INTERNATIONAL

Journal of Wilderness

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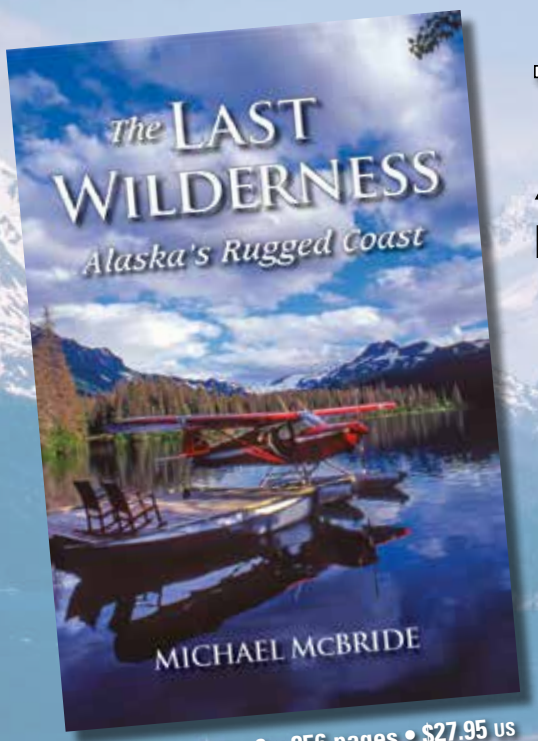
APRIL 2014 VOLUME 20, NUMBER 1



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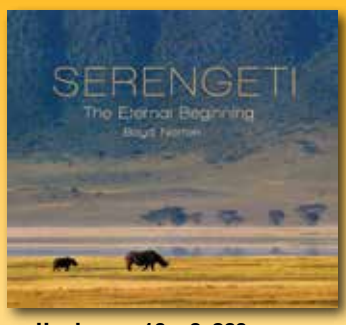

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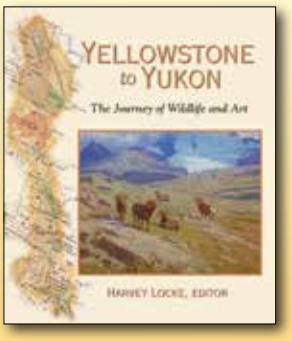

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Journal of Wilderness

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On the Cover

This issue, and these cover images, continue *IJW* coverage of the return of wildlife and wilderness to Europe

Main photo: European Brown bear, *Ursus arctos*, Kuhmo Finland

Inset photo: Bear watching tourists on their way to the hides, Kuhmo Finland

Images courtesy of and © Staffan Widstrand/Wild Wonders of Europe, www.staffanwidstrand.se; www.wild-wonders.com

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

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

A Time and Place for Wilderness Resurgence

BY ROBERT DVORAK

We are all constantly reminded of the difficult sociopolitical, economic, and global climate in which we live. These reminders emphasize the ever-present challenges for wilderness, protected areas, and conservation. Despite these challenges, this past October provided us with multiple reasons to believe in a world where wilderness and the wild will be resurgent.

From October 4–10, 2013, the 10th World Wilderness Congress (WILD10) convened in Salamanca, Spain (www.wild10.org), with the aim to "make the world a wilder place." It was a global gathering that created opportunities to forge partnerships, share best practices, and highlight the diversity of efforts around the world in support of wild nature. As a delegate to WILD10, one critical initiative that resonated with me was the effort to create a vision for a wilder Europe. The leaders of these efforts described the importance of natural processes and the need for these processes to be unimpeded across land- and seascapes. They explained how the return of apex species to ecosystems will be necessary to safeguard natural resiliency and biodiversity. Also, wilderness protection must be ensured and support gathered for rewilding other landscapes across Europe. These are just a few of the vital needs in an important call for continuing action to support wild places and wildlife across the European continent.

One of the most inspiring and rejuvenating elements of WILD10 was found within the WiLDSpeak symposium. Co-hosted by the International League of Conservation Photographers, these programs demonstrated innovative ways that conservation messages and goals are being accomplished through the mediums of art, film, and photography. Many of these presentations captured in a poignant way the meanings and connections of wild places. Whether grandiose or subtle, each came to represent how wilderness and wildlife are a quintessential part of the human experience and spirit.

WILD10 also demonstrated that the importance of wild places is being championed in multiple ways. From the International League of Conservation Writers to the Wilderness Science and Stewardship Symposium, individuals demonstrated the techniques and methods to advocate for wilderness. CoalitionWILD and efforts to create WILD cities provided opportunities to engage young professionals and communities in the shared goals of a world where wilderness, protected areas, and wildlife have intrinsic importance and value. Ultimately, WILD10 left me believing that by making the world a wilder place, we create a community of life resistant to the anthropogenic changes occurring across the globe.

In this issue of *IJW*, we will see more thoughts and reflections from WILD10. Magnus Sylvén, Vance Martin, and Christof Schenck further describe the vision for a wilder Europe and the mechanisms for rewilding. Kevin Hood asks whether untrammeled wilderness can endure within our culture of technocratic management. Dan Dustin examines the cultural differences in interpreting the meaning of nature and if we as humans are considered part of this vision of nature. Future issues of *IJW* will also continue to explore the outcomes and impact of WILD10 on wilderness and the conservation community.

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SOUL OF THE WILDERNESS

Think Wild!

Principles of Wilderness Philosophy

BY LADISLAV MIKO

Many people believe that calling for wilderness preservation and protection means working against all the benefits that civilization has brought to humans. "Return to wilderness" is seen as a reversal of the human development that – more than anything else – has traditionally been characterized by fighting what was previously perceived as wilderness. This short article tries to explain that being "for wilderness" does not necessarily mean one is against human development. It is based on what I call "wilderness philosophy," which is an approach to the future development of a human society that harnesses the power of natural processes and functioning ecosystems rather than increasingly expensive forms of human-developed energy and other scarce resources.

Ecology is the "economy of nature," and the name is derived from the economical manner in which nature operates. In a simplified sense, one can only assume that the evolution of the biosphere on this planet occurred in a way that allowed natural systems sufficient time to maximise their efficiency in a given set of conditions. If conditions are relatively stable for a given period of time, natural processes are created to be able to use available materials and energy in the most efficient manner – thus, most economically. From the human economy point of view, such a process can be described as one that achieves the highest possible production and highest possible level of recycling of materials per unit of energy input in a given set of physical-chemical conditions within a sufficient period of time. This is most valid, of course, if we view the process and/or system in a holistic way. If the results are measured solely by human benefits, this perspective may change.

Human Benefits and Wilderness Protection

Such an anthropocentric perspective, in which humans change the ratio of natural benefits toward their own values, has been especially possible since the Neolithic agricultural revolution, as the amount of (organic) matter and inherent energy taken (acquired) from surrounding nature by humans was signicantly increasing. This ability to skew benefits in favor of humans was essentially enabled when existing physical-chemical conditions were changed by humans (e.g., fertilizers, irrigation, planting techniques) or, at very least, changed by the amount of added energy flowing into the system (e.g., human labour, machinery). In most of cases, although production of goods that were useful for humans was increasing, the overall productivity of the system was usually reduced, and the essential recycling of materials was at least partly disrupted. With technological progress and access to vast sources of very cheap fossil energy, humans learned that they could achieve almost anything. The only limiting factors seemed to be the frequency and speed of technological innovations.

Ladislav Miko and friend.

This change in human development led to a dramatic change in the natural system, especially in the highly productive areas, with a human-friendly climate and living conditions. More recently, humankind realized that something had been lost and started various efforts to slow down degradation and negative change. A few centuries ago the first attempts to protect untouched nature started, and the debate about fighting climate change is a more current example.

Another example, especially in the developed world, has been wilderness protection – leaving part of nature

without visible human impacts. This movement was often narrowed to focus on the protection of remaining wilderness areas – areas with unspoiled, original, or wild nature (see Figure 1). This obviously led to the issue of how to define what is unspoiled, what is wild enough, and what could or could not be called wilderness. Wilderness protection was understood by many people as either (1) a return to the underdeveloped past in which human civilization regressed by no longer regarding wilderness as a foe, or (2) a restriction of options for natural resource exploitation, resulting in fewer options to enhance human economy and well-being.

Figure 1 – In Europe, large-scale wilderness is in the north and the high mountains, represented by mountain tundra, mountain meadows, and less by forests. However, even these High Alps are influenced by the presence of humans as evidenced by mountain pastures, tourism, and winter sports. Photo courtesy of Ladislav Miko.

In my view, however, protection of wilderness areas per se is only part of an overall approach to conserving the remaining biosphere. Although singular protection of remaining wilderness areas is certainly important and valuable, and needs to be supported, it has little chance for long-term success as a single strategy. Therefore, the concept of the wilderness philosophy needs to be extended.

The principle is simple, not really new, and is already used in specific cases. In simple terms: real wilderness areas are those where natural processes are intact and central to the health and function of that area. In these areas, the impact of humans is minor (i.e., presence of humans is not excluded, but without human extractive use and technological impact) and does not alter general function and evolution of the natural system. Many other ecosystems are no longer seen as wilderness because they have been modified, altered, or completely eradicated by humans. This is the historical trend, with ecosystems moving from self-sustaining to human modified and dependent (i.e., dependent on added energy and changed material flows to be maintained).

The situation is much more varied and complex, but the more intensive the human use of a particular area, the more material and more energy is required to maintain it in that condition. This leads to the development of concepts such as sustainability, market failure, internalization of externalities, zero-growth economies, green economy,

Figure 2 – Some of the best-preserved wild nature areas in south Europe are in the Dinaric Mountains in the Balkans; this view is from the Mt. Sveti Ilija in southern Croatia. Photo courtesy of Ladislav Miko.

and so forth. In nature conservation discussions, the idea about the need of active "global gardening" instead of passive nature conservation gets more and more priority and support. We increasingly believe that without active management we cannot keep the ecosystems of this planet in good order, functioning, and delivering necessary human-related services.

Even if this approach is, in principle, close to the reality, it has a faulty hypothesis because it is based on the assumption that humans have already influenced – and will continue to do so – almost all ecosystems on the planet, and, therefore, need to actively manage in a way that these altered systems could still work in humanly acceptable and sustainable way. This clearly conflicts with the "nonintervention" basis of wilderness conservation, in which we protect remaining wilderness areas and wild natural areas (e.g., national parks) without human interventions (see Figure 2). Paradoxically, European nature conservation policy and practice (in general) accepts that the (negative) impacts of human presence can be contravened only by (positive) well-thought-out human interventions.

It is time to shift this thinking to a process based on the understanding that in the long-term management of nature, we can only be as successful as the natural processes themselves. Obviously, this does not apply for short-term effects – we can speed up or slow down some processes, or we can alter them. But, as mentioned earlier, the result of such tinkering is an increase in costs of material flows and energy. Sometimes this may be necessary, such as for food production that is an essential need for human survival. Truly sustainable, long-term solutions need to be based on production systems that utilize or closely mimic natural processes that have successfully evolved over countless millennia.

Wilderness Philosophy

The main idea of wilderness philosophy is simple: let us spend energy and materials wisely – as much as possible only where other means of achieving the same effect does not exist. In other words, let natural processes work, delivering goods and services everywhere it is possible, and do not take unnecessary actions that cost energy.

Therefore, any human development (i.e., management of ecosystems) that shifts toward utilizing natural processes rather than destroying them moves us toward a lower-cost development (i.e., achieving the same result by employing natural processes with lower input of energy from humans) is what I call a "wilderness philosophy." Such development promotes protecting existing wilderness, restoring wilderness where we do not need it for other uses, and requiring material transfers and energy only for activities for which we cannot achieve the result otherwise. Such a philosophy does not provide a priori solutions for everything, and it is not about going back in history and development. Rather, it serves as a basic orientation in selecting the available options.

If the forest can grow naturally, let it grow and do not invest human energy, money, and time to plant and grow it (see Figure 3). If, on the other hand, keeping a highly biodiverse hay meadow is impossible without added energy, it is completely in hands of humans to decide to do so. If water retention can be assured by naturally improved soil structure, let us prefer

Figure 3 – Abandoned patches of land close to large urban territories may develop into suitable habitat for many mammals, birds, and other animals, including a wide variety of insects and other invertebrates. This urban wilderness area in a densely populated Brussels capital region evolved on a strip of land along a former railway. Photo courtesy of Ladislav Miko.

this way instead of building reservoirs. However, if this means of water retention does not suffice in protection against flooding, and there is no other option, then build dams. The issue is that you build dams only for water when there is no natural alternative after minimising the run-off by natural processes (e.g., improved soil structure, vegetation cover, natural flooding areas). If the amount of energy needed to cool-down our over-heated towns can be diminished using green roofs with cooling effect of evapotranspiration, let us use it.

This type of "Wilderness philosophy" is the basis for wise use of natural processes, and for increasing the proportion of such processes active in ecosystems everywhere. We see this philosophy in concepts such as sustainable use, green infrastructure, the Nature Needs Half concept (Martin and Randall 2013), in ecological restoration, or in increased resilience. The elements of wilderness philosophy have already been implemented in ongoing policy developments in the European Union, initiated by resolution of European Parliament and first European conference on wilderness held in Prague in 2009 (Martin et al. 2008; Coleman and Aykroyd 2009; Barthod 2010). Linkages to this approach, even if not explicit, can be found in ongoing scientific research related to impacts on biodiversity (Jones-Walters and Čivič 2010; Smil 2011), or to economic or socioeconomic concepts such as The Economics of Ecosystems and Biodiversity (TEEB) (Balmford et al. 2002; Balmford et al. 2008; Ring et al. 2010; Haberl et al. 2012; Wijkman and Rockström 2012).

Basic understanding of the simple principles of this wilderness philosophy will help in achieving broader public support for protecting the remaining wilderness areas and will help the public and policy makers realize that wilderness protection is not a regression, rather it is action for a healthy and prosperous future for humankind and all life. It could help a broader societal change that assumes wilderness is part of human identity and allows society to recognize the full range of values evident in nature and natural processes.

