss of native trout populations within the wilderness area is indicative of environmental impacts external to the wilderness area.

Table 3—Miles of occupied stream habitat within wilderness

Cutthroat subspecies	Occupied (km)	Stronghold (km)	Percent
Westslope	5,342 (8,616)	5,082 (8,196)	95%
Yellowstone	1,957 (3,156)	1,704 (2,749)	87%
Bonneville	42 (68)	17 (27)	40%
Lahontan	55 (88)	17 (26)	30%
Colorado River	313 (505)	96 (155)	31%
Rio Grande	117 (188)	9 (15)	8%

Table 3 – Percent of occupied stream habitat within NWPS associated with a stronghold population of native cutthroat. The loss of population strongholds diminishes the ecological role of native trout in aquatic ecosystems.

We use the presence of stronghold populations as a proxy for aquatic systems that are most likely to have retained some of the ecological role of native trout within the broader ecosystem, a factor that is important to retaining the "wilderness character" of protected areas as discussed earlier. Table 3 provides the percentage of the occupied stream habitat within designated wilderness areas that supports at least some portion of a stronghold population. Here we find that, with the exception of Westslope and Yellowstone cutthroat, the presence of native trout strongholds within the NWPS is negligible. This is consistent with previous analyses that found few strongholds rangewide among extant populations of cutthroat trout (Haak and Williams 2013). Trout populations that are isolated in small stream habitats above barriers lack resilience to environmental change and have a diminished ecological role. In contrast, a stronghold population, even one that is not completely contained within a wilderness, still provides ecological services to the wilderness area as it utilizes different life history strategies and moves between varieties of habitats within the larger drainage network. As a result, it is less likely to be extirpated due to a wildfire or flood and can recolonize the disturbed site once it has recovered.

Management Implications for the Next 50 Years

The results of our analysis highlight some shortcomings within the existing NWPS as it relates to the preservation of aquatic biodiversity and the integrity of aquatic ecosystems within wilderness areas.

- A lack of representation exists for some unique aquatic ecosystems such as the Bonneville basin where less than 1% of the historical range for Bonneville cutthroat trout is contained within a wilderness area (Table 1). The Great Basin is also significantly underrepresented with just 6% of the historical habitat for Lahontan cutthroat. Future additions to the NWPS should encompass these unique and underrepresented aquatic communities. Although the remaining habitat is often fragmented and large-scale land protection opportunities may be limited, at a minimum the protection of important headwater streams can secure a clean source of cold water for resident fish as well as accrue benefits to species in the downstream nonwilderness reaches.
- Many of the wilderness areas that do capture important cold-water habitat have not preserved their "wilderness character" due to threats, such as nonnative species that have undermined the integrity of native trout populations, but are frequently outside the purview of wilderness managers to address. The percentage of historical habitat within wilderness areas that is currently occupied by native cutthroat ranges from a low of 10% for Lahontan cutthroat to a high of 97% for Yellowstone cutthroat (Table 2). Colorado River cutthroat have more than 2,000 miles (3,000 km) of historical habitat in wilderness areas, yet only 313 miles (505 km) are currently occupied by the native trout. Much of the remaining habitat, although of high quality, is likely occupied by nonnative trout that have displaced CRCT. Where nonnative species can be controlled, wilderness management should include opportunities to extend and reconnect isolated populations as well as restore native cutthroat to their historical habitat.
- The challenge of preserving ecological functions becomes more problematic in smaller protected areas. The large protected landscapes in Idaho and Wyoming at the core of Yellowstone cutthroat and Westslope cutthroat habitat have thus far enabled these fish to retain their migratory life history and ecological role with 87% and 95%, respectively, of their wilderness habitat supporting stronghold populations (Table 3). In contrast, just 31% of the occupied CRCT habitat within wilderness areas is associated with a stronghold population, and the number drops to only 8% for Rio Grande cutthroat. Although largely undocumented, spawning runs of native trout from lakes and main stem river systems

into high mountain wilderness areas may have been a significant source of nutrients and productivity for higher-elevation stream and riparian areas. The loss of this ecological function and the increased vulnerability of small populations to climate change threaten the integrity of aquatic systems in wilderness areas. Increasing the resiliency and restoring the ecological role of native trout within many wilderness areas will require protecting and restoring stronghold populations that extend beyond the wilderness boundary.

Addressing the shortcomings described here necessitates an integrated landscape-scale approach to conservation planning that extends beyond existing and proposed wilderness boundaries. Many wilderness areas are too small to adequately protect an area's biological diversity totally within the wilderness boundary, and opportunities to protect large landscapes today are limited. The linear nature of rivers and connectivity of drainage systems compounds these challenges for the protection of aquatic biodiversity.

Rewilding, as first described by Soulé and Noss in 1998, promotes not only the protection of core reserves such as wilderness areas but also stresses the importance of connectivity among reserves for preserving the ecological role of large predators as they move among core areas. Although Soulé and Noss's focus was on terrestrial species, the concept is also applicable to aquatic ecosystems and provides a useful framework for aquatic conservation planning. Restoring native trout populations by reconnecting habitat in a large enough landscape to allow for the full expression of their life history diversity may be the key to conserving aquatic biodiversity in a future characterized by climate change and increasing disturbances such as wildfire, floods, and drought (Heller and Zavaleta 2009; Lawler 2009).

Addressing the shortcomings described here necessitates an integrated landscape-scale approach to conservation planning that extends beyond existing and proposed wilderness boundaries.

Large wilderness areas such as those found in central Idaho and western Wyoming are expansive enough to support migratory populations of Westslope and Yellowstone cutthroat wholly within the wilderness boundary. However, there have been few opportunities to protect landscapes at this scale, so populations are either small and isolated within wilderness areas or they extend beyond the wilderness boundary where they are vulnerable to anthropogenic impacts (e.g., roads, diversions, dams). The High Uintas Wilderness in northeastern Utah is illustrative of this point and underscores the importance of connectivity beyond reserves as advocated by Soulé and Noss.

The High Uintas is typical of many wilderness areas in that it captures the top of the mountain range, truncating the watersheds that drain from the high peaks. The wilderness area's 453,500 acres (183,525 ha) encompasses the headwater tributaries of 12 populations of Colorado River cutthroat trout and two populations of Bonneville cutthroat trout (Figure 3). Although the entire historical habitat for BCT is currently occupied, CRCT are only found in 118 miles (190 km) of their 280 miles (450 km) of historical habitat. Most of the unoccupied habitat drains the south side of the mountain range and could provide restoration opportunities if the limiting factors outside of the wilderness boundary can be addressed. The 825,000 acres (333,866 ha) of roadless lands surrounding the High Uintas provides additional high quality habitat and more management flexibility for addressing threats posed by nonnative species and altered habitat.

Of the nine populations that drain the north side of the Uintas, five are classified as strongholds (two BCT and three CRCT). These populations extend beyond the wilderness boundary onto the roadless lands as well as multiple use federal land and private land. Protecting these populations downstream of the wilderness boundary, as well as looking for opportunities to establish larger metapopulations by reconnecting existing populations is important for protecting and restoring the integrity and resilience of aquatic ecosystems within the wilderness area.

In reviewing the status of native trout and wilderness conservation, it has become clear that wilderness areas can provide important stronghold habitat in some cases and sources of clean, cold water in others, but the restoration of large, resilient native trout populations must extend well beyond most wilderness boundaries and involve private and public landownerships. Williams et al. (2011) advocate for a management approach that protects entire watersheds and fish communities as Native Fish Conservation Areas (NFCAs). NFCAs

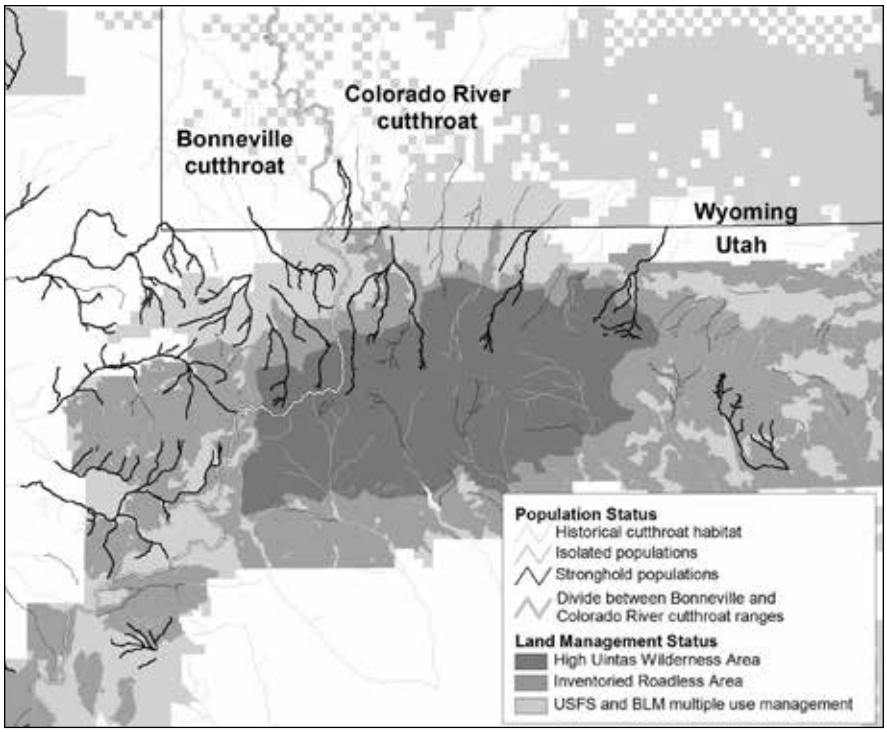

Figure 3 – Extant populations of native cutthroat trout in the High Uintas Wilderness and adjacent public lands. Preserving the wilderness character of the High Uintas Wilderness as it relates to the aquatic ecosystem requires protection of the surrounding roadless areas and ecosystem-based stewardship of the multiple use lands. These nonwilderness landscapes are critical to the long-term viability of remaining native trout populations both within and beyond the designated wilderness area.

are intended to complement existing conservation efforts by protecting and restoring native aquatic communities at the watershed scale while allowing for compatible uses across multiple management jurisdictions. While NFCAs provide management flexibility, ensuring the long-term persistence of intact aquatic communities requires that four critical elements be met:

1. Watershed boundaries should be large enough to maintain the natural processes that shape the aquatic habitat and provide resistance and resilience to disturbances such as wildfire and flood.
2. The NFCA should encompass all habitats necessary to support historical life histories (e.g., fluvial, adfluvial) of native species present as well as to complete a species life cycle (e.g., spawning, overwintering, migration).
3. The NFCA should be large enough to support sufficiently large populations of native species that have a high likelihood of long-term persistence.
4. Management plans and/or agreements should ensure that the NFCA will be managed for the benefit of the aquatic ecosystem and the species it supports in perpetuity.

Dauwalter et al. (2011) apply the NFCA approach to the Upper Colorado River drainage, using the distribution of Colorado River cutthroat trout and three species of warmer water fishes as a means to identify potential NFCAs within the basin. They describe a process of focusing stream restoration and reconnection projects in those remaining watersheds that still contain fragmented populations of genetically pure CRCT in the headwaters as well as warmer water stream fishes farther downstream. The NFCAs identified include the Henrys Fork watershed, which drains the northeastern portion of the High Uintas Wilderness and encompasses two of the CRCT strongholds previously discussed (Figure 3). Effective implementation of the NFCA approach in the Henrys Fork will require coordination with federal land managers and private landowners beyond the wilderness boundary. However, if it is successful, the benefits of restoring an intact aquatic community will accrue throughout the watershed and increase the resilience of the CRCT population within the wilderness.

The next 50 years of wilderness protection promise to be challenging as the human population approaches 9 billion and the impacts of climate change increase. Given the already rapid decline of freshwater species in spite of significant expenditures and more than 100 million acres of protected lands, conservationists must take an integrated approach to land conservation that moves beyond management boundaries and encompasses watersheds and ecological processes. Wilderness can still play an important role in the protection of core refugia and cold-water supplies, but restoring larger interconnected populations of native trout requires a landscape vision that incorporates a variety of strategies. Without this, even our wilderness areas are at risk of losing the species and diversity they were intended to protect.

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The Adirondack Park

A Wilderness Preservation Legacy

BY DAVID GIBSON

Adirondack and Catskill residents as well as the general public in both New York State (NYS) and around the nation are still celebrating the 50th anniversary of the Wilderness Act of 1964 and the 120th anniversary of the "forever wild" Article 14 of New York State's constitution. The 109 million acres (44,110,735 ha) of the National Wilderness Preservation System (NWPS) has some of its origins traceable to decisions made by 19th- and 20th-century New Yorkers to place public lands in the Adirondack and Catskill Parks within the "forever wild" protection of the New York State Constitution. The Adirondacks, now 6 million acres (2,428,114 ha) in size and one-fifth of the state, significantly influenced wilderness preservation in America and was, in turn, influenced by the NWPS and other state wilderness programs.

David Gibson, left, with Eddie Summers, chief of staff at Union College, hold the honorary doctorate given to Paul Schaefer by Union College in 1979. The setting is the college's Kelly Adirondack Center, formerly the home and library of New York wilderness conservationist Paul Schaefer. Photo by Ken Rimany.