In summary, the wilderness philosophy will:

1. Protect existing wilderness and wild areas and ensure that the whole spectrum of wilderness is conserved, not only where there is no conflict with other interests of humankind in high mountains and remote areas but also closer to human habitation.
2. Allow creation of wilderness/wild areas irrespective of their position or size.
3. Try to restore wilderness and wild areas when possible and appropriate, if natural processes are deteriorating.
4. Develop the human economy by rebuilding or recycling natural resources rather than exploiting/destroying them.
5. Use natural processes, when and where possible, instead of human interventions and technology.
6. Use additional energy wisely and spend it only where natural energy flows cannot achieve the same or similar effect.

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Nondegradation and the Wilderness Concept

Interpreting the Wilderness Act

BY DOUG SCOTT

Poetry lovers do not turn to the United States Statutes at Large looking for new verses to savor. For all their legal majesty, the words of the law are almost without exception dry and precise, intentionally drained of all possible imprecision. So what are we to make of this, from the Wilderness Act of 1964 (U.S. Public Law 88-577)?

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. (16 U.S.C. 1133(c))

Although it appears in section 2(c) of the Wilderness Act, which is captioned "Definition of Wilderness," this is not the operational definition Congress uses as it chooses lands to designate as wilderness areas. Rather, that specific, practical definition is the second sentence of 2(c), whereas this poetic language is the first.

In our work as wilderness stewards and advocates, we cannot simply admire the literary qualities of the first of these two definitions and then proceed to ignore it. The Supreme Court instructs in *Montclair v. Ramsdell* (107 U.S. 147, 152 [1883]) that "a basic principle … is that courts should give effect, if possible, to every clause and word of a statute, avoiding, if it may be, any construction which implies that the legislature was ignorant of the meaning of the language it employed." As the Congressional Research Service (Kim 2008) summarized this for members of Congress and their staff, "The modern variant is that statutes should be construed 'so as to avoid rendering superfluous' any statutory language."

So, what purpose does the first, poetic definition of wilderness serve in the statute? The members of Congress who championed the law left us statements of their legislative intent that give us useful guidance of that intent, but these do not help in understanding the implications of the two definitions for purposes of wilderness stewardship today. If we are to avoid the error of rendering the words of the first definition superfluous, we must look further.

The most helpful statement is by Senator Clinton P. Anderson (D-NM), the chairman of the Senate Committee on Interior and Insular Affairs and lead Senate sponsor of the Wilderness Bill in its final years before the Senate. He provided a detailed statement of his intent and stressing that the bill contains two definitions of wilderness: In 1961 Senator Clinton P. Anderson (D-NM) was chairman of the Senate committee and lead sponsor of the bill; his explanation to the committee is a definitive statement of his intent. Opening hearings that year, he explained his intent, stressing that the bill "contains two definitions of wilderness": "The first sentence is a definition of pure wilderness areas, where 'the earth and its community of life are untrammeled by man. …' It states the ideal. The second sentence defines the meaning or nature of an area of wilderness as used in the proposed act: A substantial area retaining its primeval character, without permanent improvements, which is to be protected and managed so man's works are 'substantially unnoticeable.' The second of these definitions of the term, giving the meaning used in the act, is somewhat less 'severe' or pure' than the first." (*Wilderness Act: Hearings before the Senate Committee on Interior and Insular Affairs on S. 174,* 87th Cong., 1st sess., February 27–28, 1961, p. 2).

As a student of the Wilderness Act and its legislative history, I have had my own belief about this for years. I eventually found solid legal footing for my belief when I worked as a strategist for the Sierra Club and was drawn into the campaigns to strengthen our clean air and water laws. These laws include "prevention of significant

deterioration" provisions, making clear that having water or air that is already cleaner than the laws require is no license to allow pollution to dirty that air and water down to the minimum levels (also known as the "nondegradation" provision).

Before the Environmental Protection Agency was established in 1970, the Department of the Interior set the guidelines to implement the Clean Water Act of 1965 (U.S. Public Law 89-234). These required all states to adopt water quality standards needed to permit drinking and fishing. The guidelines provided that "in no case will standards providing for less than existing water quality be acceptable," and that standards provide for "the maintenance and protection of quality and use or uses of water now of a higher quality." The same concept was adopted in the Clean Air Act Amendments of 1970 (U.S. Public Law 91-604), although the EPA resisted implementing this requirement. As one legal scholar (Glicksman 2012) summarizes:

> When Congress adopted the Clean Air Act in 1970, it transferred responsibility to adopt air quality standards to EPA, leaving the states responsible for achieving the standards through state implementation plans (SIPs) that imposed enforceable emission limitations on individual sources. EPA insisted that it lacked the authority under the Act to adopt nondegradation rules. In *Sierra Club v. Ruckelshaus*, an environmental group challenged EPA's refusal to require SIPs to prevent degradation in existing clear air areas. The district court ruled for the plaintiffs, reasoning that the statutory purpose "to protect and enhance" air quality to promote public health and welfare reflected Congress' intent "to improve the quality of the nation's air and to prevent deterioration of that air quality, no matter how presently pure that quality in some sections of the country happens to be." EPA's decision to allow the states to submit SIPs that lacked nondegradation protections was therefore invalid. The decision was upheld on appeal.

Whatever past human impacts there may have been, our goal is to free nature within each wilderness area, as best we can, from the fetters of human influence.

Before turning to my belief about the intent of the Wilderness Act, it important to acknowledge that the clean air and water laws also expressly protect clean air and water within national parks, national monuments, national seashores, wilderness areas, and other areas of "special" natural, recreational, scenic, or historic value (42 U.S.C. s 7470[2]). In the congressional debate on the Clean Air Act Amendments of 1970, supporters argued that degradation of air quality would interfere with scenic vistas in places such as the Grand Canyon or damage unique natural resources, frustrating the opportunities for preservation, recreation, and spiritual renewal that justified creation of these protected areas. The Clean Water Act's antidegradation policy serves the same function through its prohibition on water quality degradation in Outstanding National Resource Waters (Oren 1989).

Although the Wilderness Act does not say it in so many words, I believe it includes an implicit nondegradation principle parallel to those in our basic pollution statutes. This functions in two ways:

1. If a wilderness area is very wild at the time that area is designated, it is illegal for the administering agency to allow uses or impacts that would reduce its wildness on the argument that it is more pristine compared to other areas in the system.
2. If, on the other hand, an area has had a long history of significant human use and impacts, it can and will get wilder if left to the restorative powers of time and nature. Purposeful human manipulation, however well intentioned, should be kept to a minimum.

Throughout the history of our wilderness system this nondegradation function of the Wilderness Act has not been a matter for mere theoretical musings. As the first wilderness areas were being designated, the Forest Service took the position that "the criteria used in determining suitability or nonsuitability for inclusion of lands in the system is also our guide for administering areas once they are included" (Nelson 1968, p. 24). This was a deliberate misreading of the law and its legislative history at a time when the agency hoped to minimize the amount of national forest land Congress would designate. It was a stratagem intended to make wilderness so "costly" that the public support for protection of more wilderness might be undercut (Costley 1972). Using this purity doctrine, the agency was circling its wagons around the argument that only lands never touched by human uses or impacts

could qualify for designation. The result was the exclusion of millions of acres of once-impacted national forest roadless land from consideration during the first nationwide Roadless Area Review and Evaluation process, a serious flaw that ultimately contributed to its rejection. More important to the agency at that time was that stringent application of the purity doctrine would minimize conflict between lands qualified as wilderness and lands available for logging. As James Morton Turner (2012, p. 58) puts it in his definitive history of implementation of the Wilderness Act, "The agency's purity policies did align neatly with the agency's institutional commitment to logging – protecting a 'pristine' wilderness system also meant keeping the wilderness system small."

Among other misadventures, their strategy of relying on the purity doctrine to keep the extent of national forest wilderness small led the Forest Service to oppose designation of *any* wilderness areas east of the Rockies. However, their argument was badly undercut by the fact that prior to enactment of the Wilderness Act, the agency itself had established three "wild areas" on eastern national forests under their administrative wilderness policy, each involving lands with a history of extensive human development and impacts. Further, had this interpretation been allowed to go unchallenged, it would have similarly disqualified most lands in the West, for most had some history of past human abuse (Scott 2004). Senator Frank Church, the Idaho Democrat who managed the floor debate on the Wilderness Bill in the U.S. Senate, saw this immediately and told the chief:

> If we [adopt the Forest Service purity theory] we will be saying, in effect, that you can't include a comparable area in the West in the wilderness system. That is the precise effect of your approach, because you will have redefined section 2(c) of the Wilderness Act. (Senate Committee on Interior and Insular Affairs, *Eastern Wilderness Areas: Hearing before the Subcommittee on Public Lands on S. 316*, 93rd Cong., 1st sess., February 21, 1973, p. 31)

This now-abandoned Forest Service "purity" concept reflects a too-common misunderstanding that if Congress includes some evidence of impacts and disturbances of human activities, such as roads and logging scars – even quite recent ones – in a wilderness area, that means the same kinds of human activities could invade other wilderness areas already designated. But precedents don't work like that.

Consider a parallel. In 1972 a madman got into St. Peter's Basilica and took a hammer to Michelangelo's *Pietà*, a world-renowned sculpture of exquisite beauty. This was an inestimable tragedy for art. It took restorers years to do what they could to repair the damage, and the *Pietà* is certainly no longer pristine. But this episode did not set a precedent for others with hammers to have a go at the Vatican statuary.

This illustrates the essence of the nondegradation principle that lies at the heart of the Wilderness Act. In the same way, Congress carefully distinguished the ideal for wilderness stewardship from the practical criteria by which it chooses to designate areas – hence the two definitions of wilderness. Senator Church (1973) later summarized this intent of his fellow framers of the Wilderness Act, terming it "one of the great promises of the Wilderness Act [that] we can dedicate formerly abused areas where the primeval scene can be restored by natural forces" (p. 1251).

Three examples illustrate how this fundamental aspect of the Wilderness Act works.

Shining Rock Wilderness

Located on the Pisgah National Forest in far western North Carolina, this is one of my favorite wilderness areas, not only because it offers a cool retreat in a canyon enlivened by the music of a tumbling stream, but also because it is the strongest possible example of the point I am making here. In the long history of European settlement east of the Appalachian crest, this area was settled, heavily logged, and swept by devastating fires. Yet in 1964 it was one of the areas Congress designated in the Wilderness Act itself. Indeed, it had been the final Wild Area established by the chief of the Forest Service in May 1964, before his authority to do this was superseded by the Wilderness Act. Like the others, it is in effect a "type specimen" of the kind of land Congress felt could be designated.

Leaders of wilderness advocacy organizations agreed. As the agency was preparing to establish this wild area, Howard Zahniser of The Wilderness Society asked Harvey Broome, who lived in Knoxville and was one of the society's founders, to check it out. Broome toured the area with the regional forester and reported to Zahniser, as he later recalled in writing to another conservationist:

> Zahniser and I had this matter up about five years ago when the Forest Service was proposing a heavily [logged and] burned-over area in North Carolina as part

> of the Shining Rock wilderness area. We concluded that under the definition in the [Wilderness] Bill, as then drafted, there was no conflict provided [new] roads and mechanical and other uses were prohibited. Congress apparently accepted the same understanding since the Shining Rock Wild Area was incorporated in the wilderness system. (Broome 1966)

In fact, the evidence of human impact could be quite recent – even current. The formal proposal that resulted in Forest Service administrative designation of that Shining Rock Wild Area in May 1964 (just as Congress was finalizing the Wilderness Act and therefore closely scrutinizing such agency designations) pointed out that

> in determining the best and most logical boundaries for the Wild Area, it was necessary to include a portion of the drainage of Ugly Creek covered by a timber sale contract which expires December 20, 1963. About 500 MBF [thousand board feet] are left to be cut and the operation will be completed this year. The skid trails and log landings will be revegetated and otherwise treated as necessary to hasten natural recovery and prevent vehicular access. (US Forest Service report n.d.)

Great Swamp Wilderness

A part of the Great Swamp National Wildlife Refuge in New Jersey, this small gem was the first wilderness area designated on lands administered by the Department of the Interior (see Figure 1). The entire area had been drained and farmed before the Revolutionary War, so it was no one's idea of a pristine wilderness. As recommended by the U.S. Fish and Wildlife Service it comprised two units separated by a low-standard "oiled" public road. During the hearing in the House committee, the chairman, Representative Wayne N. Aspinall, a Colorado Democrat who had held up enactment of the Wilderness Act for two years to gain the final provisions he insisted on, questioned this. He was insistent that Congress take care in designating the first statutory wilderness areas to assure that it was following *his* intent in the 1964 act. All involved agreed that the road should be closed and the roadbed removed. The committee's formal report explaining the bill to the House stated that this concern

Figure 1 – The Great Swamp National Wildlife Refuge Wilderness is managed by the Fish and Wildlife Service and is located in New Jersey. Photo courtesy of Robert Johnson and the U.S. Fish and Wildlife Service, Great Swamp National Wildlife Refuge Wilderness.

> was satisfactorily answered by agreement of the townships of Passaic and Harding to close the existing road that now separates [the agency-proposed wilderness] units. The closure of this dividing road, in the opinion of the committee, is absolutely essential if this area is to be considered for wilderness designation. It is with this understanding, as well as the full assurance of the two townships involved that the road will be closed, that this committee favorably recommends the area for wilderness designation. (House Committee on Interior and Insular Affairs, *Designating Certain Lands in the Great Swamp National Wildlife Refuge, Morris County, N.J., as Wilderness*, House Report 90-1813, 90th Congress, 2nd Session, July 26, 1968, p, 2)

It took three years for local officials to legally close the road and remove the roadbed. Today it is a delightful hiking and equestrian trail. While the roadbed was being removed, a pre-Revolutionary drainage ditch was blocked, establishing a more natural water level and allowing the swamp to return.

Wild River Wilderness

This good example is located on the White Mountain National Forest near Gorham, New Hampshire (see Figure 2). Its colorful history of intense human use and abuse is well described on wilderness.net (2014):

Figure 2 – The Wild River Wilderness is one of seven designated wilderness areas in the White Mountain National Forest and is managed by the U.S. Forest Service in New Hampshire and Maine. Photo by Nathan Peters.

At the turn of the nineteenth century the area was covered in pristine forest with only a few inhabitants in the lower reaches of the watershed. One hundred years later the valley stood in stark contrast after being penetrated and developed by large-scale logging operations. A rail line followed the banks of the Wild River from its confluence with the Androscoggin River almost all of the way to its headwaters at Perkins Notch. Numerous logging camps were located in what is now the Wild River Wilderness and a booming village named Hastings had sprung up along the river's lower reaches. Any timber that was moderately accessible had been removed by the beginning of the twentieth century despite repeated attempts by the river to live up to its name and erase all timber-related infrastructure. Dams, bridges and railroad tracks seemed to fall prey to the river's raging storm flows on a regular basis but were always rebuilt to meet the country's growing demand for wood.

Ideal of Pure Wilderness

It is my belief that the meaning and purpose of the first definition of wilderness expresses the ideal of "pure" wilderness. As I have explained elsewhere (Scott 2001), that was the express intent of the draftsman and sponsors of the Wilderness Act. So, if that definition is not merely superfluous poetry and must have some function in the law, what is that?

Paragraph 4(b) of the Wilderness Act mandates that "each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer the area for such other purposes for which it may have been established as also to preserve its wilderness character" (16 U.S.C. 1135[c]). This presents a difficulty for the reader, for the term *wilderness character* is nowhere defined in the law. Again, we cannot assume it has no meaning, only that Congress failed to define it. It cannot be left floating functionless.

Finally, although it is not the kind of legislative history that would be relied on by a federal judge, since it is the view of an outside advocate and not a member of Congress, here is the evidence that is most meaningful to me. Although he was scrupulous never to acknowledge that he was the draftsman of the words of the law, in a written supplement to his testimony at the final Senate hearing on the Wilderness Bill Howard Zahniser explained his interpretation of the two definitions:

> In this definition the first sentence is definitive of the meaning of the concept of wilderness, its essence, its essential nature – *a definition that makes plain the character of lands* with which the bill deals, the ideal. The second sentence is descriptive of the areas to which this definition applies – a listing of the specifications of wilderness areas; it sets forth the distinguishing features of areas that have the character of wilderness.
>
> The first sentence defines the character of wilderness, the second describes the characteristics of an area of wilderness. ("Supplementary Statement of Howard Zahniser, Executive Director of the Wilderness Society," in Senate Committee on Interior and Insular Affairs, *National Wilderness Preservation Act: Hearings before the Committee on Interior and Insular Affairs on S. 4*, 88th Cong., 1st sess., February 28 and March 1, 1963, p. 68, emphasis added.)

I believe the only plausible explanation is that the term *wilderness character* is defined by the "ideal"

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Writing People Back into Wilderness

DANIEL L. DUSTIN

Recently, at the WILD10 conference in Salamanca, Spain, I listened to representatives from several different countries talk about the meaning of nature in general – and wilderness in particular – to their cultures. To the Batwa of the Republic of the Congo, nature is the supermarket, the dry goods store, the bank they rely on for everything. To the Malagasy of Madagascar, nature is the ground of their being. To the Tuareg of Niger, the Earth covers people like a mother hen covers her eggs. To the Shashsavan of Iran, there is no distinction between what is wild and what is domesticated, and no one has a right to benefit from nature in any way that excludes others from benefiting similarly. The Igorot of the Philippines see themselves as having descended from the mountains and as being part of the wilderness. The Shuar of Ecuador believe wilderness is where wisdom lives and where communication happens among all species. The K'iche' of Guatemala feel they are part of nature and every threat against nature is a threat against them. To be fully human, they contend, is to be fully connected to nature. The Tao of Taiwan emphasize people's oneness with nature, and the Tla-o-qui-aht of Canada, when asked by their government to define wilderness, came up with "home" as their best answer (see Figure 1).

Figure 1 – Indigenous peoples do not separate their everyday lives from wilderness. Photo courtesy of N. K. Bricker.

I returned to the United States from the WILD10 conference intrigued by these cultural differences in interpreting the meaning of nature and wilderness, and I began to reexamine my own beliefs, as well as our culture's, about the meaning of nature in general, and wilderness in particular, to our Western industrialized way of life. Two things seemed obvious to me. First, in developing countries, where many indigenous peoples live close to the land, it makes sense that their relationship with nature is more intimate, and that they see more clearly how they depend on nature for their subsistence. Centuries of customs, traditions, and rituals codify these understandings in ways that are passed down from one generation to the next. Is it any wonder indigenous peoples revere the natural world enveloping them?

Daniel Dustin

Second, in Western industrialized societies, we have created an elaborate system of buffers that insulate people from nature through advancing technology (read: "civilization"). Our relationship with nature in general, and wilderness in particular, reflects that distancing. Indeed, the Wilderness Act of 1964 says as much: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (U.S. Public Law 88-577). In essence, the Wilderness Act writes people out of wilderness. We welcome people as visitors, but we manage wilderness so as to erase as much as possible any evidence of human habitation, improvements, or imprints. Essentially, we treat wilderness as an antidote or counterbalance to the relentless advance of civilization. As Graber (1995) notes:

> Wilderness has taken on connotations, and mythology, that specifically reflect latter-twentieth-century values of a

> distinctive Anglo-American bent. It now functions to provide solitude and counterpoint to technological society in a landscape that is *managed* to reveal as few traces of the passage of other humans as possible. ... This wilderness is a social construct. (pp. 123-124)

I had never really questioned our Western view of wilderness or the role it plays in our modernized way of life until I was exposed to those other cultural perspectives at WILD10. That learning prompted me to want to examine the question of whether it is really such a good idea to write people out of wilderness the way we do. For reasons I will soon make explicit, it seems to me there is increasing danger in perpetuating the idea that people should not feel at home in wilderness, that wilderness is beyond our ken, and that we had best leave wilderness alone.

People Are Part of Nature

If ecology teaches us anything, it is that people are part of nature and are bound by nature's laws (see Figure 2). Consequently, even if we wanted to write ourselves out of wilderness, ecological reality makes it impossible to do so. Like it or not, we are embedded in nature, and our challenge both individually and collectively is to live our lives in the light of that reality. Indigenous peoples appear to have learned this lesson, but Western industrialized people appear to have forgotten it. I attribute this forgetfulness to the scientific revolution and the hubris that accompanies technological advancement. We have lost sight of our fundamental ground of being in the developed world, but that does not mean we are any less dependent on nature than we ever were. It only means our vision has been blurred by technology and human-centeredness, and that we have become increasingly myopic.

As Louv (2005) and many other social commentators have noted, distancing ourselves from nature this way is troublesome. As proximal beings, we are inclined to value that which is up close and personal and devalue that which is far away and impersonal. The more detached we become from our biological moorings, the more likely we are to behave in ways that belie our fundamental dependence on nature for our sustenance. Compounding the problem is our highly adaptable human nature, which makes it possible for us to grow indifferent to that which we do not know. Chawla (1998), for example, has alerted us to the likelihood that children who are not exposed to nature early in life grow up to be adults who are disinterested in the natural world. We can only wonder what danger lurks in a future populated by a highly urbanized citizenry that does not recognize and respect the ground of its being. Add a pinch of hubris into the mix, and all the ingredients are in place for environmental calamities of monumental proportions.

In similar fashion, treating wilderness as a special category of otherness, as a place where people are expected to practice Leave No Trace principles without a corresponding sense of obligation to treat their everyday environments in this way, similarly perpetuates an unhealthy separation between the places people visit and the places people live (Dustin 2003). We ought to treat our own neighborhoods and backyards with the same respect and reverence we reserve for wilderness. A Leave No Trace philosophy rings hollow if it does not transfer back home (Cachelin et al. 2011). This is one of the most important lessons I learned from indigenous peoples at WILD10. They make no artificial (read: "political") separation between their everyday life and wilderness. Theirs is a seamless environmental ethic.

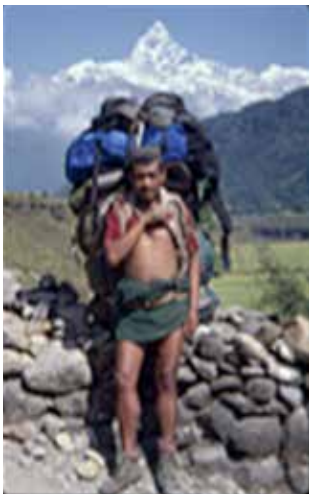

Figure 2 – We belong to wilderness as much as any other creature on Earth. Photo courtesy of N. K. Bricker.

Let me be perfectly clear that I neither mean to romanticize indigenous peoples nor perpetuate the idea of the noble savage. I understand people of all ethnic, racial, and cultural origins have their own feet of clay. But that does not mean we should dismiss every aspect of their way of life or assume the Western industrialized world has nothing to learn from less technologically advanced people and countries (Diamond 2013). I am simply saying we could stand to learn a thing or two from people and cultures other than our own (see Figure 3).

People Are Nature Watching Nature

If we accept the proposition that people are part of nature and are subject to nature's laws, then the question becomes whether there is anything special about our species that differentiates us from other species. Do we have any unique gifts we might employ in service of the

Figure 3 – The Western industrialized world could learn a thing or two from traditional societies. Photo courtesy of N. K. Bricker.

larger community of life? I am moved by Oelschlaeger's (1991) thinking that people are nature's invention for keeping track of itself. Because people have been given the gift of self-awareness, we can step outside ourselves, reflect on our circumstances, and change our ways of being and behaving. I think the time is ripe in the Western industrialized world for such a paradigmatic shift in thinking about our relationship with nature in general, and wilderness in particular, and I credit traditional societies for showing the way.

Our American wilderness experience should lead us to agree with the Shuar people of Ecuador that wilderness is where wisdom lives, and that wilderness is where communication among all species occurs. Our American wilderness experience should teach us, like the Batwa people of the Congo, that wilderness is a store stocked with everything we require in the way of material and spiritual goods to fulfill our basic needs, and that we are obliged to "shop" there, as the Shashsavan people of Iran advise, in a way that does not exclude others from shopping there as well. Through our collective American wilderness experience, we should see wilderness, like the Malagasy people of Madagascar, as the ground of our being, and as the Tuareg of Niger describe it, as a mother hen covering her eggs. When we are in wilderness, like the Igorot people of the Philippines, we should sense that we, too, come from the mountains and are part of them, and like the K'iche' people of Guatemala, that any threat to wilderness is a threat to us. Finally, like the Tao people of Taiwan, we should see ourselves as one with nature, and like the Tla-o-qui-aht First Nations of Canada, we should feel that when we are in wilderness we are "home."

Writing People Back into Wilderness

Let me be perfectly clear once more about what I am not saying. I am not saying we should "open up" wilderness areas as Julber (1972) proposed so long ago to make them easily accessible to masses of people. What I am saying is that we should recognize our embeddedness in the natural world and apply our special gift of self-awareness in looking after wilderness. We evolved from wilderness. At one time it was home to us all. We were rooted in nature and are still, although modern life makes it seem less so. Whipple (1930) captures the effect:

> All America lies at the end of the wilderness road, and our past is not a dead past, but still lives in us. Our forefathers had civilization inside themselves, the wild outside. We live in the civilization they created, but within us the wilderness still lingers. What they dreamed, we live, and what they lived, we dream. (p. 65)

Our ongoing challenge is to carry wilderness lessons back home to the city with us and apply them to the conduct of our everyday lives. It will be easier for us to do this if we think of ourselves not as visitors to wilderness but rather as citizens of wilderness. For each of us, just like the indigenous peoples I met at WILD10 in Salamanca, wilderness is a classroom, a living library, a repository of wisdom. We belong to wilderness as much as any other creature on Earth. It is a classroom in which we both find and conduct ourselves in a manner that reflects self-awareness, deference, and a combination of wonder, awe, and humility for having the good fortune to experience and help protect something that is much larger than we will ever be.

A Friendly Amendment

If, as Graber (1995) suggested, wilderness in the Western industrialized world is socially constructed, then it should be thought of as a work in progress. As our civilization progresses, so, too, should our idea of wilderness. What will wilderness mean to us and our way of life in the 21st century? Possibilities abound (Dustin 1997; Dustin and McAvoy 2000; Dustin et al. 2012; Rose and Dustin 2012), but it is largely uncharted territory. As a first step, we might consider changing the definition of wilderness in the Wilderness Act from this:

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. (U.S. Public Law 88-577)

To this:

> A wilderness, in contrast with those areas where people and their own works dominate the landscape, is

> hereby recognized as an area where the earth and its community of life are untrammeled, celebrated, and safeguarded by people who are elemental citizens of it.

I offer my motion as a friendly amendment in recognition of our species' unique role as nature's invention for keeping track of itself.

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definition with which section 2(c) begins. Thus, all of this exploration of meaning and congressional practice comes down to this: whatever past human impacts there may have been, our goal is to free nature within each wilderness area, as best we can, from the fetters of human influence, so that wilderness may be, through our own self-restraint, lands "where the earth and its community of life are untrammeled by man."

What a gift for us to leave future generations. They have every right to expect no less.

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Can Untrammeled Wilderness Endure?

BY KEVIN HOOD

Introduction

My appreciation for the presence of *untrammeled* in the Wilderness Act of 1964 has evolved over time. On first learning of its existence, I admired the eloquent use of the old word to capture the quintessence of wilderness. As my understanding of the term as a standard for wilderness management grew, so did my concern for wilderness subjected to the actions of fire suppression or predator control. However, it still seemed that these trammelings were not widespread across the National Wilderness Preservation System and that they could be remedied as our management became more progressive.

Now, after spending years managing wilderness, advising policy, administering wilderness research permits, and consulting with colleagues across the country, my concern has deepened. Trammeling actions are not limited to fire suppression or predator control; they are not that uncommon and I believe calls for intervening in wilderness affairs are only likely to increase. Of particular interest is that many of these trammelings originate with those of us who should be defending the untrammeled quality of wilderness. Although there are various reasons for the rise in trammeling, the onslaught of climate change and other anthropogenic ills are stoking an urgency for action that is accelerating faster than our wilderness management is adapting.

This article details my awakening as to how *untrammeled* constitutes an essential yet imperiled wilderness standard. It also presents questions regarding the fate of this indispensable wilderness quality. My hope is to stimulate thought about the value and future of untrammeled wilderness and to present the idea that perhaps now more than ever we need to exercise restraint.