New York State Forest Preserve

The mandate that public lands known as the forest preserve "shall be forever kept as wild forest lands" under the NYS Constitution (1894) caught the nation's attention right from the start. Our constitutional mandate was influenced by the growing conservation movement that resulted in the creation of Yellowstone National Park in 1872 and a federal office of forestry just a few years later, but it was mostly influenced in New York by public impatience with the unchecked commercial exploitation of Adirondack forests and wildlife that had accelerated following the Civil War (Terrie 1994).

The New York State Forest Preserve was legislated in 1885 as public land whose principal purposes were to designate an area to consolidate its public forests, preserve a future timber supply, and maintain large Adirondack watersheds that fed the state's system of canals – the main commercial transport system in the state (Brown 1985). The attempt to conserve forestland for present and future commerce and other laws enacted at the same time to regulate hunting were important conservation events, given widespread exploitation of natural resources at the time. The Forest Preserve statute of 1885 proved ineffective in stopping the overcutting, trespass, and loss of public forests to loggers and railroad barons. In 1894, a committee on forest preservation was formed by the New York Board of Trade and Transportation because they were concerned about the future of the state's canals (Terrie 1994). Gaining influence with the leaders of that year's New York Constitutional Convention, the committee was invited to draft an article that was introduced and passionately debated late that summer. Despite stiff last-minute opposition by timber and railroad interests, the constitutional article was passed by the convention and approved by the voters. The result was considered "ironclad" protection for the forest preserve. Only 54 words long, that article, now numbered Article 14, Section 1, remains in effect 120 years later. It is the only forest preservation measure embedded within any U.S. state constitution:

> The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest land. They shall not be leased,

> sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed.

At the time, many people thought that the constitutional mandate to preserve the forest would be temporary and that the need for and popularity of such restrictive mandates on timbering would retreat as "scientific forestry" advanced in the early 20th century (Terrie 1994). Yet New Yorkers were acutely aware of the uniqueness of this constitutional protection and were determined to maintain their hard-won forest safeguards, especially in view of what was happening across the United States and what appalled and motivated the late 19th-century conservation movement in the country – the loss of old-growth forests to commercial exploitation, extermination of wildlife predators, and loss of soil and siltation in rivers and tributaries.

New York's "forever wild" clause was severely challenged by testimony from "scientific foresters" at the 1915 NYS Constitutional Convention, but New York City lawyer Louis Marshall, the top civil rights attorney and wilderness preservationist of his era (and father of The Wilderness Society's founder Bob Marshall), persuasively cited case after case that demonstrated why the timbermen and state's forest administrators still could not be trusted with the public's forest. Article 14 was upheld at the 1915, 1938, and 1967 NYS conventions. Owing to vigilant citizens and some courageous administrators and lawmakers, Article 14 remains a very effective check on the misuse of government authority over public lands in the forest preserve.

Since 1894, there have been more than 20 minor amendments to Article 14, Section 1, including a variety of land exchanges that are small in acreage (compared to the size of the forest preserve) and narrow in public purpose, such as used to build the interstate Adirondack Northway (I-87), the Whiteface, Gore and Belleayre state-owned ski centers, or to benefit a community water or electrical supply expansion.

However, a constitutional amendment can occasionally arise that threatens the basic integrity of Article 14. For example, there was an amendment for a land exchange between a private mining company and the state supported by the governor and his administration and narrowly approved by voters in 2013. The company's 50-acre (20.2 ha) open-pit mine lies directly adjacent to a large state wilderness area. It involves an unprecedented two-step process beneficial to the private corporation. The first step, not revealed in the public ballot language, was to authorize the mining company to explore and drill for minerals on 200 (80.9 ha) acres of state wilderness while the land remains publicly owned forest preserve. Only after the company was satisfied that sufficient concentrations of mineral existed beneath the wilderness would it agree to the land exchange as a second step. In 2014, NYS issued a permit authorizing the mining company to build roads and drilling pads, cut timber, and drill test bores in the forest preserve without enforcing laws protective of the wilderness, or even requiring an environmental impact statement. The drilling permit was challenged in 2014 in NYS courts by conservation and preservation NGOs such as Adirondack Wild.

Conservation and Forever Wild Movements Gain Momentum

At the outset of the Great Depression and dust bowl, New Yorkers passed an amendment to the state's constitution that permitted state lands outside of the Adirondack Park to be lumbered and reforested in order to create jobs through tree planting, soil and water conservation, and the practice of silviculture. At the same time, the size of the Adirondack Park was increased by 1 million acres (404,685 ha) to reach its natural geological boundaries, thus maintaining and greatly increasing in size the forest preserve lands within the park where trees could not "be sold, removed or destroyed." The architect of this legislation was John Apperson of Schenectady, New York.

Franklin D. Roosevelt and Al Smith (respectively, the current and former governor of New York) were both presidential candidates in 1932, and they debated the concept of New York's "forever wild" constitution in a presidential debate. The NYS legislative compromise of expanding the Adirondack Park by a million acres (404,685 ha) while also opening state lands to silviculture and forest management outside the park was hotly debated on the campaign trail around the country. It's possible that it influenced President Franklin Roosevelt's creation of the Civilian Conservation Corps, Soil Conservation Service, and expansion of the national park system.

Wilderness Visionaries

Louis and Florence Marshall were the parents of Bob (Figure 1), Jim, and George Marshall, who grew up in the Adirondacks and who played such vital roles in the 1935 formation, support for, and growth of The Wilderness Society as well as providing lifelong support for wilderness in NYS (Glover 1986; Brown 2006). Meanwhile, outdoorsman, photographer, and early American homebuilder Paul

Figure 1 – Bob Marshall, a lifelong supporter of wild landscapes in the Adirondack Park, canoeing in the Quetico-Superior region.

Schaefer (Figure 2) was rapidly growing into New York's most influential coalition leader for wilderness protection. On July 15, 1932, Schaefer stood on top of Mount Marcy photographing a forest fire raging amid the logging slash on nearby Mt. Adams (much of which is now the High Peaks Wilderness Area, but was then still in private forest ownership), when he met Bob Marshall by chance (Zahniser 1992).

Figure 2 – Paul Schaefer, right, with John Apperson in the Adirondacks. Photo by Howard Zahniser, c. 1946.

Paul divulged to Bob the threat to the forest preserve from commercial cabins proposed on the fall ballot, and both men could plainly see the forest fire in front of them resulting from another form of exploitation. Bob famously exclaimed to Paul: "We simply must band together – all of us who love the wilderness. We must fight together wherever and whenever wilderness is attacked. We must mobilize all of our resources, all of our energies, all our devotion to wilderness. To fail to do this is to permit the American wilderness to be destroyed" (Zahniser 1992, p. 42). The formation of The Wilderness Society three years later was no doubt influenced by Marshall's experiences that day and on many other peaks in the Adirondack Park, and by his career in the U.S. Forest Service and Office of Indian Affairs.

Friends of the Forest Preserve

After Bob Marshall's unexpected death in 1939, Paul Schaefer met Bob's brother George Marshall who brought to Paul's attention several large dams planned for the South Branch of the Moose River in the southwestern portion of the Adirondack Park. Paul investigated and then launched a 10-year campaign to save this wild valley known as "Moose River Plains" from inundation for hydropower. In 1945, he and others took a film of the Moose River Plains to the annual National Wildlife Conference in New York City. In the audience was Howard Zahniser, newly hired executive secretary of The Wilderness Society. Zahniser pledged his complete support for the campaign to preserve the Moose River Plains, and understood the precedent these dams would set. At least 15 other Adirondack river valleys were under consideration for dam projects, including four planned on the Upper Hudson River. Thanks to the coalition Paul Schaefer created, none were ever built. Many of these rivers are now designated within the New York State Wild, Scenic and Recreational River system, legislation for which Paul Schaefer was also instrumental.

Paul needed an umbrella organization to defend these wild river valleys and to persuade governors and legislatures to buy additional lands to be included in the forest preserve and later to classify some of that land as state wilderness. That organization became Friends of the Forest Preserve launched in 1945 (Schaefer 1989) and today is known as Adirondack Wild: Friends of the Forest Preserve.

Zahniser in the Adirondacks

After seeing the Moose River film, Howard Zahniser decided to investigate the Adirondack Park with Paul Schaefer and Ed Richard as his guides. Their August 1946 climb went through what is now the High Peaks Wilderness Area, from Heart Lake to the Flowed Lands and down the Opalescent River. Zahniser was overwhelmed with the wildness of this country and told Paul at their Flowed Lands lean-to: "I've been trying to make a comparison of this view to some other ones I know, but there's nothing else I've seen quite like it. It has the same kind of perfection I have sensed when looking at the Grand Teton. So this was Bob Marshall's country. No wonder he loved it so" (Zahniser 1992, pp. 43–44).

Then Howard and Paul began their lengthy discussions of the relevance of New York's Article 14 to

Figure 3 – Howard Zahniser at his cabin in the Adirondacks, c. 1960. Photo by Alice Zahniser.

the national situation. Paul recalls Zahniser saying, "In addition to such protection as national parks and monuments are now given, we need some strong legislation which will be similar in effect on a national scale to what Article XIV, Section 1, is to the New York State Forest Preserve. We need to reclaim for the people, perhaps through their representatives in Congress, control over the wilderness regions of America" (Zahniser 1992, pp. 44–45). It took 18 years of Zahniser's life as chief lobbyist for the bill and 66 drafts of the federal legislation before the Wilderness Act of September 3, 1964, was signed by President Lyndon Johnson.

A short time after they left the Adirondack Park in 1946, Zahniser bought a small cabin in the Adirondacks near the Siamese Ponds Wilderness just above where Paul's cabin was located. Paul secured the purchase for Zahniser with a $10 bill he gave the seller as a deposit, and a promise the rest would be forthcoming shortly. Once purchased, this Adirondack cabin gave Zahniser the rest, wilderness setting, inspiration, and distance from Washington he needed to relax with his family (Figure 3) and consider and draft key language in the evolving wilderness bill. The cabin remains in the family to this day and stands as a landmark appreciated by the family and people in the Adirondack Park. Some national wilderness stalwarts consider a visit to the cabin a pilgrimage.

A number of national wilderness visitors have stopped by the Schaefer and Zahniser cabins, such as in a 2004 field trip during the 40th anniversary of the Wilderness Act conference held nearby at Lake George, New York. During the 50th wilderness anniversary celebrations in 2014, the Zahniser family donated a conservation easement on their cabin and land to NYS. The conservation easement abuts the Siamese Ponds Wilderness Area, a part of the forest preserve. A ceremony was held at the cabin in September 2014 honoring Howard and Alice Zahniser, the legacy of the Wilderness Act, and the promise this wilderness legacy has to inspire future generations of wilderness stewards.

The Adirondacks on the Global Stage

George Davis is one of best writers on how the Adirondacks (as a region) has historically contributed to the establishment and stewardship of wilderness. Davis was the first professional planner for the newly formed NYS Adirondack Park Agency in 1972 and helped delineate and author the earliest state wilderness guidelines, maps, and plans. Much like Bob Marshall before him, he left the Adirondack region to work for the forest service and study roadless areas, wilderness conditions, and designations on public lands in the West. In 1980, Paul Schaefer produced a documentary film, *The Adirondack: The Land Nobody Knows*, whose footage and narration were so compelling it persuaded Davis to move back to the Adirondack Park and make it his home for the next 17 years. Davis won a MacArthur Foundation Genius Award in 1989 and used the money to transport the principles and techniques of the Adirondack Park's planning to the Lake Baikal watershed in Buryatia, Russia, the Altai in Russia and China, and the transboundary region of Tuva and Mongolia. Dan Plumley, an Adirondack Wild staff partner, helped Davis with those land-use plans and continues the work of Adirondack-Buryat-Mongolian International and Cultural Exchange. The Adirondack Park and Article 14 of the NYS Constitution continue to be part of the national and international wilderness movement (Davis 1992).

50th Anniversary Wilderness Celebration

The staff of Adirondack Wild: Friends of the Forest Preserve were mentored by Paul Schaefer from 1985 until his death in 1996. Schaefer's unique

skills, attitudes, and experiences as a wilderness conservationist were shaped by his contemporaries such as Bob Marshall and Howard Zahniser, his mentors such as John Apperson, and pioneers who inspired him, such as 19th- century Adirondack surveyor Verplanck Colvin. Schaefer's 65 years of wilderness advocacy and care for the NYS Forest Preserve have been transferred not only to Adirondack Wild but also to many others of our generation. Today, the Adirondack Wild staff is passing on knowledge, determination, and inspiration through our Wilderness Stewardship Training program and in 2014 organized the NYS Wilderness 50th Steering Committee with the Rockefeller Institute of Government, State University College of Environmental Science and Forestry, and the NYS Department of Environmental Conservation. The NYS Wilderness 50th Steering Committee was dedicated to motivating and fostering new leadership for wilderness regarding the 50th national celebration of wilderness and the 120th anniversary of the "forever wild" Article 14 of the New York State Constitution. Committee members visited 12 public and private college campuses to motivate administrators, faculty, and students to fashion their own distinctive ways to celebrate the meaning and relevance of protected wilderness both on campus and in the field. The results included numerous lectures, awards, exhibits, field trips, stewardship projects, magazine articles, radio and TV interviews, and a new video production, *Forever Wild*. We estimate these activities reached many thousands of citizens, students, and faculty in New York State. One of the most energetic events involved students from St. Lawrence University in Canton, New York, who hiked and summited the 46 highest mountain peaks in the Adirondack Forest Preserve and held up the NYS Wilderness 50th banner on each one (Figure 4).