Trammeling Untrammeled Wilderness

My first contemplations of the ideas of untrammeled and trammeling started at a subconscious level when our wilderness kayak crew became intimately involved with harbor seal research in the Tracy Arm-Ford's Terror Wilderness of the Tongass National Forest in southeast Alaska. The research was a joint effort by the University of Alaska Southeast (UAS) and the Alaska Department of Fish and Game (ADFG). The nature of the study was to investigate the population trends for harbor seals hauled out on icebergs in front of tidewater glaciers and to gauge the impacts of tour boats on seal behavior. At first our crew helped with logistics, but after a few seasons when personnel transferred and funding dried up, we ended up carrying on the study ourselves, always thinking that we'd pass the research back once things stabilized.

Kevin Hood. Photo by Irene Owsley.

The original research protocols were developed by scientists who emphasized methods that left the seals undisturbed. We sat hundreds of feet above the seals on the fjord walls and used high-powered binoculars, range finders, detailed maps, and precise means to observe the seals, record their behavior, count their numbers, and note their reactions to inbound ships. These are the methods our wilderness kayak crew still employs today, carrying on seal research 12 years after we started.

About six years ago, another ADFG project sought to address the question of how vessel traffic affects harbor seals. Rather than rely on observations to gauge behavior, more quantifiable data was sought by measuring seal heart rates, their time spent in water and hauled out, any change in their location when vessels approached, and other data. This data would be collected by hardware affixed to the seals. Since the seals had to be captured to mount the

Figures 1a and 1b – Seal trammeled by researchers – and the author. Photos by USDA Forest Service.

gear, other tests were also conducted to measure diet, disease, toxins, and more. Each seal would be a potential data mine.

My role in this newer project was advisory and not authoritative. My initial focus was on minimizing the impacts of two satellite transmitter/data recorder/camera installations and the researcher camp-observation post. But when another wilderness ranger and I volunteered to help with the seal wrangling to learn more about the project, my concern pivoted to the trammeling of an untrammeled community of life.

The harbor seals were netted, hauled aboard, sedated with injected morphine, drained of 8 to 12 vials of blood, plucked of a whisker by pliers, swabbed rectally twice, shaved for hair samples, punctured for skin samples, pierced with permanent bright blue or green plastic flipper tags, and fastened with heart rate monitors, satellite transmitters, and a few acquired shoulder mounted video cameras (see Figures 1a and 1b). My wilderness colleague and I dutifully assisted in these tasks, often physically sitting on top of the seals to help restrain them during the more invasive procedures.

Once back in our camp, my colleague and I stayed up late into the night talking about our intense experience, how severely we had trammeled the seals, and how this hands-on research violated wilderness far more than the observer-based research we had been conducting.

The Prevalence of Trammeling Wilderness Research

Prior to the seal episode, I had not associated wilderness wildlife research with trammeling. More attuned now, I have found additional trammeling research in designated wilderness with further investigation. Brown bear researchers tranquilized and collared bears, fixed them with ear tags, and pulled their teeth to determine their age (USDA Forest Service 2011). Researchers herded Canada geese during molting season into net pens, sedated the birds, and then surgically opened and implanted them with transmitters (Hupp et al. 2010). Friends from the Lower 48 recounted their backpacking trip in Denali, where they were thrilled one evening to see a wolf happen upon their camp – their first wild wolf! – but how that thrill deflated once they saw it sporting a large radio collar as it skirted by.

As I conferred with my wilderness colleagues around the country, it became apparent that these trammelings were not unique to Alaska but occurred throughout the National Wilderness Preservation System. More and more such trammeling actions seem to be cropping up. Climate change and other global ills are catalyzing urgent needs to do something more manipulative to remedy environmental issues rather than letting untrammeled wilderness be. This realization triggered a series of seven questions for me that might best be examined by starting with a review of the unusual term *untrammeled* before proceeding to how it is threatened and why it is still relevant.

1. What Are the Origins of *Untrammeled*?

Howard Zahniser made a deliberate effort to employ a precise word that would epitomize the meaning of wilderness as it was defined in The Wilderness Act of 1964 (Harvey 2005). Ultimately he chose the word *untrammeled* after hearing a friend use it to describe the wild seashore of western Washington (Harvey 2005). *Untrammeled* derives from the word

trammel, whose origins can be traced back to 11th-century French (Scott 2001). A trammel is a net used to capture fish. One version features a net with layers of varying mesh sizes where the further the fish swim in, the more they are constrained.

A trammel later came to be used to describe a bridle for controlling a horse; in fact, *unbridled* is an apt synonym for *untrammeled*. Other synonyms for *untrammeled* include *uncontrolled*, *unconstrained*, *unmanipulated*, *unimpeded*, and *unfettered* (Scott 2001). In accord with how the Wilderness Act contrasts designated wilderness with other areas occupied and modified by human actions, Zahniser similarly sought to establish wilderness as a place devoid of human control. In sum, when Zahniser defined wilderness as "an area where the earth and its community of life are untrammeled by man," he was asserting designated wilderness as a place intentionally restraining human intervention in nature's affairs.

2. Why Do We Trammel Wildlife in Wilderness?

The reasons we give for trammeling wildlife in wilderness can be cataloged in various ways, but certain patterns reoccur. A fundamental reason for our trammeling is an ingrained deference to science as the ultimate authority in our culture of technocratic management. Nearly everything around us in our modern high-tech world has been built from the teachings of science, and information serves as global currency. Scientists are authority figures. Furthering scientific knowledge has been the dominant paradigm for so long that protocol – which commonly calls for the handling, sampling, collaring, and marking of wildlife – is accepted with little question, even in wilderness (see Figure 2). Adherence to accepted protocol remains central to the structure of research projects from conception to completion. Compliance with Wilderness Act standards should be integral for any wilderness research, but it is not.

Figure 2 – Photo from National Park Service guidelines "Wilderness Research in Alaska Parks," showing researcher attaching radio collar to a wolf in Denali National Park. Photo by National Park Service.

This deference to scientific authority is compounded when scientific use is improperly elevated as the principal purpose of wilderness. The Wilderness Act does affirm that scientific use is a legitimate wilderness purpose. This may be mistakenly interpreted as giving researchers carte blanche to engage in any pursuit that furthers knowledge, including trammeling endeavors. However, the public purposes listed in the Wilderness Act are contingent on the paramount purpose of preserving wilderness character (Krammer 2013). Any scientific activity (and any administrative or recreational activity) can only be lawfully conducted if it does not impair wilderness character, of which the untrammeled quality is a quintessential aspect (Hood 2011).

It should be understood that scientists who trammel wildlife in wilderness are acting with good intentions. The seal researchers installing all of the hardware wanted to definitively answer the question as to how seals are affected by vessel traffic. That knowledge, in turn, might lead to increased protection for the animals – or show that seals are unaffected and no further protection is needed. Indeed, one of the most common justifications given for scientific research in wilderness is that the acquisition of newly gained knowledge will help us better understand the wilderness we are managing. That is well and good, except that the standards of the Wilderness Act still stand. Applying the logic that "we have to degrade the wilderness in order to know it" actually damages the wilderness our scientific knowledge is meant to protect. Per the Wilderness Act, our primary mandate is to preserve wilderness character and our foremost concern must be that wilderness areas remain untrammeled.

3. Do Dire Times Merit Trammeling?

Another justification for trammeling wilderness is that extreme circumstances warrant extreme measures. Climate change, habitat fragmentation,

ocean acidification, and other ills manifest the extreme circumstances, especially if extinction of a species or population is possible. The extreme measures are calls for interventions where we normally do not intervene in order to set things right.

A May 8, 2013, *New York Times* editorial opines that the National Park Service "should initiate a genetic rescue by introducing new wolves" to Isle Royale where the current wolf population has dwindled to "little more than a handful" (Vucetich, Nelson, and Peterson 2013). Isle Royale is an island in Lake Superior, Michigan, that is both a national park and a designated wilderness area. The authors deem the genetic rescue necessary to stave off extinction of the island wolves since global warming lessens the likelihood of winter ice bridges that would allow mainland wolves to cross over and naturally replenish the island population.

The rescue proponents acknowledge the "fundamental conservation wisdom" of nonintervention; however, the era of the Anthropocene – the modern epoch in which human activity substantially impacts the planet – has rewritten the rules:

> But we find ourselves in a world where the welfare of humans and the biosphere faces considerable threats – climate change, invasive species and altered biogeochemical cycles, to name a few. Where no place on the planet is untouched by humans, faith in nonintervention makes little sense. We have already altered nature's course everywhere. Our future relationship with nature will be more complicated. Stepping in will sometimes be wise, but not always. Navigating that complexity without hubris will be a great challenge. (Vucetich, Nelson, and Peterson 2013)

They conclude that in the case of Isle Royale wolves, intervention is warranted, or else an intact ecosystem will be lost (Vucetich, Nelson, and Peterson 2013).

As a wilderness manager, I find that their case presents big questions:

- In light of global anthropogenic impacts, if it makes little sense to have faith in nonintervention, does it make more sense to have faith in natural resiliency?
- Indeed, doesn't it make more sense to have greater skepticism of human intervention in light of how much damage human hubris has already incurred?
- How do we determine when stepping in will be wise and how should we navigate this complexity without hubris?

Climate change and other impacts are testing resiliency across the board. What we are facing is unprecedented. Most species have histories with eons of natural selection in which human influence only comes to bear very recently. Can human agency select better than natural selection? Shouldn't we leave some wild areas where natural resiliency is given a chance to manifest?

The notion that we must act on nature's affairs in wilderness not only counters the Wilderness Act, it precludes natural resiliency from allowing species to adapt, be selected, and to evolve. What natural wisdom has accrued over 4.8 billion years is substituted for by human manipulation with much shallower roots.

4. Is Natural Resiliency a Worse Strategy Than Active Human Management?

In cases where extinction of a species or a population looms, the perceived need to trammel is undergirded by the assumption that active human management is more effective than remaining hands-off. But there are examples where humans have not acted and species have returned from the brink.

Prior to the opinion piece advocating for a genetic rescue to bolster their numbers, the Isle Royale wolves had dropped to eight. Although such a decline might raise questions about the future viability of the pack, the wolf population had rebounded before from low numbers (Mech 2013). After the opinion piece was published, a subsequent survey revealed the presence of two to three new pups augmenting the pack and lessening the urgency to intervene (Meador 2013).

In another instance, the northern elephant seal was once imperiled to the point that it was in fact considered extinct in the 1800s (NOAA Fisheries n.d.). The animal was hunted for its oil, which was commonly used for lamps. Fortunately, 20 of the creatures survived on an island unknown to humans (IUCN Red List 2008). When islands were found where northern elephant seals were breeding and pupping, the habitats were protected by the Mexican and U.S. governments. Since their low point, the population has rebounded such that it now numbers more than 170,000 (IUCN Red List 2008) (see Figures 3a and b).

The lesson to be learned from examples such as these is that we should critically examine calls to trammel in order to save a species. We must consider what historic range of variability the animals have survived previously. We must not overestimate our ability to manage nature and underestimate nature's ability to manage itself.

Figures 3a and 3b– Northern elephant seals rebounded from near extinction in the 1800s to more than 170,000 today. Photos by Kevin Hood.

5. Should We Intervene if Our Future Commitment Is Uncertain?

In Arizona, the Kofa National Wildlife Refuge installed two 13,000-gallon water guzzlers in designated wilderness to provide water for bighorn sheep (Krammer 2013). Considering how climate change is projected to parch the desert Southwest and how human use draws down natural aquifers, such an intervention may seem warranted. But is such an intervention actually in the best interest of the species?

What happens in the future when the U.S. Fish and Wildlife Service no longer has the funding to refill and maintain the water guzzlers, or when water is so limited that laws mandate a priority for humans over wildlife? After decades of depending on an artificial water source, the bighorn sheep will suddenly find the guzzlers dry. Maybe they will be able to adapt on the fly, but wouldn't they be better adapted had there been no guzzlers in the first place? Then the animals would have been naturally selected for those that could best find scarce water and persist the longest between drinks. Or perhaps as the area water dries up the bighorn sheep would migrate to greener deserts but the guzzlers are keeping them in place.

When trammeling is proposed, it would be prudent to identify the assumptions underlying the proposal, including the anticipated commitment the intervention requires.

6. What Is the Role of Extinction in an Area Where the Earth and Its Community of Life Is Untrammeled? Is Extinction a Natural Process That We Should Respect?

Carl Sagan once said, "Extinction is the rule. Survival is the exception" (Sagan 2006). No one knows for sure how many species have existed throughout Earth's history or even how many species exist now. Estimates range from 1 to 4 billion species historically and from 10 to 100 million species currently. What may be of greater relevance are the estimates that 95 to 99.9% of Earth's species have gone extinct. This raises two of the most profound questions that we must address:

1. Isn't extinction a natural process in untrammeled wilderness that allows surviving species to perpetuate and new species to emerge?
2. Does the Anthropocene with its accelerated extinction rate change how we should regard extinction in wilderness?

7. Shall There Be No Untrammeled Protected Areas?

When considering potentially trammeling research projects, researchers and managers must reflect beyond the case at hand. Wilderness represents the highest level of protection afforded public lands, and the protection derives largely from the check placed on our interventions and our tools. No other lands are held to an untrammeled standard; rather, trammeling is generally accepted everywhere else.

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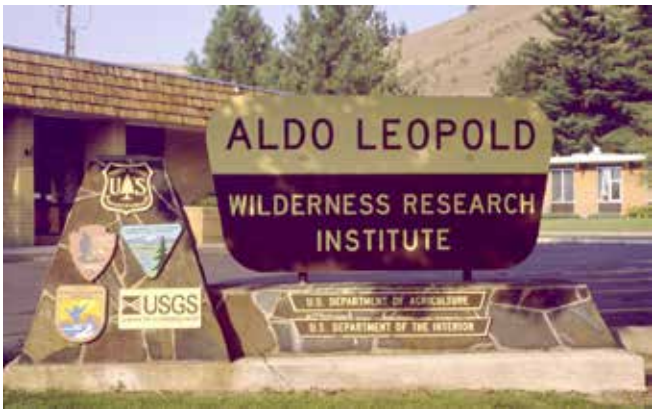
Identifying Issues and Challenges for Management of the National Wilderness Preservation System

The Wilderness Manager Survey

BY ALAN WATSON

Closely connected to the 50th anniversary of the U.S. Wilderness Act, Forest Service scientists, U.S. Geological Survey scientists, and academic partners from the University of Idaho, the University of Georgia, and the State University of New York–Syracuse are cooperating to develop a survey of wilderness managers in the United States. This survey is being administered to agency managers of the Forest Service, the Bureau of Land Management, the National Park Service and the U.S. Fish and Wildlife Service during the first quarter of 2014 (January to March). Findings from this survey will be a vital component of a proposed effort to develop a new Interagency Wilderness Strategic Plan, creating a visionary plan to guide collaborative, interagency stewardship of America's National Wilderness Preservation System (NWPS) for at least the next decade.