This 50th national wilderness anniversary year is to be remembered for the number and variety of younger participants who, after all, are already assuming the joys and responsibilities of wilderness advocacy, protection, and stewardship in this state and around the nation. As the new film *Forever Wild* advises, "Wilderness – Pass It On!"

Figure 4 – Wilderness expedition students from State University of New York at Potsdam gather to learn about Howard Zahniser and the Wilderness 50th anniversary at the Zahniser Cabin in Bakers Mills, New York, adjacent to the Siamese Ponds Wilderness Area.

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Wilderness Stewardship

A Survey of National Wilderness Preservation System Managers

BY RAMESH GHIMIRE, GARY T. GREEN, H. KEN CORDELL, ALAN WATSON, and CHAD P. DAWSON

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Introduction

In 1995, directors of the four federal land management agencies (Forest Service, National Park Service, Bureau of Land Management, and Fish and Wildlife Service) charged with managing the National Wilderness Preservation System (NWPS) signed an Interagency Wilderness Strategic Plan (Bureau of Land Management et al. 1995). That plan has guided stewardship and management of the NWPS over the last 20 years. However, since that signing, much has changed in the United States, such as diminishing natural landscapes, more invasive plant and animal species, and a rapid change in global climate. The agencies decided it was time to revisit the 1995 strategic plan and to update the NWPS management goals and objectives.

Updating goals and objectives for the next 20 years requires identifying both today's and tomorrow's stewardship issues. The year 2014 marked the 50th anniversary of the Wilderness Act and presented an opportunity to refocus stewardship and science on the most relevant and pressing issues now and in the future. In support of NWPS planning, a Wilderness Manager Survey (WMS) was developed and administered to managers in all four federal agencies that manage the NWPS. The emphasis of the survey was to have managers think about the threats, the research and training needs, and the most pressing challenges facing wilderness stewardship over the next 20 years.

Survey Methods

The WMS was administered online and included job characteristics of the responding managers, science information needed for stewardship, and education and training needs for staff. Descriptive questions asked about management duties, tenure in wilderness management, years with their agency, and name of state and the wilderness area(s) where respondents spent the most of their work time (both office and on-site). A series of open-ended and ordinal-level categorical questions were asked about threats to the NWPS, major stewardship and management challenges, training needs for staff, research needs for decision making, and the two most important problems likely to face managers in the future. The listed categorical questions asked managers to rate the level of threat or challenge to stewardship and level of need for training and research. Separate modules at the end of the survey were completed at the discretion of the respondent

on: (1) the importance of 13 listed wilderness values (Cordell et al. 2008) on a five-point scale, from not at all important to extremely important; and (2) level of accomplishment of the 1995 Interagency Wilderness Strategic Plan (Bureau of Land Management et al. 1995).

The survey instrument was developed by a team of seven scientists and went through many rounds of team reviews and revisions. Both the instrument and its administration through SurveyMonkey (www.surveymonkey.com) were pilot-tested by a panel of 17 retired wilderness managers who had worked at a variety of levels in one or more of the managing agencies. They took the survey, indicated time to complete it, commented on design improvements, and indicated their opinions on contents such as most significant issues.

Survey administration of the final revised WMS included the entire NWPS; however, implementation was hampered by not knowing the actual number of wilderness managers (survey population) or having up-to-date identification of specific employees assigned wilderness management duties. Requests to NWPS managers to participate in the survey were sent to field, regional, and national offices by a national representative of each agency. Wilderness management was broadly defined to include law enforcement, public information, resource and visitor management, planning, and policy.

Completed surveys were forwarded by SurveyMonkey to team members at the University of Georgia in Athens, Georgia, for analysis. Data were analyzed and reported by the USDA Forest Service and University of Georgia team members to both the Aldo Leopold Wilderness Research Institute and the Arthur Carhart Wilderness Training Center in Missoula, Montana (Ghimire et al. 2014). The staff at the institute and center were charged with developing drafts of the 2020 Vision documents to guide management of the NWPS for the next 20 years (Bureau of Land Management et al. 2014).

National Wilderness Manager Survey Results

Responses to the main survey were received from 368 managers of the NWPS between February 24 and May 19, 2014. In addition, 156 respondents completed the perceived accomplishment of the 1995 Interagency Wilderness Strategic Plan objectives module, and 157 respondents completed the Wilderness Values module.

Accomplishment of 1995 NWPS Strategic Plan Goals and Objectives

Managers were asked to evaluate the degree to which they believed the five goals and objectives of the 1995 Interagency Wilderness Strategic Plan had been accomplished between 1995 and 2014 by their agencies. Managers responded using a scale from no achievement to very high achievement. Managers indicated a slight to moderate accomplishment of these goals and objectives. As one approach for evaluating accomplishments, we focus herein on percentages of respondents indicating no to only slight accomplishment. There is significant variation in scoring among the four agencies.

1. Preservation of Natural and Biological Values – Restoring fire to its natural role in the ecosystem, inventory and monitoring wilderness ecosystems and establishing long-term research, restoring wilderness ecosystems damaged by humans, identifying the processes needed to mitigate human-induced change, implementing exotics management, and retiring uses adversely affecting wilderness values were the top five objectives in this category rated as *underachieved*.
2. Management of Social Values – Minimizing low-level overflights, assessing and mitigating impacts of emerging technologies, coordinating with neighboring agencies on use restrictions, evolving and using recreation management tools, and minimizing the impact of structures are the top objectives in this category rated as *underachieved*.
3. Administrative Policy and Interagency Coordination – The top five *underachieved* administrative and policy objectives as rated by managers include participation in local government planning, fiscal accountability, seeking new partnerships, expanding research, and ensuring flexible spending of fire funding.
4. Training of Agency Personnel – Integrating wilderness manager and employee orientation training, expanding university partnerships, and developing a common understanding of wilderness management principles were the top three objectives seen by managers as *underachieved*.
5. Public Awareness and Understanding – The top three public awareness objectives evaluated by managers as *underachieved* were wilderness education, communication with diverse social groups, and a wilderness curriculum for K–12.

It appears that more work will be needed toward achievement of a number of the 1995 NWPS

objectives. In particular, these include the areas of research, partnerships, education, communications, ecosystem protection, leadership, interagency coordination, professional development, and control of inconsistent uses and access.

Profiles, Values, Threats, and Challenges

On average, respondent managers had worked about 12 years with some type of wilderness management assignment. However, this varies across agencies. For instance, the percentage of the Forest Service managers with five or fewer years working in wilderness was much smaller than that of managers of the other agencies. The Fish and Wildlife Service had the largest percentage of respondents with five or fewer years of wilderness assignment.

Respondents worked at different management levels in their respective agencies. The majority of the respondents in the Bureau of Land Management, as well as from the other agencies were from field offices. The number of survey respondents varied across states with the largest percentage of respondents (17%) from California, followed by Arizona (8%), Alaska and Oregon (7%), Colorado and Montana (6%), Florida and New Mexico (5%), and Idaho, Nevada, and Utah (each with 4%).

Managers were asked to rate the importance of 13 values for wilderness. The five values most often reported as very or extremely important by respondent managers were: (1) knowing that future generations will have wilderness (97%), followed by (2) preserving unique wild plants and animals (94%), (3) protecting water quality (85%), (4) protecting wildlife habitat (84%), and (5) protecting rare and endangered species (79%).

Table 1 – Percentage of respondents indicating high or very high threats to resources or visitor experiences.

Potential threats	Percent
Lack of political and financial support for wilderness protection and management	74
Invasive species	56
Disconnected urban audiences	53
Adjacent land management and use	44
Legislation designating wilderness with compromised wilderness conditions or special provisions for management	41

Table 2 – Percentage of respondents indicating major challenges in wilderness stewardship or planning in next 20 years.

Challenges	Percent
Management of external threats to wilderness (encroachment, wildfire, climate change, controlling of invasive species, and maintaining wilderness character)	44
Resources and policy to support management (staff/budget/funding, law enforcement, agency policy and priority, and improving legal and physical access)	32
Visitor and visitor experiences management (visitor management, maintaining wilderness values, protecting visitors' experience and wilderness character, and dealing with new technology)	21
Sustaining natural conditions (restoring natural conditions, natural resource management, stewardship responsibilities, and monitoring wilderness character)	20
Public awareness of wilderness (gaining public support)	7
Managing other resources (trails and cultural resource)	5

Table 3 – Percentage of respondents indicating potential problems to be faced in the NWPS in next 20 years.

Potential problems	Percent
Monitoring and sustaining natural conditions (wilderness resource management, protecting wilderness character, fire management, monitoring of wilderness character, and maintaining/monitoring air and water quality, etc.)	32
Managing external threats and their impacts (climate change, impact of human and nonhuman factors, encroachment, invasive species and weed control, adjacent land use, etc.)	29
Resources and policy for management (funding/budget/resources, staff/workforce, protecting wilderness values, training managers, use of science in decision making, etc.),	25
Building public awareness and support (increasing public awareness, educating the public, engaging urban populations, engaging the public in wilderness stewardship and management, developing partnerships, etc.),	22
On-site visitor and experience management (visitor management, increased visitation in wilderness, increased visitor access to wilderness, etc.)	7

Managers were presented with a list of 24 potential threats most likely to affect wilderness character, specific resources, or visitor experiences over the next 20 years. Respondents were provided a five-point scale (none to

Table 4 – Percentage of respondents indicating high or very high need for *general* training topics for NWPS staff.

General training needs	Percent
Wilderness history, law, regulation, and policy	58
Wilderness planning	57
Management skills related to communication, problem solving, decision making, and organizational management	57
Visitor use management and monitoring	55
Natural and cultural resources management and monitoring	51
Wilderness field skills	42
Managing special provisions	37

Table 5 – Percentage of respondents indicating high or very high need for *specific* training topics for NWPS staff.

Specific training needs	Percent
Wilderness resource management (economic and noneconomic resources and adjustment of staff and budget cuts, natural and other resource uses, establishment of baselines, monitoring, maintaining wilderness character and values, and fire management)	47
Skills, technology, and analytics competencies (specific skills, using science in decision making, more competency in information technology, and minimum requirements analysis and decision guide)	20
Threats management (responding to climate change influences, managing invasive species, soundscape protection, and restoration guidance)	16
Building partnerships and education (building partnerships, public education and outreach, communicating wilderness values, consultation, communication with tribal groups, and responding to political pressure)	16
Law, regulation, and policy (wilderness law and regulation, wilderness policy, wilderness planning, wilderness laws, legal and policy context including ANILCA)	11
Wilderness recreation management (visitor management, commercial use of wilderness, search and rescue, safe access for people with disabilities, control of motorized activities, and carrying capacity)	9

Table 6 – Percentages of managers indicating science-based information not adequate or only somewhat adequate for managing the NWPS.

Decision-making information	Percentage
Public attitudes toward intervention to adapt to climate change influences	58
Public attitudes toward ecological restoration (fire, vegetation, wildlife, etc.) activities	52
Relative value of wilderness benefits to stakeholder groups	51
Stewardship of spiritual values and uses	44
Approaches for better management of field staff	36

very high potential threat) and a "not sure" option to rate the level of potential threat over the next 20 years at the wilderness area or areas in which they work. The top five that pose a high or very high threat are summarized in Table 1. Nearly three out of four managers reported that lack of political and financial support for wilderness protection and management was a serious threat to wilderness stewardship.

Managers were asked to indicate up to five major challenges they or their successors will likely face over the next 20 years in wilderness stewardship or planning. The challenges identified by managers fall into six broad categories (Table 2). Management of external threats was listed most frequently as the major challenge, followed by resources and policy to support management.

As an open-ended question, managers were asked to describe the two most important problems that will need to be collectively addressed in the coming 20 years to steward and manage wilderness areas. The most important problems as identified by the managers fall into five broad categories (Table 3), with monitoring and sustaining natural conditions (wilderness resource management, protecting wilderness character, fire management, monitoring of wilderness character, and maintaining/monitoring air and water quality, etc.) identified by managers as the most significant problem that need to be addressed in the coming 20 years.

Training and Research Needs

Managers were asked to indicate the level of need for *general* training during the next 20 years for building greater competencies within their agency. They were provided seven different general training topics and asked to evaluate (using a five-point scale) the level of need for training in each of these topics. The most often reported topic of high or very high need for training was identified as wilderness history, law, regulation, and policy (Table 4).

The WMS asked managers to indicate their top five *specific* training

Table 7 - Percentages of managers indicating specific research information needs for managing the NWPS.

Research information needed	Percentages
Threats and impacts management (impact on wilderness resources and on opportunities for solitude due to human and natural factors, invasive species, climate change impact on wilderness character, monitoring/ preserving soundscapes, ecosystem integrity, and nearby land uses)	35
Improving wilderness resource management (such as emerging technologies to monitor wilderness use and access, how to incorporate science-based information in decision making, fire, water resources, and wilderness restoration)	28
Building partnerships and education (employee development, communicating wilderness values with different public groups, partnership building, understanding wilderness values, and understanding public needs to get wilderness experience)	24
Wilderness recreation management (visitor management, sanitation and waste management, conflict management, visitor impacts on wilderness character, and capacity analysis)	24

needs. The responses were categorized into six groups to better understand the specific training needs reported by managers. The top category of specific training needs identified by the managers was wilderness resource management (economic and non-economic resources and adjustment of staff and budget cuts, natural and other resource uses, establishment of baselines, monitoring, maintaining wilderness character and values, and fire management) and followed by five other categories of specific training needs (Table 5).

Responding managers were presented with 19 different aspects of wilderness management and planning and asked to indicate how adequate and available science-based information was for each of those aspects. The five aspects with the highest percentage of managers rating them inadequate or somewhat adequate (thus indicating a need for research in those areas) included public attitudes toward intervention to adapt to climate change influences, public attitudes toward ecological restoration activities (involving fire, vegetation, and wildlife), relative value of wilderness benefits to stakeholder groups, stewardship of spiritual values and uses, and approaches for better management of field staff (Table 6).

Respondent managers were asked to identify their top five *specific* research needs for resource and visitor management in wilderness areas. The top research needs for resource and visitor management, as identified by managers, are categorized into four subject areas in Table 7. The top research information need was categorized as threats and impacts management (impact on wilderness resources and on opportunities for solitude due to human and natural factors, invasive species, climate change impact on wilderness character, monitoring/preserving soundscapes, ecosystem integrity, and nearby land uses).

Discussion

The emphasis of the survey was to have managers think about the threats, research and training needs, and most pressing challenges facing wilderness stewardship over the next 20 years. The intent was to reflect on what had been accomplished since 1995 on the Interagency Wilderness Strategic Plan (Bureau of Land Management et al. 1995) and to look forward to what was needed over the next 20 years for stewardship and management of the NWPS. One additional outcome was to provide some input to the Aldo Leopold Wilderness Research Institute and the Arthur Carhart Wilderness Training Center as they developed drafts of the 2020 Vision documents to guide management of the NWPS for the next 20 years (Bureau of Land Management et al. 2014).

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PERSPECTIVES FROM THE SOCIETY FOR WILDERNESS STEWARDSHIP

Enhancing the Professionalism of Wilderness Stewardship?

BY DAVID COLE

In the December 2014 issue of *IJW*, we discussed the importance of developing a community of practice to the professionalism of wilderness stewardship. In this issue, we explore other ways that professionalism can be enhanced. Although the professionalism of wilderness stewardship has increased since passage of the Wilderness Act, the challenges to effective stewardship have also grown. Unless professionalism can be enhanced dramatically, wilderness conditions, values, and character are likely to degrade in the face of increasing population, global anthropogenic impact, and value conflicts. Professionalism begins with ensuring that talented individuals are in stewardship positions. But having "boots on the ground" is not enough. Opinions about how best to respond to stewardship challenges have become increasingly divergent, polarized, and politicized. Wilderness stewards need to know what they should do and need the ability, motivation, and support to do what they should do. This suggests the following agenda for enhancing the professionalism of wilderness stewardship:

- Funding and resources need to be increased, so they are adequate to place professionals in the field and enable them to accomplish what needs to be done. Too many wildernesses lack field staff, and there are too many cases in which stewards cannot do what needs to be done, such as implement a use limitation program, because they have insufficient resources.
- A wilderness stewardship career ladder must be created. Without a career ladder, investments in training and experiential knowledge are lost as wilderness stewards leave their jobs in order to be promoted, and those in wilderness leadership positions lack extensive wilderness experience.
- Institutional commitment to wilderness stewardship needs to be increased, to ensure an adequate wilderness staff, and to provide stewards with the resources and political support to do the right thing. The importance of professionally stewarding the wilderness resource must be elevated in agency culture and practice, where it is too often missing from agency priorities and desired outcomes.
- More meaningful policy and guidance regarding wilderness stewardship practices and outcomes must be developed. When faced with controversial issues, such as whether to limit use or to intervene in ecosystem processes to mitigate human impact, individual wilderness managers are often left to decide what is appropriate based on their personal opinions and value systems, and administrative and political pressures. With more specific agency policy and guidance, stewardship would be more consistent and effective.
- The capacity to conduct wilderness stewardship research and provide training in best stewardship practices must be increased. In the United States, this could be accomplished by working to see that the Aldo Leopold Wilderness Research Institute and Arthur Carhart National Wilderness Training Center are staffed and funded as originally intended. Academic institutions should also be encouraged and given resources to engage in wilderness research and training.

Enhanced professionalism in wilderness stewardship is critical to ensuring that we move beyond mere wilderness designation to true wilderness preservation. The Society for Wilderness Stewardship seeks to address this need by organizing a community of practice that can work to implement the changes outlined here.

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Wilderness within Reach

BY SAMANTHA SENDA-COOK

Introduction

What is left of the sun dapples the surface of a lake, as thick, intimidating storm clouds roll in over the shadowed mountains. Silhouetted against the glittering lake surface, a person stands in a small, inflatable boat. Both mountains and clouds dwarf the lone human in the boat, who is caught moving away from the imminent rain. The clouds, the mountains, and the lake remind the viewer that they will not be tamed; the person must accommodate them. Looking at this picture, one word comes to mind: *wild*. This image, from the Canada Goose catalog (2008), and thousands like it are featured in outdoor retailer catalogs all over the world.

Visual communication powerfully shapes our thinking and the ways with which we interact with the world (DeLuca and Demo 2000). By examining how our conceptions of nature are developed and supported (or undermined) through images, we can better understand the actions we take and the laws we codify about natural areas. Images in outdoor recreation catalogs are widely distributed, are from – for many audience members – a trusted source, and are broadly representative of images in the outdoor recreation industry. Therefore, analyzing them can provide insight into *how* a conception of "wilderness" is socially constructed by retailers and some of the consequences of such a construction.

I argue that outdoor retailers use images of places and experiences that conform to dominant conceptions of wilderness (e.g., untrammeled, undeveloped), thus reinforcing cultural definitions of wilderness while paradoxically making it seem accessible to users. In this article, I begin by discussing the term *wilderness*, acknowledging its legal definition but focusing on its cultural understandings. Then, I describe the marketing materials I analyzed and the process I used. Next, I report the results of this analysis, explaining how the themes of places and experiences contribute to the notion of a people-less, yet accessible wilderness. I close by recommending that wilderness advocates assess and utilize dominant communication messages, when possible, to support their preservation efforts.

Wilderness: A Social Construction

Samantha Senda-Cook. Photo by James Comeford.

Wilderness has been described by some as a social construction (Graber 1995), built and reinforced through cultural communication. This construction can mediate both nature and our experiences in it. Wilderness connotes a place without people. This has consequences in the material world, such as determining what land is preserved (Dustin 2014; Senda-Cook and Endres 2013). As a construction, wilderness functions positively, grounding arguments for land preservation (U.S. Public Law 88-577). Some also criticize it for limiting cultural practices and environmental efforts, especially environmental justice (Cronon 1996; Guha 1998).

As a concept, wilderness has a dualistic quality: it (only) exists independent of people, and yet people who recreate want to experience it (Hay 2002). This dualistic quality can both benefit and constrain the environmental movement, inspiring both preservation and sacrifice (Plumwood 1998). If a piece of land shows few signs of humans, it can be constructed as wilderness and is more likely to be preserved. By contrast, if it has already been "spoiled" by human manipulation and culture, justification may arise for development or resource extraction (DeLuca 2007). Although I recognize legally designated wilderness areas, in this article when I use the term *wilderness*, I am referring to an idea prevalent in Western thinking. I focus on the construct rather than the legal definition because the construct provides a foundation for legal decisions (Marafiote 2008). Identifying a place

as wilderness emphasizes its open, untrammeled nature and becomes a reason to preserve it or to travel to it.

Representations That Resonate

The Outdoor Industry Association (2012) reported that Americans spend $646 billion a year on outdoor recreation gear and trips. Outdoor retailer catalogs – in conjunction with TV commercials, social media, and websites – contribute to these sales and continue to shape our understanding of the world (Martin 2004). I began my study by performing a cursory analysis of 30 catalogs published over a 40-year period (from 1972 to 2014). During this process, I recorded dominant themes and patterns that emerged. After initial coding, I reexamined the catalogs with the coding scheme in mind, attending to details that revealed the nature, function, and construction of wilderness. Further, I selected 6 catalogs as a representative sample of the 30, based on the location of the company's headquarters and the company's size. I focused on catalogs from 2006 to 2013, as those publication years comprised most of my examples and provided insight into the larger contemporary, communication context. Narrowing my focus to six catalogs also allowed me to analyze each one in-depth while offering local, national, and international perspectives. The six catalogs included were Kirkham's (a local outdoor retailer based in Salt Lake City, Utah), REI (a U.S.-based outdoor retailer with more than 100 stores across the country), Canada Goose (an international gear manufacturer based in Canada), Icebreaker (an international gear manufacturer based in New Zealand), Patagonia (an international gear manufacturer based in the United States), and Snow Peak (an international gear manufacturer based in Japan).

Figure 1: Zion Canyon in Zion National Park. This photograph demonstrates a typical landscape shot found in outdoor retailer catalogs but without the people or equipment. Photo by Samantha Senda-Cook.

The visual communication these retailers use make subtle rather than heavy-handed claims about places and experiences and how accessible to users they are. By portraying images of nature, the catalogs construct wilderness through the places depicted and construct accessibility through the experiences represented. These images communicate not only what wilderness is but also that people can and should access it. By referencing wilderness directly through representations of places and indirectly through representations of experiences, outdoor retailers contribute to cultural discourses about what wilderness is and its appropriate use.

The wilderness these images construct serves both positive and negative functions. On the positive side, people may be inspired to preserve natural places (Marafiote 2008). But on the negative side, these images, often people-less, allow us to forget that nature is all around, and that practicing Leave No Trace principles in our everyday lives would improve the environment and our health as well (Dustin 2014). Thus, deconstructing these marketed images of wilderness can provide insight into how the cultural constructions we have about wilderness come into being. This analysis also shows how retailers paradoxically depict wilderness that is people-less while making that very same wilderness feel accessible to audience members by depicting unpopulated places and familiar, desirable experiences.

Constructing Wilderness Through Place Representation

Retailers consistently display products in areas that look largely unpopulated and beautiful (see Figure 1), a practice predicated on a cultural understanding of what wild places are. And yet, unlike Figure 1, the wilderness areas depicted consistently include small groups of people and products. In fact, presenting nature as huge and remote, but not without people, was pervasive in the catalogs. Catalogs from all the companies feature photographs of

mountains, lakes, swamps, forests, rivers, or canyons with people and/or products in the photos. Snow Peak's cover looks much like Figure 1 but depicts a pair of crampons (used for ice climbing) at the top of a mountain in the foreground. The background is full of sky, clouds, and the peaks of other mountains, and the image wraps around to the back cover, expanding the view. Likewise, the cover of the Icebreaker catalog reinforces the idea that wilderness is vast by featuring two models submerged waist-deep in a swamp. In big letters above and around them, the viewer is told, "Look deep into nature and you will see everything clearly" (Icebreaker Limited 2013, p. 1). The photographs and text emphasize the lack of people or the insignificance of people in relation to nature, showing the depth of nature available with these products. The photographs tap into a desire to use outdoor recreation to escape culture, civilization, and other people by depicting wilderness that extends as far as the camera's eye can see.

Despite the convention of photographing nature without people (Solnit 2001), the catalogs do include them most of the time. This encourages viewers to adopt the subject position of the people in the representations. Including humans and their gear in photographs cultivates a particular view of action as occurring in a remote wilderness and the self as an adventurer. The Kirkham's catalog exemplifies this strategy; the pictures of people using the products are in isolated areas such as in the mountains or on the beach.

The people in these photographs also function as reference points to demonstrate the largeness of nature. They communicate a perspective about nature and humans' roles within this context: humans are small compared to the wilderness in which they recreate. For example, Icebreaker offers a two-page spread of the sky at sunset. About an eighth of the page shows the ground and, squatting on it, is a man tending a campfire. The viewer can see a few tiny trees in the far distance, reinforcing both the remoteness and enormity of this landscape. This perspective appeals to both adventurer and environmentalist sensibilities. In the catalogs' implicit argument, the wilderness place is accessible but only to a few people (who have the gear necessary to venture there).

Although these companies incorporate clean white backdrops for some of their photos, the shots on location are pervasive and create the feeling that the people who work at these companies understand the possible places people will go with their gear (or the places they want to go). Staging photos in naturalistic settings fosters an impression that "the great outdoors" is the place where recreation happens and appeals to a sense of wonder, uncertainty, and challenge that undergirds expectations for desirable experiences (Senda-Cook 2012; Senda-Cook and Endres 2013). These depictions resonate with audience members and organize expectations of what counts as wilderness, what we should do while there, and how accessible to us it should be.