In 1995, directors of the four wilderness managing agencies signed the first, and only, U.S. Interagency Wilderness Strategic Plan (http://wilderness.nps.gov/document/I-21.pdf). Many things have changed since 1995, however. America's NWPS now encompasses more than 109 million acres (44,110,735 ha); the U.S. population is larger and more diverse; technology is changing daily; the U.S. economy has been strained; and the landscape for conservation has changed – there is less undeveloped land, more invasive species, and we are experiencing the impacts of a changing climate. In light of these significant changes, wilderness areas are emerging as being more important now



than ever before for their inherent and increasingly scarce ecological and social values.

Between 1995 and 2014, there have been both coordinated and unilateral actions taken by the U.S. wilderness management agencies to make progress on strategic planning targets and to develop updated targets. For example, the 2001 report from the Pinchot Institute for Conservation, at the request of the four management agencies and the U.S. Geological Survey, identified several desirable principles for interagency stewardship and recommended several action items to improve wilderness stewardship. This report is commonly referred to as the "Brown Report" (in reference to Perry Brown, the chair of the nongovernmental Wilderness Stewardship Panel). The Brown Report provided analysis and an updated list of priorities for protecting wilderness (http://www.wilderness.net/nwps/

documents/brown_report_full.pdf). Another example is the 2011 National Park Service Wilderness Stewardship Program Business Plan (http://www.wilderness.net/NWPS/documents/NPS/NPS%20Wilderness%20Business%20Plan.pdf), which established several Wilderness Program Priorities for the National Park Service through the 50th anniversary year of 2014.

The 50th anniversary of the Wilderness Act in 2014 presents a new opportunity for the wilderness managing agencies and their partners to develop a coordinated vision that guides stewardship and science to ensure the enduring benefits of wilderness for this and future generations.

The manager survey is aimed at documenting the experience and insights of NWPS managers across the four managing federal agencies. An online survey will be designed to ask managers to identify current and emerging issues and challenges they perceive, ask what is working and not working in the management of National Wilderness Preservation System lands, and ask for ideas regarding any needed policy changes or other strategic approaches to protecting wilderness character, such as science, training, administration, or technology. This survey not only taps into the experience and knowledge of the nation's wilderness managers, it also provides a key way to involve those managers in the strategic planning process.

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Continued from CAN UNTRAMMELED WILDERNESS ENDURE? page 21

If we decide that the untrammeled essence of wilderness can be waived, no lands remain with an inviolate untrammeled quality.

Conclusion

Howard Zahniser drafted and advocated for the Wilderness Act, and insisted on his unique word *untrammeled*, under the shadow of the Cold War and the threat of nuclear annihilation (Harvey 2005). He felt the gravity of his times, feared the dangers of unchecked science, and knew that people needed wholesome wilderness to repair and restore their well-being (Harvey 2005). For those inclined to intercede in wilderness affairs and to impair the untrammeled standard Zahniser diligently sought to instill, I have one last question: Doesn't his wisdom still hold true?

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If we decide that the untrammeled essence of wilderness can be waived, no lands remain with an inviolate untrammeled quality.

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The International League of Conservation Writers

BY BOB BARON and PATTY MAHER

The Importance of Writing

An author has the ability to influence and teach hundreds, thousands, or even hundreds of thousands of people throughout the decades. Writers may not know whom they influence or how long their shadow stretches. Henry David Thoreau (1963) championed the human spirit against materialism and conformity. During his lifetime, fewer than 3,000 copies of his books were sold, but his voice and words are with us today. John Muir (1988) fought hard and not always successfully, but what he built and stood for has changed the environmental movement. Rachel Carson (1962), sick with cancer, gave us *Silent Spring*, and today the eagles and the osprey are back from the edge of extinction.

WILD8 Anchorage, Alaska, 2005

Seven sessions on the importance of writers and books in expressing and sharing ideas, experiences, and feelings about nature, wilderness, and ourselves were featured at the 8th World Wilderness Congress in Anchorage, Alaska. Thirty authors participated as panelists and there were book signings by 16 authors. *The Alaskan Reader: Voices from the North* (Hanley and Kremers 2005) was introduced, and local authors talked about this special place.

Congress attendees were asked in a survey what writers had influenced them in their choice of careers and their love of the land; 115 names were mentioned in response. Subsequent discussions and a review of anthologies provided another 100 names. The important writers to some were unknown or unread by others, and, as a result, the book *Heaven and Nature Sing* (Baron 2009) lists authors and books everyone should know about because what these authors wrote was important when it was written and is still relevant and readable today.

WILD9 Mérida, Yucatan, Mexico, 2009

There have always been some who have fought to preserve the planet, its land, and the plants and animals that inhabit it. Bob Marshall (1930) wrote, "There is just one hope for repulsing the tyrannical ambition of civilization to conquer every niche of the whole earth. That hope is the organization of spirited people who will fight for the freedom of the wilderness."

Bob Baron.

Patty Maher.

Wilderness is under attack in the United States, Africa, Latin America, Siberia, and around the globe. Species dependent on wilderness are in danger. We must fight for endangered species, such as the chimpanzee, gorilla, panda, tiger, blue whale, northern spotted owl, Asian elephant, white rhino, and red wolf. But more than that, we must fight for wilderness, for nature, for undeveloped space, and for the creatures and plants with which we share the planet.

At WILD9, in Mérida, Mexico, we held three sessions for those who wished to write well, including scientists, environmentalists, educators, photographers, and professionals in government and industry. There is an important story to tell. We must convince the silent majority to become the vocal majority, to get people to fight for wilderness, wild places, plant and animal species, clean air, and water. Some people wrote of those issues in the 1960s, and major environmental legislation was passed and we have benefited. We need to continue the fight.

Moreover, we must share nature with our children as our parents and grandparents shared it with us. The outside world is far more real than the world of electronic games. We owe it to our grandchildren and to future generations to leave the world a better place – a world with wilderness, plants, and animals. Several books were available in Spanish at WILD9, such as Jill Ker Conway's *Felipe the Flamingo,* and they were given to local schoolchildren that visited the WWC.

ILCW Begins

Due to the interest in the writers' seminars at both WILD8 and WILD9, and the need for a community these writers could share, it was decided to establish a new organization in February 2010 – the International League of Conservation Writers (ILCW), co-founded by Bob Baron and Boyd Norton. The ILCW is a forum to bring writers together from around the world who are writing to promote wilderness, nature, conservation, or are using other means to protect and restore the natural areas, habitats, animals, and plants of our planet. Both web pages and blogs were created for established and beginning writers to share ideas and improve their writing. We now have 200 members from 30 countries listed on the ILCW website (http://www.ilcwriters.org).

WILD10 Salamanca, Spain, 2013

At WILD10, the ILCW held three writers' seminars. Each was so well received that every day the room was filled to overcapacity, with interested attendees spilling out into the hallway. The quality of the speakers was a large reason for the seminars' popularity. These men and women spoke with such passion and experience that audiences was hanging on their every word.

Using Writing to Complement Your Creation: Photography, Poetry, Painting, Filmmaking

The panel discussion emphasized the importance of writing (even for nonwriters, artists, filmmakers, and photographers), and that words were important in explaining creative endeavors for publicity, in writing grant proposals, in creating captions to accompany images in a magazine, in writing scripts for films, and so forth. The speakers were Ian McCallum, poet from South Africa; Ian Michler, writer and photographer from South Africa; and Beatriz Padilla, painter from Mexico. The moderator was Boyd Norton, author and conservation photographer from the United States.

The Art of Writing: Through the Eyes of an Editor

The panel discussion presented the elements that make a written article appeal to a broad audience. The speakers were Chad Dawson, editor in chief of the *International Journal of Wilderness*; Zoltan Kun of Hungary, executive director of PanParks; and Bittu Sahgal from India, editor of *Sanctuary Asia* magazine. The moderator was Bob Baron.

The Geography of Writing: Challenges, Censorship and Safety

This panel discussion focused on the obstacles of writing around the world, such as language and cultural barriers, censorship, topics of taboo, and safety concerns. The speakers were Ian Michler from South Africa, writer and photographer; Vlado Vancura of Hungary, conservation manager for PanParks; and Laura Williams of Russia, author and international biodiversity conservationist. The moderator was Bruce Paton from the United States, a wildlife photographer, author, and artist.

The Power of One

In 1950, we had 2.6 billion people on this planet. We now have more than 7 billion. Everyone wants a longer life, a better situation for their family, or to acquire more possessions. Although those wants and needs are understandable, a finite planet cannot supply infinite resources.

As an individual you may sometime wonder how one person can affect this world of 7 billion other souls. This is where the power of one comes in, since an individual can and does make a difference. For example, we recognize the long-term impact of certain individuals: Henry David Thoreau, John Muir, Rachel Carson, Aldo Leopold, David Brower, and Ian Player.

In this modern world, five individuals (members of the ILCW) are making a difference in our world as writers and as conservationists.

Southern Africa – Ian McCallum and his associate Ian Michler led the expedition Tracks of Giants, a five-month journey across southern Africa's long, ancient elephant migration route. The expedition traveled by foot, bike, and kayak through Namibia, Botswana, Zambia, Zimbabwe, Mozambique, and South Africa. They lived with elephants and addressed the question: "If we can't effectively coexist with and protect something this important, how can we effectively protect and promote the sustainability of other wild life and wild places?" You can view their journey and more about the expedition at http://tracksofgiants.org.

The Wilderness Writing Award

A lifetime achievement award was created as a collaborative project between The WILD Foundation, Fulcrum Publishing, and the International League of Conservation Writers in 2005 at the 8th World Wilderness Congress in Anchorage, Alaska. This biannual award for lifetime achievement is in recognition of a living author's published body of work relating to meaningful and significant writing about wild nature, the environment, or the land. Published writers from anywhere in the world are eligible. Nominations are required to be in English, but the body of work does not need to be in English.

John Haines.

The first Wilderness Writing Award was presented to John Haines who in 1947 moved to Alaska and homesteaded at Richardson, 75 miles (121 km) south of Fairbanks. His first book of poems, *Winter News*, was published in 1966, and his first book of essays, *Living off the Country*, in 1981. Haines has written more than 10 books of poetry and essays, including *The Owl in the Mask of the Dreamer* (1993) and is a former Alaska Poet Laureate.

Bittu Sahgal.

The second Wilderness Writing Award was presented in 2007 to Bittu Sahgal of Mumbai, India. Sahgal is founder and president of *Sanctuary Asia*, India's premier wildlife and ecology magazine. In 2000 he founded the Kids for Tigers program that reaches a million children annually, bringing awareness and making them partners in saving the tiger by protecting its forests. Sahgal is a tireless, lifelong advocate for respecting and protecting wild nature and right human relations, as well as being a superb writer and communicator (Sahgal 2012).

Ian McCallum.

At WILD9, the third Wilderness Writing Award was presented to Ian McCallum of Capetown, South Africa. Dr. McCallum is a medical doctor; Jungian psychologist; wilderness guide; and founder of the Wilderness Leadership School in the Cape of Good Hope, South Africa. He is the author of *Ecological Intelligence: Rediscovering Ourselves in Nature* (2008) and a poetry collection called *Wild Gifts*.

Michael Frome.

In 2011, the fourth Wilderness Writing Award was presented to Michael Frome of Bellingham, Washington. Frome is a passionate protector of America's national parks and a prolific conservation writer, having written nearly 20 books and several magazine columns and articles. His books include *Regreening the National Parks* (1992), *Battle for the Wilderness* (1974), and *Conscience of a Conservationist* (1989). The University of Idaho established the Michael Frome Scholarship for excellence in conservation writing.

Joaquín Araujo.

At WILD10, Joaquín Araujo of Spain was given the fifth Wilderness Writing Award for "a significant body of writing that protects wilderness, honors the spirit of wild nature, and recognizes the needs of human communities." Araujo writes and directs nature documentary films and has written numerous books and articles (Araujo 2013).

ILCW
INTERNATIONAL LEAGUE OF CONSERVATION WRITERS

www.ilcwriters.org

Writers may not know whom they influence or how long their shadow stretches.

Canada – Harvey Locke was one of the initiators of the Nature Needs Half program and was volunteer director of the Yellowstone to Yukon Conservation Initiative. This beautiful part of the world has been documented in his book: *Yellowstone to Yukon: The Journey of Wildlife and Art* (Locke 2012) and can be explored at the website http://y2y.net.

Thailand – Morgan Heim has spent time in preparing a documentary on the elusive fishing cat in Southeast Asia, Sri Lanka, and Bangladesh. Their population numbers are dwindling as their habitat is destroyed. Morgan and her associate, Joanna Nasar, have brought their story to local people and supporters around the world; more information is available on this program at http://catinwater.wordpress.com/tag/morgan-heim/.

East Africa – Boyd Norton, photographer and writer, published a book called *Serengeti: The Eternal Beginning* (2012) about the migration of countless animals in their original homeland. Boyd is co-founder of Serengeti Watch, an international organization that works to stop a highway from being built across the Serengeti ecosystem; for information on this program go to http://www.savetheserengeti.org.

Catskills Mountains of New York – Thomas Locker spent his life in service of his two great passions: painting and nature. He has written more than 30 books, including *Walking with Henry* (2002), *John Muir: America's Naturalist* (2003), *Rachel Carson: Preserving a Sense of Wonder* (2004), and *Journey to the Mountaintop* (Baron and Locker 2007). His books have received many awards. In the last year of his life, Tom gave 10 painting to share with children around the country and wrote the program notes *Art and Nature*. Tom was also interviewed on film about why nature is so important; for information about this program and his books go to http://www.fulcrum-books.com/searchproducts.cfm.

Being able to write is a gift. It is often the work of a single individual. Written works are important to use for education, to describe those special places, to show love and concern, and to stimulate excitement and outrage in people nearby and around the world.