Depicting Experiences That Demonstrate Accessibility

To simultaneously tap cultural assumptions about wilderness being remote and make these areas seem accessible, retailers tell implied, visual narratives about both extraordinary and mundane experiences. Appealing to a sense of the extraordinary, these pictures remind audience members of their own stories of singular moments (e.g., the time we walked alone on the beach and saw a giant sea turtle making its way back the ocean). For example, Icebreaker shows two people traversing a stream in a canyon of tall red rock; they are the only ones visible. Patagonia features a two-page spread of three skiers hiking through a vast snow-covered landscape. No others are visible across what must be hundreds of square miles. Pictures of extraordinary experiences resonate with what many recreationists hope their outdoor activity will be. Showing very few people on a trail or at the top of a mountain may tap into memories recreationists either have or hope to make. Ultimately, all of the mundane activities are more common in recreation, but the extraordinary moments are just as much "how things really are" as the ordinary moments of outdoor recreation.

Rather than showing every product experience as entirely amazing, retailers include images of mundane outdoor experiences such as cooking a meal or setting up camp, thus infusing the products with a common sense about outdoor recreation experiences and reinforcing a sense of accessibility. For example, REI shows a group of five men and women sitting around a fire pit on the beach with coolers, cups, and plates all around them. One of the women has a dog on a leash next to her, and the viewer can see some people playing in the background. Details such as the dog and the dishes make these photographs feel familiar. While not indicative of designated wilderness, the "ordinary campsite setups" nod to the reality of recreation experiences without delving too far into it. This strategy builds on the idea of wilderness – established through place setting, as described earlier – by

demonstrating its accessibility with pictures of experiences.

The construction of experiences is designed to align with what recreationists have experienced and with what they could in the future. The tension between mundane and unusual is nowhere more apparent because outdoor recreation forces people to be connected completely to the everyday tasks that make life move along (e.g., fetching the wood to fuel the fire to heat the water to brew the tea). On the other hand, the possibility for seeing something strange and beautiful or discovering the limits of one's body are much greater. Tapping into these assumptions about the nature of the outdoor recreation experience, outdoor retailers construct wilderness places and experiences that audiences can imagine for themselves. Thus, they appear accessible to the audience.

Recommendations and Conclusion

Wilderness, by design, is a place without people. Outdoor catalogs support that notion of wilderness, but they also intend to make it feel accessible for potential customers by depicting places and experiences that support that interpretation. I argue that this construction is largely positive because it inspires recreation, which history has demonstrated inspires protection of natural areas (DeLuca and Demo 2000; Marafiote 2008). The catalogs reinforce images of nature as beautiful and valuable, albeit remote. But they also challenge a potential mental barrier by portraying them as accessible and within reach. Thus, I recommend that advocates use this depiction of nature but do so cautiously because it can also invite recreationists to seek out people-less places, thus reducing the number of places without people (Senda-Cook and Endres 2013). This construction of wilderness has the potential to impact how people make decisions about where they recreate, what areas to preserve, and who has access to an area; it organizes priorities and expectations.

Although wilderness advocates create powerful marketing messages, those messages exist in the context created by many other competing messages and values. This context, sustained by pervasive messages about wilderness (e.g., catalogs), can support and contradict wilderness preservation messages. Making wilderness seem accessible creates expectations, sometimes unreasonable, but it can also inspire land preservation. Thus, advocates should cautiously take advantage of existing dominant messages about wilderness. To be successful in this context, I recommend a few communication strategies to help wilderness advocates:

- First, conduct a communication assessment. Get to know the character of pervasive messages, including visual communication, about wilderness in the area where preservation is sought. This analysis has illuminated themes found in international, national, and local outdoor recreation catalogs. Similarly, advocates can gather and examine local messages to discover what preconceived notions exist about the area and who contributes and creates those messages and notions. This will help determine if they should use those messages as support for their efforts or try to counter them. Based on this analysis, I recommend building on messages that emphasize accessibility and desirable experiences because these messages resonate with wilderness audiences.
- Second, communicate the big picture. This analysis reveals that outdoor recreation catalogs use dominant images of nature that consist of sprawling, beautiful landscapes. This creates expectations of what counts as nature, which can undermine local preservation efforts. When trying to protect comparatively small tracts of land or land not celebrated for its beauty, it is important to remind potential supporters of the bigger mission and emphasize the scale and context of the group's actions. Making these connections for potential supporters can align advocacy efforts with dominant expectations about wilderness.
- Third, use available resources strategically. One issue for advocates is that outdoor recreation companies, even small ones such as Kirkham's, spend a lot of money to produce and distribute high-quality, glossy color photographs to entice consumers. This kind of production is not feasible for most nonprofits, but they can take advantage of online tools to generate visual communication that rivals what companies can produce. Another problem is that these catalogs use general (perhaps even generated, i.e., not real) landscapes, and advocates must use images of real places, which might not conform to expectations of vast and people-less wilderness. But the advantage that advocates have is local history. While this analysis shows that untrammeled wilderness landscapes are desirable, it also demonstrates the effectiveness of portraying familiar experiences. By tapping into existing cultural knowledge about places and featuring images of those places, advocates can tell the stories that generate pride and respect for local places.

- Fourth and finally, emphasize accessibility when possible. Catalogs present a simplified world, one in which humans are not a problem. For them, recreation is depoliticized and focused only on having fun. Advocacy organizations present a more complex message, often highlighting how humans can be a problem for natural areas. However, if advocacy groups can show how their efforts will increase people's value and enjoyment of an area – by making it more accessible or making activities possible – they should do so.

Communication about nature can support or challenge our dominant perceptions of wilderness. In this case, it supports conceptions of wilderness as people-less and paradoxically represents it as accessible for use. In doing so, outdoor retailer catalogs contribute to a cultural context, and wilderness advocates could benefit from attending to these dominant forms of communication to increase the effectiveness of their efforts.

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Social Science in the Russian Far East

Understanding Protected Area Visitors' and Local Residents' Attitudes

BY ELENA NIKOLAEVA, ANNA ZAVADSKAYA, VARVARA SAZHINA, and ALAN WATSON

Abstract: A common justification for developing ecotourism opportunities within protected areas is that it helps to secure long-term conservation of wildlife and habitats and contributes to local socioeconomic development. Since establishment of Russia's first protected area in 1916, Russia has developed the world's largest system of strictly protected nature reserves (***zapovedniks***) and sanctuaries (***zakazniks***). Most tourism had been prevented in these areas until federal law changed to permit educational tourism. Russian nature-reserve administrators hope it will lead to greater public involvement and public and financial support. Because little is known about the attitudes of local community residents and visitors in Russia toward protected areas, conservation efforts, and tourism practices, the present study describes stakeholders' attitudes and knowledge in the South-Kamchatka Sanctuary, in Far East Russia. A positive evaluation of the purposes of the protected area, both by visitors and community members, was found. However, some negative attitudes and experiences were identified as well, caused mostly by the lack of effective interaction between protected area managers and stakeholders.

Elena Nikolaeva. Photo by Eugeniya Philippova.

Anna Zavadskaya. Photo by Varvara Sazhina.

Varvara Sazhina. Photo by Anna Zavadskaya.

Alan Watson. Photo by Sutej Hugu.

One of the main arguments for tourism development in or around protected areas (PAs) is that it helps to secure long-term conservation of nature (Goodwin et al. 1997; Newsome et al. 2004). If carefully designed, managed, and delivered, ecotourism can increase conservation knowledge, change attitudes and behavior of tourists and residents, contribute to resource conservation, provide opportunities for economic development of the region, and enhance the quality of life of local residents (Fiallo and Jacobsona 1995; Goodwin et al. 1997; Saarinen 1998; Gray et al. 2003; Andereck and McGehee 2008; Ballantyne et al. 2009). Collaboration with local communities, as well as implementation of appropriate planning and management strategies aimed at reducing negative impacts, is essential to the development of a sustainable ecotourism industry (Shultis and Way 2006; Ballantyne et al. 2008).

Russia has a long and rich history of nature conservation, with its first federal protected area (Barguzinsky

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Zapovednik) established in 1916. However, the system of PAs has not been responsive to society's changing needs, and managers did not recognize the importance of people's support in the conservation process. From the beginning, the Russian *zapovedniks* (strict nature reserves that provide the highest level of protection – Category 1a, the International Union for the Conservation of Nature), emphasized preservation of ecosystems primarily for ecological research. Management strategies excluded any type of economic activities, entailed strict rules regarding access (including recreation) and natural resource use, and kept potential tourists as well as local residents from being involved (Weiner 1999; Colewell et al. 1997; Ostergren and Hollenhorst 1999). Such isolation from the public often brought about negative attitudes toward PAs and conservation generally. This approach dominated management goals up to the early 1980s, when the first national parks appeared in Russia. Conservation policy was broadened at that time to include environmental education, and later, ecotourism (especially after 2011 when federal law changed to permit and encourage educational tourism in protected areas (Federal law #33-FZ 1995).

Today among the main priorities of *zapovedniks*, national parks, and *zakazniks* (federal sanctuaries) in Russia are environmental education, cooperation with local communities, and development of ecotourism. These policy changes are intended to serve as a deterrent to poaching and other forms of illegal land use. Managers have to introduce new tools, learn to cooperate with stakeholders, and understand societal values to achieve sustainable environmental, social, and economic outcomes.

Ecotourism is of growing interest as a way to achieve environmental sustainability and economic development (Kruger 2005; Aylward et al. 1996). As countries often move from developing to developed, attitudes change in regard to how people value nature and how they perceive conservation (Watson et al. 2009a, 2009b). Knowledge about stakeholders and their attitudes has been described by Watson et al. (2009b) as one of the pillars of sustainable tourism development.

Although attractiveness of the Kamchatka region and its protected areas for ecotourism is apparent, there are many remaining questions regarding tourism, its sustainability, and its connection to local communities.

Despite the recognized importance of collaboration with various stakeholders in ecotourism development (Fiallo and Jacobsona 1995; Ceballos-Lascurein 1996; Eagles at al. 2002; Andereck and McGehee 2008; McCool 2009), little social science research in this field has been done in Russia. One of the first studies in Russia was focused on better understanding visitation and economic aspects of sustainable tourism development in Kamchatka (Watson et al. 2009b). It provided knowledge o: (1) characteristics of tourists and their current experiences in Kamchatka PAs; (2) existing and potential financial influences on tourism; (3) attitudes toward protection options in Kamchatka PAs; and (4) proportion of tourism expenditures in service-related industries and economic benefits from tourism to PAs and local communities. Although visitor-spending profiles could be developed for foreign and domestic tourists, it was difficult to determine how these visits contribute to local economies due to lack of local and regional economic structure data. In general, such tourism in Kamchatka lacks educational contributions and does not influence environmental awareness of visitors. The study facilitated conservation planning in Kamchatka and provided a basis for future and more specific projects, including the current investigation.

The aim of this research was to explore residents' and visitors' attitudes and awareness of conservation and tourism management in the South-Kamchatka Sanctuary in Far East Russia. Researchers also explored conflicts in the relationships among local communities, nature conservation, and tourism. This knowledge is important on a broader scale not only for this specific site but also for the system of Russian protected areas to facilitate more effective stewardship, preservation of nature, and sustainable development.

South-Kamchatka Sanctuary

Kamchatka scenery and wildlife attracts tourists from all over the world – about 70% of the most popular tourist attractions of the region are located within protected areas (Zavadskaya and Yablokov 2013). The values of tourism resources of the peninsula are inextricably linked to their naturalness (Zavadskaya and Sazhina 2012). South-Kamchatka Sanctuary (SKS), chosen for this case study, is located in the south part of

Figure 1 – Location of South-Kamchatka Sanctuary (SKS) in Far East Russia.

Kamchatka Peninsula (Figure 1) and occupies 322,000 hectares (796,000 acres), including 225,000 hectares (556,000 a) of land and a 3-mile offshore zone. It was established in 1983, mainly for the conservation of habitats and populations of sea otters, Steller's sea eagles, northern falcons, black-capped marmots, bighorn snow sheep, brown bears, migration routes of birds, and salmon-spawning habitats at Kuril Lake (Figures 2, 3). The sanctuary is managed by Kronotsky State Natural Biosphere Reserve and equates to IUCN management category IV (although its protected regime is very close to that of a *zapovednik*, category 1a). Due to rich wildlife diversity, opportunities to see bears in close proximity, and picturesque scenery, the area is now used for ecotourism.

Figure 2 – Kuril Lake is the largest spawning reservoir for red salmon in Eurasia. Several million individuals come to the lake every year, giving food to animals and jobs for residents of the adjacent villages. Photo by Elena Nikolaeva.

However, access to the SKS is limited and strictly regulated. Approximately 1,500 tourists each year are able to visit the PA, and this number will likely increase because of the destination's promotion by protected area managers and travel agents.

Three rural communities (Ozernaya, Zaporozye, and Pauzhetka) are located just outside the northern boundary of the sanctuary, with approximately 2,500 residents. SKS is a good example of a remote and isolated site (like many PAs in Russia) where people's lives and local economies are built on the utilization of natural resources and strongly depend on resource sustainability. However, some of residents' activities – illegal fishing and hunting – as well as unmanaged tourism have great potential to degrade SKS's environmental values. Ecotourism development in such an area could be an important addition to a limited range of economic opportunities, also deterring poaching and other forms of illegal land use through raising the level of environmental awareness of the residents.