Expanding ILCW

The year 2014 marks the 50th anniversary of the Wilderness Act of 1964 (US Public Law 88-677). In five decades, 109 million acres (44,110,735 ha) of wilderness in 44 states have been set aside as wilderness. ILCW will be participating in this yearlong celebration of American wilderness through a variety of activities and by expanding the already growing membership of ILCW.

Most importantly we wish to find, encourage, and support the conservation writers of the world. Their words and images are an important part of the future of a sustainable planet.

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PATTY MAHER has been the designer and production manager of the *International Journal of Wilderness* for many of the 20 years of its publication; she is responsible for the ILCW website and editor of Fulcrum Films; email: patty@fulcrum-books.com.

Wilderness Foundation's Social Intervention Program

Developing Positive Interventions for Social and Environmental Sustainability in South Africa

BY PINKY KONDLO

South Africa is a country with great success in the development of protected areas on both public and private land, with a successful ecotourism industry accompanying and supporting this growth. The need for ongoing conservation efforts is essential to ensure ongoing environmental sustainability. The Wilderness Foundation (WF) recognizes that the sustainability of South Africa's wildlands and wilderness is intrinsically dependent on its social and economic sustainability. The WF is one of few South African conservation organizations currently involved with an active, sustainable social intervention program.

The WF believes that a quality experience of wildlands and wilderness is the spark that motivates an individual to a higher ideal of conservation. Through this intervention we are able to introduce a fundamental respect and innate love for nature among the youth in compromised communities and, thereby, inculcate the essential concepts and ethos of conservation. Currently only 4% of the country's black population has directly experienced local wildlife reserves. The reality is that the conservation awareness and environmental ethic is lacking for the majority of the South African public and its democratically elected decision makers. Recently the level of wildlife poaching, particularly of rhinos, has reached critical proportions. Parks are under-resourced and understaffed and increasingly unable to cope with the pressure of illegal and often foreign-inspired wildlife poaching gangs that recruit from among youth made vulnerable by HIV/AIDS.

Pinky Kondlo (third from left), Umzi Wethu program director, celebrates with the Umzi Wethu graduates. Photo courtesy of Claire Warneke, Siyathetha Communication.

The Social Intervention Program

High rates of unemployment coupled with the high incidence of HIV/AIDS among black communities underlie the fact that even youth who manage to achieve a basic high school education cannot access jobs in the ecotourism and related sectors. WF saw that these youth lack marketable job training and the personal wellness, life skills, and family support to render them confident, stable, and employable and launched the Umzi Wethu program as an integrated conservation and social intervention.

Poverty, fueled by the HIV/AIDS epidemic, threatens to undermine economic achievements from ecotourism and conservation. The tragic paradox of South Africa's economy is that there exists simultaneously a great demand for skilled customer service workers on the one hand and massive unemployment on the other. South Africa (SA) has one of the highest youth unemployment rates in the world and has been facing a policy crisis in delivering solutions to youth poverty and unemployment for the last decade, increasing exponentially over the years. Ms. Lucy Holborn, family project manager at the SA Institute of Race Relations, said, "The data points to a generation in crisis. If a third of young people have nothing

to occupy them all day, it is not surprising that sexual activity, drug and alcohol use, and crime rates are high." The Eastern Cape in SA is one of the economically poorest of nine provinces. In the first quarter of 2010 unemployment in SA stood at 25%, and in the Eastern Cape at 29%. The Eastern Cape Province has approximately 20% of the country's AIDS orphans and an estimated 90,000 child-headed households with little or no socioeconomic support. The SA government's National Strategic Plan for 2012–2016 aims to lessen the impact of HIV on orphans, vulnerable children, and youth by ensuring they have access to the social services they need, including basic education, skills development, and training.

It is clear that there is a dire need for programs that work with vulnerable youth in SA, ensuring that they have sustainable, positive livelihoods for their future. Although youth training schemes do exist and are being run by government and other civil society agencies, the programs are generally limited to either technical-skills or life-skills development. Few provide a holistic approach that augments relevant skills training with life skills and wellness support – essential for youth made vulnerable by an inherited disparity, poverty, and the HIV/AIDS crisis.

The Umzi Wethu (UW) design is based on the SA policy of black economic empowerment that will motivate employers to hire UW graduates and enable certain entrepreneurial youth to launch their own small and medium microenterprises. Entrenching racial equality in the job sector is meant to generate broader participation in development and enterprise necessary for economic sustainability, competitiveness, and growth. Furthermore, SA's national Strategic Framework on Gender and Women's Economic Empowerment sets forth objectives met by UW: to challenge direct and indirect barriers to participation in the economy and control over resources, and to achieve gender parity in enterprise, including management. The WF and UW instill equal opportunity for women by encouraging young women to advance through the highest levels of vocational training to become professional chefs and game rangers, and ultimately managers. The WF's social enterprise development strategy aims to assist female and male graduates equally in conceptualizing their own small businesses. Through UW, women gain the confidence and training to challenge the socially held assumption that certain jobs and business ownership are for men only, and the UW programs help men to also adopt new attitudes about women.

The Livelihood Development Program

Umzi Wethu Vocational Academies

The UW model is a holistic, one-year, social development and intervention program that seeks to empower displaced and socially vulnerable youth with the vocational and life skills required to successfully enter the workplace. The UW model builds on the success of the WF's existing environmental education projects: Pride and Imbewu. These projects introduce previously disadvantaged youth to local wilderness areas, where they experience physical and emotional healing through identifying with their natural heritage as well as coming to an understanding of their place and purpose in the world. Fundamental to all WF programs is imparting to participants an understanding of the wilderness and wildlands and nature's role in the 21st century.

The success of the UW model lies in its holistic approach to training; it is not just a skills-based educational program. It includes individual counseling for personal growth and development of the students, life-skills education, and environmental awareness training. Students are provided with opportunities to reach out to their communities through various environmental and life-skills programs throughout the year of training.

At the three current UW academies, young men and women between the ages of 18 and 25 are trained in specific vocational skills so as to obtain skilled jobs in the eco-tourism and hospitality sectors. These sectors have been identified through a needs-based analysis of the current job market in SA. Approximately 40 vulnerable youth are selected annually to join the program. Candidates for the program are recruited from local youth development organizations operating within the UW recruitment area (Nelson Mandela Metropolitan and Cacadu District Municipality in the Eastern Cape, and various areas of the Western Cape). Youth are selected for the program based on various criteria, including social vulnerability. To qualify, applicants must have lost one or both of their parents and be residing in homes with no formal income. Following graduation, all students are assisted with job placements/internships with WF partners (see Figure 1).

The objectives of the program are set against four key impact topics:

- **Wellness (the individual)** – Improve overall health and wellness (physical, psychological, social, and spiritual) of students to enable them to be economically active and productive.
- **Conservation (the environment)** – Improve knowledge and

Figure 1 – Umzi Wethu hospitality graduates currently working as chefs in the Greenleaf catering unit of the Wilderness Foundation. Kelly Rensburg (left) and Desiree Seister (right). Photo courtesy of Claire Warneke, Siyathetha Communication.

build respect for the environment through nature-based activities and active engagement with conservation issues.

- **Social Responsibility (community development)** – UW students and graduates are socially responsible and contribute meaningfully to improve the communities in which they live.
- **Economic (financial independence and economic growth)** – UW graduates attain a level of sustainable financial independence and stability on graduation and beyond.

The Umzi Wethu Hospitality Academy in Port Elizabeth, SA, is based at the Eastern Province Child and Youth Care Centre. It offers residential care for the majority of the students every year; however, some are day students who have to honor family commitments, as many are from child-headed households. Through the academy, students are equipped to enter hospitality jobs in urban and rural establishments. The program is currently focused around the National Certificate in Professional Cookery (NQF 4). Students' time at the academy is spent either learning the theoretical foundations in the classroom under the guidance of a qualified facilitator or gaining valuable practical work experience in a diverse range of real-world work settings.

The Umzi Wethu Conservation Academy is situated in the rural town of Somerset East in the Eastern Cape, SA. The academy focuses on training future conservation leaders as either field rangers (NQF2 Conservation Resource Guardianship) or field guides (FGASA Level 1). It is located close to the Boschberg Mountain Reserve and other private game reserves, which allow for easy access to practical experience. All students are cared for in the residence, and the premises are provided in-kind by the Wilderness Foundation's local government partner, the Blue Crane Development Agency.

The Umzi Wethu model was replicated in Stellenbosch, in the Western Cape of SA, under the leadership of the Sustainability Institute at the Lynedoch Eco Village in 2010. Establishing an Umzi Wethu academy in Stellenbosch offers access to the thriving wine industry in the Western Cape, and tentative job placements have already been secured at Spier Wine Estate and other Stellenbosch-based hospitality organizations. Students are involved with organic vegetable gardening, recycling, and are part of the housekeeping and catering team at the on-site guesthouse and coffee shop. All students live at the residence – a renovated old farmhouse that has been transformed into a homely residence for up to 16 youth.

The Siyazenzela Program

In order to broaden the successful impact of the highly successful Umzi Wethu Vocational Training model, the WF established its Siyazenzela Program "we doing it for ourselves" on leadership and livelihoods as a short term intervention. The Program builds on the life skills and wellness program that has been refined during the past six years and introduces employability skills training that addresses problematic attitudes among disadvantaged youth toward the world of work, empowering individual responsibility, and life skills related to self-sufficiency. The program includes:

- **Job Readiness**: work ethics and professionalism, job search, and financial literacy.
- **Personal Growth and Wellness**: (to include HIV/AIDS and sexual and reproductive health) empowering job seekers across seven domains of wellness – occupational, physical, mental, emotional, spiritual, social, and environmental.

- **Environmental Awareness**: facilitated through "green workshops" and linked with other experiential education projects within the WF.

The Siyazenzela Program equips youth (job seekers as well as UW Vocational Academy students) with the skills required to find work and become valuable long-term employees. As a direct outcome, the program benefits up to 300 job seekers and 36 Umzi Wethu students per year to achieve the following: better prepared to enter the world of work, better equipped to take responsibility for their physical health and wellness, and better educated with regard to environmental issues and their own personal impact on the environment. Furthermore, participants will have been challenged to leave behind the debilitating poverty mindset and sense of entitlement that keeps so many young people trapped in poverty and joblessness.

Social Enterprise Skills Development

The WF has embarked on the creation of enterprise opportunities for livelihood program graduates. The two available initiatives are: Green Leaf Catering and Green Leaf Cafe.

Umzi Wethu Program Challenges

- **Financial sustainability and government collaboration**: Developing long-term financial sustainability for the program is a constant challenge and can only be addressed by diversifying income streams and securing partnerships that straddle both the public and private sectors. In 2011, the WF embarked on a national resource development initiative to solicit financial support and co-financing from both the national and local SA government, as well as other private sources within South Africa, initially focusing on the national SA public sector.
- **Balancing the gender ratio and gender-based stereotypes**: The recruitment of female students for field rangering still proves challenging, and the strategy to identify and target female candidates prior to selection remains a difficult task in most SA cultures and communities. Conservation is still considered to be a career dominated and pursued mostly by men. The most obvious reasons for this is the extreme level of physical activity and danger, especially in relation to guiding in Big Five reserves, antipoaching activities, and wilderness restoration and maintenance. UW is attempting to break the gender stereotype attached particularly to conservation-related training and job placement and targets especially vulnerable young women for training as field rangers and guides. Before UW, there were no black female game rangers in SA's Eastern Cape Province; UW has now graduated several black female students who have taken jobs as field rangers and guides. UW is one of the few formal programs training women to be rangers in parks and game reserves.
- **Job Placement**: Facing a declining economy, the UW program is often challenged in placing graduates in the ecotourism industry that is in line with the environmental conservation vocational training. The current employer market is requiring additional training such as trails guide qualifications.
- **Job Internships**: It is difficult to determine longevity of internships due to the unpredictability of permanent job offers and longevity of sustained employment. Internship follow-up is difficult due to the remote settings of reserves and because mentorship procedures and specific outputs are not yet formalized.
- **Gender stereotypes in the workplace**: Due to a long-associated male stereotyping in the conservation industry, our challenge is related more to the education and encouragement of women to take advantage of this career opportunity than it is to educate prospective employers on the benefits of employing female game rangers and guides. However, we are finding that once placed in a job or internship on game reserves (both private and national), our female guides are experiencing severe discrimination. Often isolated and ostracized by their male colleagues (who are in the

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Figure 2 – Rayno Joseph, an Umzi Wethu conservation graduate on the job at Kuzuko Lodge. Photo courtesy of Claire Warneke, Siyathetha communications

A Vision for a Wilder Europe

BY MAGNUS SYLVÉN, VANCE MARTIN, and CHRISTOF SCHENCK

[Editor's Note: This new conservation agenda for Europe was announced in Salamanca, Spain, as part of the 10th World Wilderness Congress (October 4–10, 2013). It was developed with the support of The WILD Foundation and the endorsement of representatives of nine conservation organizations: Christof Schenck, Frankfurt Zoological Society; Stephen Carver, Wildland Research Institute; Jo Roberts, Wilderness Foundation, UK; Frans Schepers, Rewilding Europe; Miquel Rafa, Fundacion Catalunya-La Pedrera; Staffan Widstrand, Wild Wonders of Europe; Zoltan Kun, PAN Parks; Stuart Brooks, John Muir Trust; and Michael Spielmann, Deutsche Umwelthilfe.]

The Vision Tagline

Saving our wilderness, rewilding nature, and letting wildlife come back. For all.

Where Do We Want to Be by 2023?

By 2023, wilderness, wildlife, and wild nature have become essential elements of Europe's identity and are seen as a reflection of a new, modern society in the 21st century. The new, liberated relationship with nature creates increasing health and happiness at a personal level for many people – young and old, urban and rural – throughout our continent.

All remaining wilderness areas in Europe are given adequate protection, which is seen as an essential investment in the future. Rewilding has become the new conservation mantra and is applied in the green areas of cities as well as the wider countryside, in all kinds of protected areas, on land as well as in wetlands, rivers, and the coastal and marine environment. Whales, seals, wolves, eagles, bears, beavers, otters, bison, deer, tuna, salmon, sturgeon, cod, and many other species are experiencing a renaissance and provide joy, excitement, inspiration, and new income opportunities for all facets of society. Increased awareness of the largely untapped potential of European nature in terms of species richness and abundance has generated dreams and a determination in creating a future with some of the past glory back in place, but in the modern setting of today.