Methods

In July and August 2012 a public opinion survey was conducted among local residents of the three villages adjacent to the sanctuary and with a sample of visitors to SKS. Fifty-three interviews were conducted (27 local people, 26 visitors). Three researchers (authors of this article with proficiency in both English and Russian) conducted the interviews.

The survey of local communities utilized a snowball sampling method, most appropriate for studying unknown or rare populations (Coleman 1958; Goodman 1961; Spreen 1992). The researchers first interviewed random people they

encountered in the communities; they then chose other respondents based on the recommendations received (residents named people active in tourism, businesspersons who were involved in the fishing industry and forestry, teachers working with schoolchildren, etc.). In the visitor survey several random members from each organized tourist group that visited the SKS during the research period were approached and invited to participate in the interview. The interviews lasted 15 to 40 minutes. The response rate was 91%.

Surveys were analyzed (Corbin and Strauss 2008) to describe attitudes among the respondent groups in the following thematic areas: (1) perception of South-Kamchatka Sanctuary; (2) awareness of, and interest and engagement in conservation issues; (3) attitudes toward recreational and tourism activities in SKS; (4) economic contribution of tourism to local communities; and (5) management of the sanctuary. While answers were recorded in the language of the respondent, for this article all results are translated into English by the authors.

Results

Perception of South-Kamchatka Sanctuary

Community members – A large set of questions was devoted to revealing *the values of SKS*. Figure 4 demonstrates the themes that emerged during the interviews with community members: the largest words are the strongest themes. Many respondents emphasized aesthetic, spiritual, and educational values of the SKS:

> For me it's mostly beauty. It's sacred. The only place in the world like this, which we should definitely conserve.

Figure 3 – The population of brown bears in SKS is one of the largest in the world (about 1,000 individuals). Up to 200 bears can be found on the shores of Kuril Lake during the spawning season. Kamchatka is the only bear region in the world where all three types of fattening food are available for them: berries, pine nuts, and salmon. Photo by Elena Nikolaeva.

> Kuril Lake is like "to see Paris and die." A place of worship.

Results also indicated a very high dependence of the locals on the sanctuary. Being mostly employed in the fishing industry, residents understood the great importance of SKS as a salmon spawning ground and highly valued the conservation role of the PA:

> The village will be alive as long as there will be fish in Kuril Lake and Ozernaya River.

In general, of the four possible orientations toward protected areas (Saarinen 1998) (utilism, humanism, mysticism, and biocentrism), the *attitudes* of local residents toward SKS can be characterized as humanistic. The majority of community members value the PA and natural environment for promoting human development in a variety of ways: both as a source of raw materials (mainly biological resources) and also as a means to attaining ethical, aesthetic, and mental equilibrium. Such attitudes toward a protected area create good prerequisites for developing effective collaboration with local communities and implementing community-based recreation management practices.

Visitors – The survey of SKS visitors and travel agents demonstrated the value as a tourist destination. Almost every respondent emphasized the conservation role of SKS and highly valued its natural features.

> "It's a place where you can be out in nature untouched by man, a place that is not destroyed by man, and which is protected. Here it's perfect."

> "I live in town where there is a lot of stress. And here it's silent, and we witness a mystery of nature. And the relationships between people are closer than in towns."

> The main role is to sustain ecosystems and nature cycle intact. Keep it the way it is.

Conservation Issues

Community members – Participants were asked to indicate their *awareness of, interest, and level of engagement in conservation issues*. The results indicated very high support for conservation in general, with 95.2% of respondents

Figure 4 – Value of SKS for local communities (answers to the open ended question: "What is the value of SKS for you personally?")

agreeing that "it is good that South-Kamchatka Sanctuary (and Kuril Lake in particular) is protected by the government." That was a common theme for most of the respondents: nature conservation has always been perceived as a government responsibility – there are very limited private initiatives in this regard – and despite different attitudes, most people believe that it is good that authorities are in charge of protection. Almost all local community members agree that it is necessary to protect the sanctuary, and it is good that the government does it.

The level of local residents' environmental education and current engagement were very low. Respondents were aware of such conservation activities as ecological campaigns, public land/water clean-ups, collecting litter left by other visitors in picnic areas, and so forth, but most respondents were not familiar with specific SKS goals and how exactly they could make a difference in nature conservation.

Most respondents could easily provide interviewers with a list of the main threats to SKS and the natural environment (see Table 1). However, when asked about solutions to these problems, most were unable to name even one possible conservation action needed for addressing the issue.

In spite of the fact that local residents were quite concerned about conservation issues, about one-third of them were not aware of SKS protection status, its boundaries, and its special regulations. The results, therefore, suggest that there is great potential for building effective collaboration with local communities who share interest in conservation issues, but the current level of interaction between SKS and residents is very low.

Visitors – One of the main concerns of SKS visitors was possible overcrowding: the sanctuary attracts increasing numbers of tourists each year, which may lead to crowding issues, littering, and possible changes in bears' behavior. As a consequence, the unique wilderness character of the area may be affected. Industrial development and poaching were also listed as possible threats.

Table 1: List of threats to SKS according to local residents.

Listed threats (themes emerged)	% of respondents reporting this threat
Excessive blueback salmon catch	52.4
Poor management	42.9
Poaching	28.6
Development of mass tourism	19.0
Littering	14.3
Construction of industrial facilities (led to changes of stream canals)	9.5

Attitude Toward Tourism and Recreation Activities in PA

Community members – Overall, local residents expressed support and positive attitudes toward *tourism development* in SKS and the region. Most would be happy to see more tourists (85.7%). The majority of respondents (90.5%) also agreed that "tourists come here because of South-Kamchatka Sanctuary and Kuril Lake."

Visitors – Respondents were placed into two different groups, foreign and domestic, and responses contrasted. While almost all foreign visitors mentioned "seeing bears" as the *primary purpose* of their trip (66.7%), the responses of domestic travelers were as follows: "to see bears and fish" (36.6%), "to visit Kuril Lake" (15.7%), and "to enjoy beauty and wildlife in general" (42.1%). At the same time, 21.1% of the domestic respondents were unable to provide a reason for choosing SKS as their destination: it was either "offered by a travel agent," or "suggested by a friend"; this category of respondents did not have clear expectations about their trip.

The majority of Russian tourists (57.9%) had no idea about ideology of ecotourism or its *definition and principles*. Among the answers concerning the definition of an "ecotour" were the following:

"In my opinion an ecological tour

is when people go to the village and eat eco-friendly products. Our tour was a bit different, it was a slow hike."

As I understand it, it's when a group of tourists/volunteers are brought somewhere in the field and they collect garbage there.

Foreign tourists that visited SKS during the research period (mainly from Austria, Germany, France, Switzerland, and the United States) were much more aware of the ideology of ecological tourism and were more concerned about the details – the sewage system, which laundry and dishwashing products are used, how the waste is disposed, and so forth. For citizens of more developed countries where healthy lifestyle and environmental quality are promoted, these details are important.

My tour is fifty-fifty. We tried to live the most ecological way as it is possible for this place. But if we compare with my standards in Switzerland, here people don't think about ecological things – like laundry products, products for dishwashing, soap. In my country, I buy only ecologically friendly products, but they are of course more expensive. Here, because the region is poorer, people think less about the ecology.

The results indicate a great variability in *attitudes and perceptions toward tourism* between domestic and foreign visitors, which can likely be attributed to different levels of ecological ethics and cultural history. Another important finding was that more than one-quarter (26.9%) of visitors to SKS (42.3% of whom were Russians) were not aware of the conservation status of the visited area.

We knew it would be interesting here, but we did not know that it's a protected area.

Our travel agent suggested this trip. We wanted something interesting, where there would be bears. I didn't know that it's a sanctuary.

Economic Contributions of Tourism for Local Communities

Community members were asked to identify the *existing benefits from tourism*. Almost everyone supporting tourism clearly linked it with potential benefits for the region in general or his/her family in particular. Among possible benefits identified were the development of community infrastructure, new job opportunities, and income from selling souvenirs, crafts, and food products. However, the majority of respondents did not believe they receive any direct benefits from tourism.

Management of the Sanctuary

Community members – Most community members indicated positive support for the sanctuary, although some negative attitudes and experiences were identified. The most frequently mentioned negative attitudes were restrictions imposed on access to the area (47.6%), controlled movement within SKS boundaries (33.3%) and resource use (ban on gathering berries and mushrooms [38.1%], prohibition of fishing [19%]).

Maybe it's not necessary to protect this area so much from local people? If I come there and pick several mushrooms or berries is it really that bad?

Recently we could just get together and go there for a picnic. Now we need to go somewhere and take a permit. We can't eat berries and collect wild leek.

The prices at Kuril Lake are too high, so locals simply can't go. Why should I pay to come there? Why did they close it?

Interviews with the PA managers found that most of the restrictions noted do not apply to locals, who have certain privileges that they are not aware of – for example, free access to SKS territory (with permission and provided that they follow the rules), specially designated zones within the PA for picnicking and collecting mushrooms and berries, and so forth. Therefore, the problem of lack of regular dialogue and cooperation among PA administration, local authorities, and residents was revealed, which caused conflicts and prevented establishment of effective partnerships with stakeholders.

Visitors – SKS visitors were quite positive about management of the sanctuary, and recreation management in particular. The majority of respondents (60%) evaluated the existing infrastructure positively, and 40% specifically emphasized the excellent work of SKS staff.

Respondents were verbally asked to rate their satisfaction on a 10-point satisfaction scale. The majority of respondents (76%) were totally satisfied, giving the maximum rating (10 points). Although most visitors were positive about their experience, 36.4% gave comments somehow related to "touristization" of the area that is promoted to be wilderness – they were concerned about excessive construction, non-natural noise, a large number of helicopters, and they recommended to keep this place natural.

Discussion and Conclusion

Tourism in protected areas is promoted as an effective conservation tool based on a number of assumptions. From a conservation perspective, it is expected to be environmentally sustainable and provide tangible benefits to protected areas in the form of revenues earmarked for conservation and management (Walpole and Goodwin 2001). From a community perspective, it is expected to provide equitable socioeconomic benefits that in the long run will enhance local support for conservation (Goodwin 1996). From a visitor's perspective, it should contribute to environmental education, encourage contribution to conservation, and meet expectations.

Although attractiveness of the Kamchatka region and its protected areas for ecotourism is apparent, there are many remaining questions regarding tourism, its sustainability, and its connection to local communities. Positive local attitudes toward conservation and tourism are the first building blocks toward achieving conservation in nature-based tourism destinations (Fiallo and Jacobsona 1995; Walpole and Goodwin 2001; Mbaiwa and Stronza 2011). This study indicated relatively strong attachment to the territory by locals and a very high level of support toward conservation ideas in general and SKS in particular. At the same time, however, SKS administration was sometimes criticized by residents for current management, and communication with the community was judged to be unsatisfactory.

Although today the life of local residents is not impacted much by tourism, there are some potential local tourism benefits, and communities clearly recognize the link between these benefits and the sanctuary (mainly Kuril Lake). Lack of cooperation with PA administration, as well as low current economic contributions of the protected area to adjacent villages contribute to unfavorable views about current general and visitor management. Developing tourist programs that include visits to the adjacent villages would generate significantly higher revenue for local residents and thus would improve social sustainability of tourism development; it should also increase the level of residents' support for conservation ideas as those programs would be developed in cooperation with the protected area.

There is believed to be high value of the territory for further ecotourism development, but there is also a huge gap between the current tourist experience and the ideology of ecotourism. Current tourist programs provided by travel agents, in cooperation with SKS, mainly aim to demonstrate unique natural features of the place, but they fail in the issues of interpreting nature and raising the level of visitors' conservation support and environmental awareness. The researchers listened to several excursions at the SKS conducted by travel agents, and almost none of them emphasized the role of the protected area in conservation of ecosystems and sustainable development of the area. The majority of tourists (mainly from Russia and Ukraine in this study) are not familiar with the principles of ecotourism and often have no idea of the visited area's conservation status. In order to encourage educational and responsible tourism in the area (as suggested by federal law), this issue should be addressed – mainly by training travel agents and making tours more conservation focused.

The project team has developed several practical recommendations. First, it is clear that benefits from tourism in SKS are unequally distributed, and local communities get almost no profits (profits go to travel agents and SKS). This is recognized by local people and may influence their attitudes toward the protected area and tourism development. Ensuring a fair and equitable distribution of benefits is critical for effective management of SKS, sustainable development around the PA, and gaining support from stakeholders. This might be achieved by avoiding "enclave" practices (Freitag 1994), in which both trip organizers and tourists are nonlocals and local access to the tourism market is limited, and encouraging greater entry of local communities into tourism activities. In this case there would be more opportunities for local economic development, diversion of tourist dollars from the travel agencies to residents, and greater conservation support.

Second, ecotourist destinations often stand out as places that allow a visitor to come face-to-face with nature and gain from the experience of it (Saarinen 1998). Increases in accommodation capacity and general "touristization" that often occur in such areas will inevitably change the meanings that tourists attach to natural destinations and influence their basic motives for visiting. So, appropriate plans for tourism development with either diversification of tourism programs and offering various recreation opportunities, or ensuring meeting the needs of "true" ecotourists should be developed and implemented.

Third, although this study did not reveal many negative attitudes, it was undertaken at an early stage in tourism development. Patterns of attitude, both of tourism and of conservation, may change as tourism

Figure 5 – Not all visitors agree with current management practices and the "touristization" of SKS. Many fear the problem of unexpected overdevelopment of the area with tourist infrastructure, overcrowding, and travel impacts. Photo by Anna Zavadskaya.

develops (Doxey 1975). It is therefore important to ensure regular and long-term monitoring of the performance of tourism management that will focus on ecological, economic, and social impacts. More detailed studies aimed at revealing relationships between people and protected areas conducted over time might provide greater insight into the mechanisms that shape local attitudes toward conservation and development in this region and elsewhere (Figure 5).

Fourth, successful protection of wilderness areas should not only be based on the management of ecosystems but also include techniques and approaches that provide respect to local communities and lead to a sustainable social system (Saarinen 1998). Ecotourism management practices that enlist local residents and tourists as conservation partners, clearly communicate the reasons behind any constraints imposed, and present a consistent message regarding involvement in tourism and conservation activities are very important. These are the practices that are likely to be most successful in meeting the needs of protected area managers, local communities, tourists, and other stakeholders and, therefore, should be implemented in this and other nature-based tourist destinations.

Kamchatka is a unique place, which is attracting increasing numbers of visitors from all over the world. The importance of protecting Kamchatka's wild and undisturbed areas seems beyond question among visitors and local communities. However, societal changes will likely affect people's attitudes and values toward conservation ideas and management practices (Watson et al. 2009b). Social research is an important tool in tracking these changes, reveals existing and potential conflicts and opportunities, and enhances both environmental and economic sustainability in the long run.

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Announcements

COMPILED BY GREG KROLL

National Defense Authorization Act Establishes and Enlarges Wilderness

In spite of the incongruity of attaching public lands issues to the National Defense Authorization Act, which funds the U.S. Defense Department for fiscal year 2015, Congress passed and President Barack Obama signed legislation that affords additional wilderness protection in five states. Totaling 245,000 acres (100,000 ha), designated wilderness was established or enlarged in Colorado, Montana, Nevada, New Mexico, and Washington. In addition, more than 400,000 acres (160,000 ha) of other designations safeguarded lands from resource extraction in Colorado, Alaska, and Montana; withdrew more than 400,000 acres (160,000 ha) from mining and energy development; and provided wild and scenic river protection to dozens of miles of waterways. The legislation also called for the creation or expansion of numerous national preserves, military parks, historical parks, and monuments, including the establishment of the 22,650-acre (9,000 ha) Tule Springs National Monument in Nevada.

Some of the legislation's conservation measures include the following:

- The Columbine-Hondo Wilderness, protecting 45,000 acres (18,000 ha) of wilderness north of Taos, New Mexico, in the Carson National Forest.
- Rocky Mountain Front Conservation Management Area and wilderness additions, safeguarding 275,000 acres (110,000 ha) of rugged public land in western Montana. The bill adds 50,500 acres (20,000 ha) to the Bob Marshall Wilderness and 16,700 acres (6,700 ha) to the Scapegoat Wilderness, as well as designating another 208,000 acres (85,000 ha) as conservation management areas, while prioritizing noxious-weed eradication and prevention.
- Alpine Lakes Wilderness additions, and Pratt and Middle Fork Snoqualmie Rivers protection; expanding Washington State's existing 394,000-acre (160,000 ha) Alpine Lakes Wilderness by 22,100 acres (9,000 ha) and designating parts of the Middle Fork Snoqualmie and Pratt Rivers as wild and scenic.
- Hermosa Creek Wilderness, at 38,000 acres (15,000 ha), a component of new watershed protection, totaling 108,000 acres (44,000 ha), for Hermosa Creek in the San Juan National Forest of southwestern Colorado.
- Wovoka Wilderness, preserving 48,000 acres (20,000 ha) of historic, cultural, and natural resources in Nevada.
- Pine Forest Range Wilderness, safeguarding 26,000 acres (10,000 ha) in northwestern Nevada.

Clearly, there were significant public lands tradeoffs in the legislation. Both the Wovoka Wilderness and the Pine Forest Range Wilderness will allow "the occasional and temporary use of motorized vehicles" as well as the construction of permanent wildlife water containment structures ("guzzlers"). Wilderness study area protections were stripped from two Wilderness Study Areas (WSAs) in Montana, totaling 14,088 acres (5,700 ha), while the bill mandates an assessment of oil and gas potential on two other WSAs in eastern Montana, totaling nearly 15,000 acres (6,000 ha). (Sources: The Pew Charitable Trusts, December 12, 2014; Wilderness Watch, December 16, 2014)

Wilderness Stewardship Certificate Program Is Now Available

The Wilderness Stewardship Certificate Program (WSCP) is a professional development program that builds credentials and increases capacity in individuals, agencies, and organizations working with America's National Wilderness Preservation System. The online WSCP is a self-paced learning experience, supported by expert mentors and based on best practices from the field. The program is a collaborative effort between the Eppley Institute for Parks and Public Lands at Indiana University, the Arthur Carhart National Wilderness Training Center, and the Society for Wilderness Stewardship.

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

The WSCP was developed to

- provide proactive and strategic succession management and personal growth opportunities for youth aspiring to work in wilderness and backcountry areas.
- advance wilderness stewardship as a profession through continuing professional development.
- create a community of practice among wilderness professionals by facilitating the spread of ideas, encouraging innovation, and providing a forum for peer-to-peer collaboration among land management agencies.

The Fundamentals of Wilderness Stewardship Certificate is now available, requiring successful completion of four e-courses, related assignments, and a final capstone assignment. A mentor is matched with each student and stays in regular contact through the certificate process. The mentor works with the student to plan the course of study and to discuss course materials and assignments, to provide feedback, and to offer support and encouragement. The four online courses in this certificate are:

1. The Wilderness Act of 1964 – Exploring the history and philosophy of wilderness law and policy in the United States, and identifying wilderness character, prohibited uses, and special uses of wilderness.
2. Deciding to Keep Wilderness Wild: Four Cornerstones for Wilderness Management – Identifying and describing wildness, natural conditions, wilderness benefits, minimum necessary management activity, and wilderness as a composite resource.
3. Writing a Minimum Requirements Analysis – Understanding the process used for determining whether management action is necessary, and the minimum activity needed to achieve management objectives.
4. Wilderness Stewardship Planning Framework – Identifying and describing the eight components of successful and effective stewardship planning in wilderness.

Each course takes a minimum of four hours to complete online, depending on the student's prior knowledge and familiarity with the subject matter, and may be carried out over multiple sessions. Each course requires completion of a written assignment, and a final portfolio of all four courses is required, supported by and discussed with your mentor. Typically, the program takes four months to complete. For more information and to enroll, go to http://wscp.eppley.org.

U.S. Forest Service Announces 2014 National Wilderness Award Recipients

Eight awards honoring individuals and groups for excellence in wilderness stewardship were recently bestowed by the U.S. Forest Service (USFS):

- **Aldo Leopold Award for Overall Wilderness Stewardship Program** honored Joshua Simpson, natural resources specialist, Humboldt-Toiyabe National Forest, Ely Ranger District. Joshua initiated and led wilderness stewardship programs for nine wilderness areas, including five new areas, by establishing air quality monitoring, developing boundary signing protocols, and the posting of boundaries.
- **Bob Marshall Award, Individual Champion of Wilderness Stewardship** was presented to Connie Myers, director, Arthur Carhart National Wilderness Training Center (ACNWTC). For 21 years, Connie has led the ACNWTC as an interagency training and education center of excellence, guiding the multiagency staff in reaching hundreds of line officers and managers. In 2014 she co-facilitated development of the "2020 Vision" document signed at the Wilderness50 National Wilderness Conference in Albuquerque.
- **Bob Marshall Award for Group Champion of Wilderness Stewardship** went to the Society of Wilderness Stewardship (SWS) and executive director Lee Lambert. Lee and the 21-member SWS board provided expertise and skills to advance the profession of wilderness stewardship. SWS served as fiscal sponsor for the Wilderness50 National Wilderness Conference, co-hosted the national preconference trainings, and published the 50th anniversary edition of the Wilderness Ranger Cookbook.
- **Wilderness Partnership Champion Award** recognized the San Joaquin del Rio de Chama Land Grant Cemetery Project, as well as Leonard Martinez, Juan Sanchez, Arturo Archuleta, Dr. Manuel Garcia y Griego, Michelle Jacquez-Ortiz, Patricia Dominguez, Jennifer Manzanares, Michael Casaus, Mike Frazier, Andy Vigil, Leslie Byrne, Anne Baldwin, James Melonas, and Diane Taliaferro. This group worked together to resolve a tense issue involving the Chama River Canyon Wilderness and access to a historic cemetery. The work of the partners precluded the need for a legislative solution and strengthened relationships and trust.

- **Traditional Skills and Minimum Tool Leadership Award** honored the Monongahela National Forest; Ed Sherman, North Zone wilderness manager; and the detailed crosscut saw crews, consisting of Aaron Deschu, Michael Irvin, Matthew Bulow, Elee Deschu, Danna Strout, Caleb Hairfield, Rod Fahl, Scott Hannigan, and Mike Miller. Hurricane Sandy caused severe windfall on 120 miles (200 km) of Monongahela wilderness trails, and the forest responded by mobilizing employees with extensive crosscut saw and ax experience from five national forests in four regions. The crews hauled gear and cleared the trails using wilderness-appropriate traditional skills, without injury.
- **Wilderness Education Leadership Awards** were presented to Lisa Ronald, University of Montana Wilderness Institute; and Sam Massman, White River National Forest, Eagle-Holy Cross Ranger District. Lisa developed the Wilderness.net website, widely used by managers and diverse publics, providing a one-stop source of wilderness information and connecting agencies and the public with the best information available on wilderness. She also developed the website for the Wilderness50 National Wilderness Conference. Sam has led wilderness education programs on the Eagle-Holy Cross Ranger District, teaching wilderness awareness, wilderness trail and bridge construction and maintenance, use of traditional skills, wilderness character monitoring, and campsite monitoring. He also served as the Rocky Mountain Region's Leave No Trace coordinator and is chair of the Forest Service chief's Wilderness Advisory Group (WAG).
- **Line Officer Wilderness Leadership Award** recognized Kent Connaughton, regional forester, Pacific Northwest Region, for ensuring that line officers are well trained and take ownership of wilderness stewardship decisions. Kent's passion and commitment to wilderness was reflected in his decision to hold off on planting white bark pine in wilderness while requiring program staff to work with researchers on evaluating proposed restoration projects.

(Source: U.S. Forest Service, Washington Office)

Martin Litton Dies at Age 97

Legendary conservationist and fierce wilderness advocate Martin Litton died at his Portola Valley, California, home on November 30, 2014, at age 97. Known for his feistiness and uncompromising defense of the wild places he loved, Litton was involved in some of the 20th century's greatest conservation battles.

Litton was one of the last surviving members of the 1950s and '60s generation of conservation leaders who pushed Congress to expand millions of acres of national parks and wilderness across the West. He launched his first environmental crusade while he was a student at UCLA, where he and some friends formed a group called California Trails to keep roads out of wild places. They succeeded in stopping a highway that would have sliced through California's High Sierra to connect Lone Pine and Porterville. The area eventually became the Golden Trout Wilderness.

After graduating with a degree in English in 1938, he was called to active duty in the Army Air Corps, training as a glider pilot flying missions over enemy lines in Europe, where he was shot down. In 1952, David Brower, the executive director of the Sierra Club, asked Litton to help him battle plans to build two dams at Dinosaur National Monument on the Colorado-Utah border. Congress killed the project in 1956, and Litton and Brower became lifelong friends. Litton began whitewater rafting in the 1950s and eventually, with Brower and other activists, defeated plans to build the Marble Canyon Dam and Bridge Canyon Dam in the Grand Canyon. He was also a pivotal player in the battle to establish Redwood National Park in the 1960s.

While Litton was serving on the Sierra Club board, Walt Disney Productions proposed to fill Mineral King's mountain bowls and valley, in California, with downhill ski trails and a year-round resort. Several avid skiers on the board were preparing to support the development, including a new road that would have cut through nearby Sequoia National Park. "I stood up in outrage and said, 'How dare you! How dare anybody even think about this!'" Litton said. "I remember Ansel Adams saying, 'I didn't know [the road] was going to be in the national park.' I said, 'All you have to do is look at the map, dumbhead.'"