New businesses have sprung up, generating jobs and income for more people than ever before. The "business case for the wild" is regarded as a rural development priority and attracts both public and private investments. A new stewardship of land, water, and sea based on wild values and a liberated nature is seen as essential by increasing numbers of landowners, communities, and managers of forests, water, fisheries, and wildlife. Natura 2000, the Emerald Network, and nationally protected areas are seen as a crucial asset on which to build future prosperity, and European nature conservation legislation is viewed favorably by a majority of the public.

(L to R) Magnus Sylvén, Vance Martin, and Dr. Christof Schenck whose photo is courtesy of the Frankfurt Zoological Society.

People's interest in nature has resurfaced as a priority for society.

Why a New Conservation Vision?

The overall goal of this initiative is to build on the significant conservation achievements that have occurred in Europe during the past decades and to launch and promote a new perspective in management and view of nature in European conservation, with emphasis on recognizing, mobilizing, and sustaining natural processes, which ultimately could create more robust and more cost-effective conservation

management systems, reduce the loss of biodiversity across the continent, and generate new economic opportunities and better services for society.

The WILD10 Action Points for a Wilder Europe

THEREFORE, delegates to and collaborators with WILD10, the 10th World Wilderness Congress, RESOLVE and CALL UPON all social change makers and leaders from all European governments, businesses, communities, and organizations to adopt the following concepts:

1. Natural Processes

Allow nature to take care of itself in wider land- and seascapes – Whenever possible "nonintervention management" and restoration of natural processes should be the underlying principle for nature conservation in Europe. These processes should be applied to Europe's larger and wilder areas where good ecological function already exists, but the potential for many other locations should also be explored, especially in a wider land-/seascape perspective. Wild nature needs to be decoupled from farming, and improved natural resource management systems based on these principles should be adopted, which ultimately will benefit both nature and human users. The possibilities for installing more and larger sanctuaries where fishing and hunting are not allowed should be promoted.

Natural processes should be seen in the context of four basic conservation principles:

- All the native ecosystems should be represented in a protected area system and conservation landscapes;
- Viable populations of all native species should be maintained and allowed to fluctuate in a natural way, including dispersal through ecological corridors;
- Ecological and evolutionary processes such as free-flowing rivers, wind, snow, herbivory, and carnivory must be ensured, and
- The conservation landscape should be designed and managed so that it is resilient to both short-term and longer-term change, such as climate, through establishing ecological corridors.

Figure 1. Iberian Lynx (*Lynx pardinus*) in the Sierra de Andújar Natural Park, Mediterranean woodland of Sierra Morena, north east Jaén Province, Andalusia, Spain. Photo by Pete Oxford, Wild Wonders of Europe.

This will generate a better functioning "wilder" nature in Europe that operates far better than "managed areas," with more cost-effective management systems being less dependent on unpredictable shifts in the economic system, and a more sustainable future for most animal and plant species. Naturally functioning ecosystems are also more robust and less vulnerable to external impact, thereby delivering better environmental services such as clean air and water, protection against flooding, sea level rise and forest fires, carbon storage/sequestration, and adaptation to climate change.

This approach is already allowed by European legislation and it is more a task of making it happen, for instance, by identifying natural processes as an essential tool for achieving "favorable conservation status." Management concepts identified as part of the new Working Definition of European Wilderness and Wild Areas should be promoted.

2. Apex Species

Recognize the underestimated ecological and economical value of wildlife and the importance of ensuring its protection and continued comeback – So-called apex species play a critical role in the functioning of ecological systems. The disappearance or diminishing of (a) big predators, such as wolves on land, tuna and sharks in the oceans; (b) larger predators and fish in freshwater ecosystems, such as otter and salmon; and (c) larger herbivores, such as European bison, red deer, reindeer, moose, and beavers can generate extensive disruptions to trophic cascades in marine, terrestrial, and freshwater ecosystems. This "trophic

downgrading" affects functions and resilience of ecosystems and has negative impacts on biodiversity as well as contributes to the spread of infectious diseases, wildfires, carbon sequestration, invasive species, and biochemical cycles. Some of these species have shown a remarkable comeback in parts of Europe during the last decades, and we need to further promote this "upgrading" of European nature and ecosystems across the continent.

Since wildlife comeback sometimes leads to local conflicts (e.g., between wolves and livestock), different preventive measures should be applied together with new and innovative incentives for enhancing coexistence. In particular, large wildlife species also serve as inspiration and a tool for attracting people's attention and bringing visitors to natural areas, which also can serve as a source for revenue generation and sociocultural development.

3. Existing Wilderness

Ensure full protection of all existing wilderness areas across the European continent, both on land and at sea, as an immediate priority – Less than 1% of the European territory has been designated as wilderness, but larger areas still possess the essential qualities of wilderness yet remain without formal protection. Threats to these areas still mount, such as from forestry, farming, mining, hydropower development, and wind farms. It is a question of decency, moral obligation, heritage, history, identity, and significant economic and emotional value for a prosperous and healthy European society to ensure the strongest levels of protection of these areas for eternity using existing legal instruments at both national and international levels.

In addition, the need and opportunity for establishing a new European Wilderness Convention under the auspices of the Council of Europe should be explored, with increased commitment from states for the protection of wilderness landscapes, transboundary cooperation, and strengthened links to the Convention on Biological Diversity.

Figure 2. Wild Brown Bear in Bieszczady Mountains. Photo by Grzegorz Lesniewski, Wild Wonders of Europe.

4. Rewilding

Support the rewilding of Europe – Through abandonment of old, traditional farming systems in the less productive regions of Europe during the last decades in combination with significant wildlife comeback and an increasing demand to experience wildlife, wilderness, and wild nature, there is an unprecedented opportunity to let wild nature return at a large scale – rewilding. Rewilding needs to be recognized as an important tool for nature conservation along the entire "wildness scale," from city centers, via rural areas, to some of the wildest areas of the continent, including land, water, and sea. There exists a spectrum of opportunities, from simply letting nature take its course to actively rebuilding important, lost ecological functions, such as carnivory, herbivory, flooding, and many other natural processes. Active measures such as removing dikes along rivers and coastal areas, reintroducing species, and others are often needed for activating a successful rewilding process.

Hundreds of smaller and larger rewilding initiatives are already taking place or are planned in Europe. This movement needs support and serves as an important vehicle to realize A Vision for a Wilder Europe.

5. The Business Case for the Wild

Invest in businesses linked to the values of wild nature and wildlife – New jobs and economic developments can be generated from the "wild," which is still not a fully explored business opportunity in Europe. The potential has already been proven in many places across the world, particularly linked to wildlife watching, but is also starting to happen in some European countries. We need to support enterprise development based on wild

values and its associated multiplier effects in the wider economy. This provides a new opportunity for rural development across the whole spectrum from cities to the wildest corners of our continent (with nonextractive uses). In every case there should be a financial feedback mechanism in support of conservation of nature. However, care should be taken to ensure the primacy of wilderness, with ultimate decisions resting on ecological rather than commercial logic. We invite financial institutions, impact investors, businesses, and the private sector to help develop the Business Case for the Wild by sharing their knowledge, ideas, and interest regarding how to generate and provide capital and support to enterprises relating to wilderness and rewilding.

6. New Stewardship of Land, Water, and Sea

Invite and inspire land owners, communities, and managers of land/water/sea and natural resources to embrace A Vision for a Wilder Europe – Private lands dominate the European countryside, based either on long-held historical land rights or, more recently, land restitution in eastern Europe. The majority of farmland is private and so also are more than half of all forests, whereas in some countries the state is still the predominant owner of forest areas. Land in communal ownership is mainly in the minority but is nevertheless important. States have the jurisdictional rights of the national territorial waters. Hunting is permitted across much of Europe, with the exception of certain protected areas.

We invite landowners, managers, and communities to work together with the nature conservation sector to explore new benefit-sharing opportunities, including land easements, conservation enterprises, community conservancies, no-take fishing and hunting zones, and innovative commercial funding/financing mechanisms. As a step in this direction, a European Landowners Alliance for Wildlands and Nature will be established. For Europe, new conservation tools should be explored, such as community conservancies, which also could make landowners and resource managers less dependent on public subsidy systems.

People's interest in nature has resurfaced as a priority for society.

7. Financial Mechanisms

Inspire and invite all funding institutions to support this vision – Although the new management approach proposed by the vision will generate management efficiency gains, it is essential to maintain the rather limited financial and human resources available to European nature conservation and avoid further erosion at the national and European Union level. In addition, the European Commission-DG Environment and the Council of Europe are invited to apply the concepts of A Vision for a Wilder Europe when implementing the new LIFE Regulations for the period 2014–2020, using the three key elements: Basic Principles, Natural Processes, and the importance of apex species. The possibilities for local communities and entrepreneurs to explore the different socioeconomic concepts of the vision through rural and regional development funding lines should be promoted in partnership with private foundations and the corporate sector (public-private partnerships). Different market-based instruments, offsets, and various options for payment for ecosystem services are also to be explored.

By acting collaboratively and in unison, the first steps could be taken to realize the potential benefits of A Vision for a Wilder Europe. We also need to end those public subsidies, which maintain wasteful practices as well as threaten the management principles outlined in the vision.

8. Public Support

Reach out to larger constituencies across Europe through communications and education – During the last 20 years, the public interest and concern for the environment has declined dramatically in Europe, from a top-ranking position in the early 1990s to levels 11 and 12 during 2010 and 2012, respectively. The loss of biodiversity ("extinction of species, loss of wildlife and habitats") only ranks 10th among 15 important environmental issues. Unsurprisingly, the main concerns of European citizens are jobs and the economy.

Without a clear political mandate from voters, nature conservation is fighting an uphill battle. A communications campaign combined with educational material should therefore illustrate the advantages of A Vision for a Wilder Europe – how nature, people, jobs, and the economy can all benefit – with specific messages for different target audiences that utilize the most cost-effective communication tools.

9. Monitoring, Research, and Compilation of Existing Knowledge

Learn from existing knowledge, experiences, and new work – There is still much to be learned about

ecological processes and how they interact with different aspects of nature conservation. One such aspect relates to the concepts of apex species and trophic cascades and how to best use already-existing knowledge and lessons learned to advance the agenda of A Vision for a Wilder Europe. Other important aspects address the critical interface between conservation and socioeconomic developments. The experiences gained from new and ongoing fieldwork will provide the possibility of creating a learning community, with landowners, science, land/sea managers, government agencies, NGOs, and others, for instance, in accordance with Article 18 of the Habitats Directive and Article 10 of the Birds Directive, and the Convention on Biological Diversity's Strategic Plan for Biodiversity 2011–2020.

Based on a wealth of already-published information on the historical richness of European nature and ecosystems, we can create an account of the potential for wilderness and rewilding to serve as inspiration and stimulate action.

10. Leadership and Strategy

Promote the new conservation vision to key constituencies and develop an action strategy – Strong leadership is required to engage different constituencies, covering various facets of society: political leaders; NGOs; corporate sectors; communities; cities; landowners; managers of land, water and sea; researchers, and so forth. The European Union and the Council of Europe play a particularly important role and are invited to use and promote this new conservation vision. Key issues to be communicated in relation to A Vision for a Wilder Europe include halting the loss of biodiversity, creating more cost-effective conservation-management systems, allowing the development of more robust and resilient ecosystems that are less vulnerable to impacts such as climate change, providing better ecosystem services, and offering new economic opportunities across the whole spectrum of human communities, from cities and rural areas to the wildest parts of the continent.

We invite IUCN-Europe to develop guidelines, strategy, and policies for A Vision of a Wilder Europe, working in close collaboration with the wilderness conservation and rewilding movement – with concrete targets, expected results, and measurement of success.

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majority), they have very little access to support. This obviously affects their overall state of mind and commitment to the job. In addition, with our most recent graduate intakes we have discovered that varying degrees of sexual harassment and intimidation is experienced.

Umzi Wethu Program Outcomes

The UW Vocational Academy program has received three international or local awards:

- 2008 Rolex Laureate Award for Enterprise Development
- 2011 Schwab Foundation Award for Social enterprise Development
- 2011 Ernst & Young World Social Entrepreneur of the Year Award

The UW Vocational Academy program has graduated 212 young people from the Hospitality and Conservation Academies (see Figure 2). Ongoing monitoring of graduates reveals that 85% have been placed in jobs after the one-year comprehensive intervention, 95% of graduates currently employed have retained their job, and more than 10% of graduates have advanced to middle management positions.

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Return of the Paleolithic Diet

Large Herbivores of Atapuerca Make a Comeback

BY BENIGNO VARILLAS

Paleolítico Vivo

Aurochs, tarpans, bison, deer, mountain goats, wild asses, wolves, and, hopefully in the future, bears, lynx, and bearded vultures along with other species, are returning to life in the area surrounding the site of Atapuerca, in the Spanish province of Burgos. Prehistoric humans' enormous hunting ground can be seen from the caves where they once lived. This is a natural corridor from the valley of the river Arlanzón at Ibeas de Juarros, then goes up through Salgüero, crosses Urrez, and follows on into the Sierra de La Demanda. It consists of a series of pastures and oak woods that continue for 30 kilometers (18.6 miles) in which a project has started to bring back the large, wild herbivores – and especially human beings. The hill villages of La Demanda are almost completely depopulated. The few people who live in them year-round are mainly pensioners. Those who work with livestock amount to a couple of people in each village. Shepherds like those of the past, who slept with their flocks with guard dogs and moved pastures in summer and winter, are almost nonexistent.

Paleolítico Vivo is an initiative that seeks to enclose several thousand hectares of mountain terrain to breed large, wild herbivores of European origin. The land can be of public, communal, municipal, or private usage and is currently not exploited for livestock. An attempt is being made to identify the descendants of the fossils from paleontological excavations or descendents of the cave paintings from the area.

The location of this project is next to the site of Atapuerca and 30 kilometers (18.6 miles) from the Museum of Human Evolution in Burgos that is visited by 100,000 people annually. The goal is to stimulate public interest in the ancient world through the large, wild herbivores. Work is also being undertaken on promoting Paleolithic gastronomy, by helping restaurants offer "the menu of Atapuerca man," with meat from the original large, wild

Juan Luis Arsuaga, Fernando Morán, and author Benigno Varillas in the reserve of Palencia. Photo by Teresa Vicetto.