"Nature has its rights," Litton once said. "It has a right to be here untrammeled, unfettered. Man doesn't have to screw everything up." (Sources: *Los Angeles Times*, December 1, 2014; *Mercury News*, December 1, 2014)

Drakes Bay Oyster Company Finally Agrees to Vacate

The 1976 legislation that set aside 25,370 acres (10,300 ha) of Point Reyes National Seashore, California,

as the Philip Burton Wilderness required that another 8,003 acres (3,200 ha) encompassing Drakes Estero be "essentially managed as wilderness, to the extent possible, with efforts to steadily continue to remove all obstacles to the eventual conversion of these lands and waters to wilderness status" (*IJW* Digest, April 2013). Congress directed that when the Drakes Bay Oyster Company's lease within the seashore ran out in 2012, the estero should become fully designated wilderness. In 2014, National Park Service (NPS) director Jon Jarvis confirmed that designation as of December 4, 2014.

When the Drakes Bay Oyster Company bought out the farm's previous owners in 2005, they knew that the existing lease for the operation expired in November 2012. However, the new owners were optimistic they could obtain a lease renewal from the NPS. After the 9th Circuit Court of Appeals and the U.S. Supreme Court declined to consider an appeal on behalf of the company, the NPS and the company reached an agreement that the oyster farm would permanently close its operations by the end of 2014.

Amy Trainer, executive director of the Environmental Action Committee of West Marin, said, "The settlement agreement is a very generous deal for the oyster company that will have had 25 months to operate rent-free since its lease expired. We are glad that Drakes Estero, a magnificent ecological treasure, is finally on its way to be restored to its wild, natural rhythm, free of non-native and invasive species."

As part of the agreement, the NPS will take responsibility for removal of all onshore and offshore infrastructure related to the commercial shellfish operation, and will extend federal relocation benefits, including rental assistance, to qualified Drakes Bay Oyster Company employees who lived on-site. The company also agrees to waive all claims and relinquish any right to conduct commercial shellfish operations in Point Reyes National Seashore in the future. (Source: National Parks Traveler, October 6, 2014)

U.N. Announces 2014 Champions of the Earth Recipients

Innovators and policy makers whose service to the environment is saving lives, improving livelihoods, and bettering environmental governance and conservation were announced as recipients of the United Nation's highest environmental accolade, the 2014 Champions of the Earth Award.

For Policy Leadership:

H. E. Tommy Remengesau, Jr., president of Palau, for strengthening the economic and environmental resilience of Palau by spearheading national policies to protect biodiversity.

Susilo Bambang Yudhoyono, sixth president of Indonesia, for becoming the first president from a major developing country to voluntarily pledge to reduce greenhouse gas emissions.

For Entrepreneurial Vision:

U.S. Green Building Council for changing the way buildings and communities are designed, built, and operated.

For Science And Innovation:

Sir Robert Watson, eminent environmental scientist, for promoting the science behind ozone depletion, global warming, and the impacts of biodiversity loss.

For Inspiration And Action:

Boyan Slat, founder of The Ocean Cleanup Initiative, for charting new territory in his quest for a solution to the worsening and global problem of plastic debris in the oceans.

Fatima Jibrell, founder of Adeso (formerly Horn Relief), for building environmental and social resilience amid war and devastation.

For Lifetime Leadership:

Sylvia Earle, ocean explorer and conservationist, for developing global "hope spots" to safeguard the living systems underpinning global processes that maintain biodiversity.

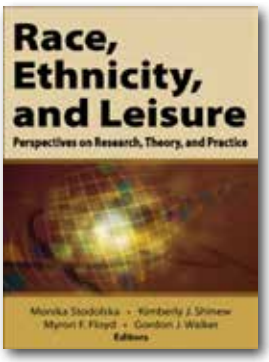
Mario Molina, Nobel Laureate and renowned ozone scientist, for spearheading one of the most significant climate-related global agreements ever made. (Source: www.unep.org/champions)

Book Reviews

JOHN SHULTIS, BOOK REVIEW EDITOR

Race, Ethnicity, and Leisure: Perspectives on Research, Theory, and Practice

Edited by Monika Stodolska, Kimberly Shinew, Myron Floyd, and Gordon Walker. 2014. Human Kinetics, Champaign, IL. 384 pp. $59.00 (hc).

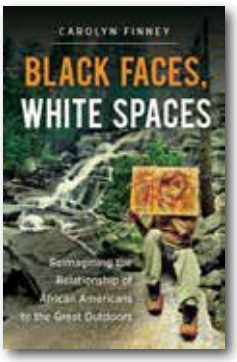


For decades, wilderness and other land management agency leaders have been aware of the lack of minority visitors in wilderness settings. For example, in the United States, an Outdoor Recreation Resources Review Commission report noted in 1962 the lack of African Americans' participation in outdoor recreation; early wilderness research in the 1960s and 1970s also highlighted the preponderance of young, male, white wilderness users. However, it didn't seem to be until the mid-2000s, when protected area agencies became aware of systemic declines in visitation in most protected area systems, that agencies began to more deeply consider the impact of the lack of use – and thus perhaps public and political support – from the growing numbers of minority populations in many countries.

Race, Ethnicity, and Leisure, a textbook geared for undergraduates, is an outstanding overview of racial and ethnic issues edited by four major researchers in this field. The purpose of the book is "to provide a comprehensive overview of the existing research on leisure behavior of ethnic and racial minorities – the core theories, concepts, and research findings that have advanced understanding of how race and ethnicity affect individuals' daily lives, their use of leisure resources, and the provision of leisure services" (p. 2). A key strength of this text is having both American and Canadian content integrated in most chapters. While research is assessed from leisure studies in general, a considerable number of findings are taken from wilderness and outdoor recreation. Most chapters review existing research, highlight theoretical approaches taken, and identify future directions for research.

Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors

By Carolyn Finney. 2014. University of North Carolina Press, Chapel Hill. 194 pp. $24.95 (pb).



There are five sections in the text. Part I reviews theories, methods, and practice in leisure research on race and ethnicity. Floyd and Stodolska's first chapter provides an excellent overview of the many theories used to describe how race and ethnicity influence leisure activities. They note that, until very recently, historic racism and discrimination was largely absent in these theories, and that other methodologies (e.g., cultural and literary studies) could be used to further construct and deconstruct minority lived experience (which the second book reviewed here attempts).

Part II examines the growing amount of research on specific racial, ethnic, and religious populations in the United States and Canada: African Americans, Latino Americans, Asian North Americans, Indigenous peoples, and religious minorities. Part III examines three special topics and issues in leisure behavior: leisure need and motivations, leisure constraints, and discrimination in leisure. The latter chapter provides a fascinating, much needed assessment of how overt and subtle forms of discrimination affect various types of leisure behavior.

Part IV assesses the role of race and ethnicity in influencing three special types of leisure: wilderness, physical activity, and sport. The chapter "Wilderness and the Immigrant Mind" – an artful riff on Roderick Nash's classic book – reviews outdoor recreation groups' perspectives on immigration and examines European versus Latin American and Asian perspectives on wild nature. Part V, the final section, provides global perspectives, with a review of research examining minority groups in European, Antipodean, and

East Asian nations. The concluding chapter highlights the importance of context in maintaining existing leisure patterns and encourages diversity in concepts, theories, and methodological tools to help direct future research.

As noted earlier, *Black Faces, White Spaces*, based on the author's PhD dissertation, is a good example of recent research using new approaches and tools to reexamine racial and ethnic differences in the perception and use of wild nature. Finney has two goals: (1) to "lay out a rendering of the African American/environmental relationship that reveals some of the contradictions and synergies, and (2) equally attribute the knowledge that comes from nonacademic sites of learning as central to our understanding of the African American environmental relationship" (p. xvi). For the latter goal, she uses cultural studies, critical race theory, and her own experiences of being an African American woman "to engage the complexities and contradictions" (p. xvii) in this topic. Finney conceives a "white wilderness" as socially constructed, and suggests that "whiteness, as a way of knowing, becomes *the* way of understanding our environment, and through representation and rhetoric, becomes part of our educational systems, our institutions, and our personal beliefs" (p. 3). The book integrates relevant literature from cultural and critical theory studies, together with original data from interviews that attempted to answer three questions: "(1) how African American participation is perceived by environmental organizations; (2) how African Americans actually experience the natural environment; and (3) what insights we can gain into the organizations that manage these environments" (p. 13).

African American history is reviewed, suggesting "the memory of slavery and segregation has manifested … in the form of an emotional residue that has the capacity to be a roadblock in the pursuit of healthy human/environment relationships" (p. 50). The next chapter highlights the importance of collective memory in allowing "for more control and power in deciding (collectively?) who we were and who we *are*" (p. 66). The impacts of stereotypes and the racialization of the outdoors as white spaces are also examined: "The lack of visual and textual representations of African Americans in popular media and the national parks" (p. 90) (together with their limited visibility in environmental movements) is created by both these forces. The impact of racism – the systemic force embedded in all institutions (including wilderness and other protected areas) – is reviewed, and questions the unwillingness of agencies to consider the "structural racism embeded in our way of life" (p. 105). While the lack of theoretical stances and much of the leisure and outdoor recreation research reviewed in this text is unfortunate, *Black Faces, White Spaces* does provide a unique perspective that is much needed in examining the deficit of one minority group's use of wilderness and other natural areas.

REVIEWED BY JOHN SHULTIS, book review editor for *IJW* and associate professor at the University of Northern British Columbia; email: john.shultis@unbc.ca.

Continued from PROOF I WAS HERE, page 3

tremendous responsibility to the future of wilderness but ultimately little control over its fate. This is a prevailing feeling among my generation regarding environmental issues, and it has led many of us to seek unconventional roles that find power at smaller scales. The anniversary is the crucible in which seasoned, and perhaps jaded, wilderness advocates like myself were reborn in our collective commitment to wilderness. We embraced our empowered powerlessness, not as a negative but rather as a hopeful acknowledgment of our ability to act as change-agents in our own immediate social circles through expressions of our contagious passion for wilderness. To prove that I was here is to maintain my small contribution to wilderness preservation, to accept that this is enough, and to trust that I'm part of a chorus of voices of new and reborn wilderness advocates who were equally inspired through their own transformative anniversary experiences. To prove that I was here is to keep singing in that chorus and to hang on to as much of my rebornness as I can, until we celebrate the next milestone in wilderness history.

In this issue we pay tribute to nature conservation pioneer Dr. Ian Player. We also learn perspectives of National Wilderness Preservation System managers, and visitor and local resident attitudes in the Russian Far East.

LISA RONALD was the communications coordinator for the 50th anniversary of the Wilderness Act from 2012 to 2014, in addition to her role as wilderness information specialist for Wilderness.net. She was a leader in organizing the National Wilderness Conference and other national 50th anniversary events; email: lisa@wilderness.net.

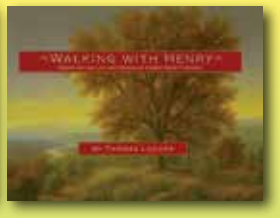
For the young conservationists in your family

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



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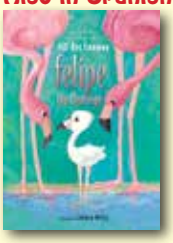

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Jill Ker Conway, Illustrated by Lokken Millis

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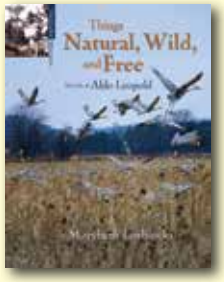

Things Natural, Wild, and Free
The Life of Aldo Leopold
Marybeth Lorbiecki

Adventure—as a child Aldo Leopold was always loking for it as he wandered over the bluffs along the Mississippi with his dog, Spud. This led Leopold to become a forester, wildlife scientist, author, and one of the most important conservationists in history. Award-winning author Marybeth Loribiecki 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.
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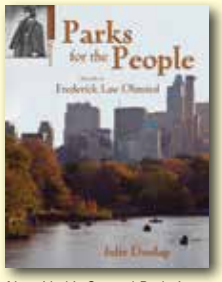

Parks for the People
The Life of Frederick Law Olmsted
Julie Dunlap

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.
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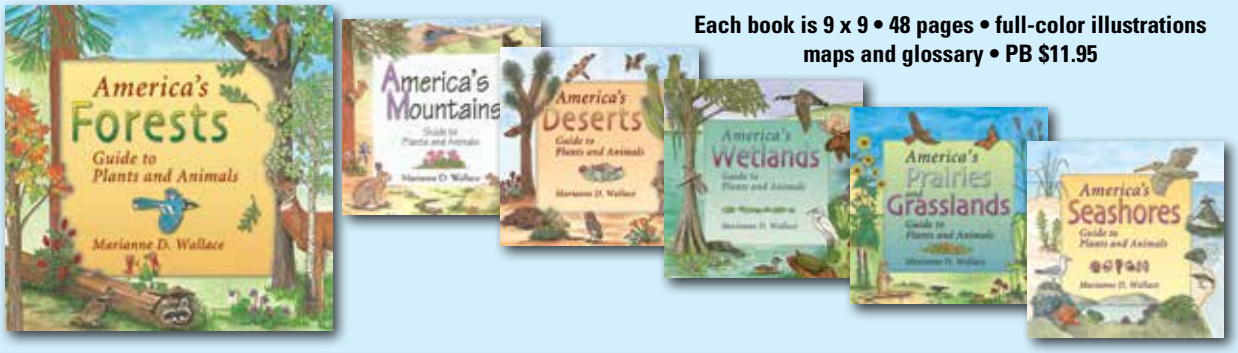

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