European herbivores – a diet that also includes fruit, berries, honey, mushrooms, root and green vegetables, grasses, algae, and fish. The Palaeolithic diet was a varied one, with only lactose and gluten being unknown.

The idea of breeding large, wild herbivores arose following the realization that many areas of Spain were gradually ending up with no grazing ground. The municipalities around Atapuerca in the province of Burgos were interested in the proposal to accept original European fauna in order to revitalize their rural world that was in decline. The neighbourhood committees agreed to cede several thousand hectares of territory to carry out a first phase of the project. International foundations from Poland, France, Holland, and Germany, which have been working on the recovery of large Eurasian wild herbivores for decades, offered support by sending animals to new territories in Spain and to help develop tourism and the commercialization of meat. It is important to underscore that the international support is due to the fact that in

Figure 1 – Przewalski's horses from Mongolia, the only wild horse close to the European tarpan that survived, released at Atapuerca. Photo courtesy of Benigno Varillas.

Spain, large areas of land have been designated for this initiative.

The proposal is open to every municipality that has semi-abandoned land available. Total livestock numbers in Spain comprise 6 million cows, 16 million sheep, 3.5 million goats, and an unknown number of horses, spread over some 30 million hectares (74.1 million acres). The total number of herders and cowherds has dropped drastically. Whereas before there were 100 cowherds with 10 cows each, now there are only 10 with 100 cows each. Sheep and goats have almost disappeared from the northern coastline of Cantabria, Asturias, and Galicia because they are seen as a very demanding workload for the absentee livestock owner of today.

Previously there was a herders for every 40 hectares (98.8 acres), and now those who remain are in charge of at least 400 hectares (988 acres). Where the terrain is accessible, they carry out their duties by four-wheel drive vehicles. With grants from the Community Agricultural Policy, the livestock owners buy bales of hay for forage and have no shepherds or cowherds in difficult areas. The result is that for the last 40 years, 10% of the terrain in Spain, which was previously used for grazing, has become scrubland. And by "previously," we do not mean the time before the mass urbanization of the last half-century but rather 8,000 years ago. When humans learned to domesticate and fill the world with domestic animals, there were already wild herbivores that kept the grazing land clear wherever the climate, altitude, and soil allowed, along with wildfire generated by lightning.

It is in those 5 million hectares (12.3 million acres) of now-abandoned grazing land where an attempt will be made to regain the ecological function of the large herbivores, previously wild, subsequently domesticated, and now made wild again. The reasons for doing this are many. The most obvious is to prevent vegetation – which evolved to grow under the grazing pressure of herbivorous animals – from growing out of control when some of these animals disappear and wild nature returns. When livestock are removed from an area, roe deer, red deer, chamois, mountain goats, fallow deer, wild sheep, and boars all increase in number, according to the specific vegetative zone. However, these small wild herbivores do not succeed in preventing the growth of the scrub vegetation. The number and weight of large herbivores is required so that the pastures are kept open (fewer shrubs) through trampling related to grazing. Otherwise, the shrubs will invade and it will be wildfire that will end up consuming this tangle of weeds and bushes when it becomes a flammable mass in the warm summer wind.

Goats and sheep have their equivalent among the small, wild herbivores; however, cows, horses, and asses no longer have a wild counterpart that can substitute for them and carry out their function in the ecosystems. Of the large, wild European herbivores painted on the caves of Spain and France, there only remained in Poland a small population of some 50 bison, from which the current population – numbering approximately 4,000 – was recovered (see Figure 2). In Mongolia, a small population of wild horses has survived until the present day. These are the Przewalski's horse (a cousin of the tarpan, which existed in Spain), of which there are some 1,500 or so left in the wild. The wild ancestor of the cow is the auroch, of the horse it is the tarpan, and of the ass it is the zebro. These ancestral animals all became extinct in Europe a couple of centuries ago through the actions of humans, who hunted them until none were left.

An experiment to re-create the auroch and the tarpan from domesti-

cated breeds that resemble them was begun in central Europe a century ago. However, the wild bull and horse did not become genetically extinct as was claimed because the genetic map of these two species shows that their genes survive in the DNA of the native breeds, principally in Spain and Portugal, which yield the highest level of genes of their European ancestors (see Figure 3).

The plan of Paleolítico Vivo goes beyond simply restoring wildlife (see Figure 1). It is also intended to bring back human life – not only with tourists on weekends who do not really revitalize villages – but also with a permanent population. This rural development initiative envisages that people stimulated by this project and by participating in it will take control of the wildlife and become settlers in the new Biolithic villages.

Biolithic

I first heard the word *Biolithic* used by Félix Rodríguez de la Fuente to refer to the era following the Neolithic. The Biolithic is the current period during which sustainable development has been put in motion, as demanded by scientists participating in UNESCO's Man and Biosphere Program (1968), the Stockholm United Nations Conference (1972), IUCN, WWF, PNUMA's World Strategy for Conservation (1980), the United Nations Rio de Janeiro Conference (1992), or the most recent scientific reports issued by the Climate Change Panel of the Kyoto Protocol.

A Biolithic person is someone who lives in the countryside integrated with nature, who respects the environment, who minimizes his/her ecological footprint, and whose growth is measured by his/her cultural, creative activity and state of contentment, not by the accumulation of material possessions. However, this does not imply returning to a rural life of times gone by (which really has no following nowadays and is expensive to maintain artificially) but rather to promoting a new model of a rural world in the information age. To rewild humans (*Homo sapiens*) implies working on the new mental architecture of the future, which encourages free men and women who are independent, enterprising, self-sufficient, and at the cutting edge of information and new technology use.

Félix Rodríguez de la Fuente, who died in 1980, bequeathed to us a number of National Radio of Spain programs in the *Adventure of Life* series, recorded in his unmistakeable voice. From these, we may take a message, which is of great interest today because of its innovative vision linking Paleolithic people's mentality with what people of the future should have:

> The man of the glorious Palaeolithic age had a profound respect for nature. He was completely integrated. His ethics and his morals, and I would go so far as to say his religion, were ecological. However, Neolithic man, who stopped being a nomadic hunter and who ceased to be someone who lived by gathering the fruit of the earth, to become a shepherd and a farmer, lost his respect for the earth, got off the ecological train and allowed himself the luxury of becoming the first species which really broke the ecological rules of the planet which supports them.
>
> Our religions are Neolithic, our philosophies are Neolithic, our politics is Neolithic. I believe that the great break up of man with the sacred pact which he had with nature, which happened 8,000 years ago has still not been rectified, but I feel that we are beginning to break the chains of the Neolithic age. There are philosophical and political movements, involving man acting alongside nature, which are beginning to attract attention, stating: not everything can be an abuse of nature, not everything can be

Figure 2 – A European bison in the Polish forest of Bielowieska, where 1,500 of them roam free. Photo courtesy of Benigno Varillas.

Figure 3 – Retuerta horses running in the Doñana marshes. Photo courtesy of Benigno Varillas.

> about taking advantage of nature without giving anything back in return, because if we carry on with this Neolithic behaviour, ahead of us lies an abyss.

Félix Rodríguez de la Fuente stated the above in 1977 in his radio program. Three and a half decades later, we are still without proposals to overcome the crisis, the inherent conflicts caused by demographic growth, consumerism, and waste of energy and resources. The Paleolítico Vivo project proposes managing the environment so that humans regain the concept of what is free, by applying information from society and a networked world. This is the end point to which all the efforts of the Paleolítico Vivo project are directed.

De-domesticating Humans

Paleolítico Vivo is part of an information society using cutting-edge thought processes that galvanize activity connected by teleworking and new technologies – crucial for the economic viability of this plan – and linked to the production of meat, tourism, and culture. Half a million large herbivores and 10,000 people involved in their management could be contained within the 5 million hectares (12.3 million acres) of former grazing area in Spain that has been abandoned as scrubland. If we extend this model to the area designated as the Natura 2000 network in Spain, we are talking about 15 million hectares (37 million acres) and 30,000 people, who could live in progressive communities within a society based on information and knowledge, producing food and wildlife.

Conservation needs to – and must – make this qualitative leap and move from a policy based on the current, defensive model of everything as the responsibility of the state, to a sustainable model, based on a social fabric of "producer of biodiversity," adapted to current needs, which avoids the unnecessary growth of nonproductive environmental administration. The new inhabitant of the rural environment will have to generate an economy similar to that which the Law of Sustainable Rural Development terms "multifunctional." Within the Paleolítico Vivo proposal, it is envisaged that income will be derived from:

1. Teleworking, with activities carried out through Internet and new technologies.
2. Production of meat and other foods for a "paleolithic gastronomy."
3. Tourism linked to Paleolithic sites and caves with paintings.
4. Hunting of wildlife when and where present in numbers beyond the carrying capacity.
5. Multimedia production related to broadcasting on television, radio, and Internet.
6. Follow-up of wildlife and research into the process of de-domestication.
7. Monitoring and management of wildlife and wilderness.
8. Payments for the provision of environmental services to develop wildlife and care for natural resources.

De-domesticating Livestock

De-domesticating livestock consists of allowing the animals to live in a space big enough to maintain structured herds or flocks, without any additional feeding other than that necessitated by extreme environmental situations such as during heavy snowfalls or summer droughts. However, during the rest of the year, they are allowed to roam free, so that although their meat production may be less and indeed some may die, the better-adapted animals survive and indeed the losses are considered as a positive form of selection and food provision for scavengers, in particular those species under threat of extinction, such as the

Egyptian vulture, the bearded vulture, or the bear.

Dutch researchers who are drawing the genetic map of the auroch and the tarpan claim that of the European race of cow and horse, many native Spanish breeds, such as the Sayaguesa of Zamora, the Tudanca of Cantabria, the Limia in Orense, or the Pajuna of the Sierra Morena, possess the greatest number of genes from the auroch and the tarpan of all breeds analyzed – just like the native horses of the north of Spain. In one area of Asturias, they have observed how a herd of the ancient breed of Asturcón horses, who live on a nine-hectare (22 acre) estate right in the middle of bears' and wolves' territory, manage to raise their young, without predators succeeding in carrying them off. The same has been observed with donkeys in Zamora and with cows in Portugal.

Paleolithic DNA

The cave of Moratina is situated in the north of Spain, near where I was born in Tudela Veguín, Asturias, by the river Nalón. There is the figure of a wolf in this cave, which was carved on a stone plaque 12,000 years ago. Within 140 kilometers (87 miles) are the caves of Candamo, Tito Bustillo, and Altamira – all these caves are full of cave paintings, as are many of the 150 caves in Spain where remains of Palaeolithic humans have been found.

I wonder how many of us who live in Spain have genes coming from those who, between 12,000 and 15,000 years ago, painted the medallion of Tudela Veguín, the roof of the cave of Altamira, and the walls of other caves in the north of Spain; and whether the blood of those who revered the bison, horses, deer, aurochs, and other animals they hunted and painted with such admiration, runs through our veins;

In order not to become extinct, it is necessary to be sustainable.

and whether they are also our ancestors. Or do we only originate from those who came from the Orient with goats, sheep, and cows 4,000 years later, to discover the technique of domesticating animals, allowing them to conquer the world.

The Magdalenian period (16,500–10,800 years BP) was the culmination of the culture of the human hunter-gatherer groups of western Europe in the upper Paleolithic era. It generated the greatest concentration of known cave art in the world. Half of the Paleolithic settlements, of which around 50% have prehistoric art painted on their walls, are situated in Spain, with the other half in France.

The Haplogroup R1b, which, according to the experts, comes from the Upper Paleolithic era, predominates in the DNA of 70% of Spaniards. We maintain the bloodline of the first settlers, alongside an important Celt Iberian inheritance. Apparently, Phoenicians, Carthaginians, Greeks, Romans, Jews, Visigoths, and Arabs did not substantially change the genetic composition of the original Iberian population. The contribution of the races who mixed with the people that were left from the Paleolithic era may have been more cultural than genetic.

Why is it important to look back to the Paleolithic era? If in Europe the Paleolithics and the Neolithics were not been separated, it would perhaps explain why in each family or each village, there is almost always someone who is the "animal lover," the "bird fancier," who is drawn to nature, whom we now might call the ecologist. It may be that this quirk comes from the fact that occasionally, when a child is conceived, in the lottery of a couple's chromosomes there is a higher concentration of DNA of Upper Paleolithic humans – those Magdalenian artists who, after tens of thousands of years living under the law of evolution, now have a predisposition embedded into their genetic code something scientists are today discovering: in order not to become extinct, it is necessary to be sustainable.

BENIGNO VARILLAS is the director of the Paleolítico Vivo project, a promoter of teleworkers' villages, and a producer of wild fauna; email: benigno.varillas@gmail.com.

Announcements

COMPILED BY GREG KROLL

European Wilderness Society Is Launched

The European Wilderness Society (EWS) is a new entity that strives to increase as well as better protect wilderness in Europe. Registered in Austria, the society aims to build on and continue partnerships with other organizations and incorporate expertise from other fields, including tourism experts, scientists, business management specialists, and wilderness advocates.

The following organizations have already joined EWS: Wildland Research Institute (linked to the University of Leeds), Wild Europe, Wilderness Foundation UK, Die Medien Werkstatt (a public relations agency), Travel2Wild (a travel company), and Lumina Consulting (a policy consultant based in Brussels).

The EWS website (www.wilderness-society.org) is a one-stop shop for information about European wilderness. A biweekly newsletter is produced and the society welcomes articles, blogs, and wilderness-related research papers from its members. All protected area managers, organizations, NGOs, and individuals with a commitment to European wilderness are encouraged to join this movement.

U.S. Forest Service Announces 2013 National Wilderness Award Recipients

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

- **Bob Marshall Award, External Champion of Wilderness Stewardship** was presented to Bill Hodge of the Southern Appalachian Wilderness Stewards for his overall contributions to the Chattahoochee-Oconee National Forest Wilderness Program, including bringing veterans and underserved youth to wilderness for life-changing experiences.
- **Bob Marshall Award, Internal Champion of Wilderness Stewardship** was conferred upon Justin Preisendorfer of the White Mountain National Forest. Among other contributions to wilderness management, he worked with the Draft Animal Powered Network to remove six tons of bridge components from wilderness using draft horses over snow.
- **Bob Marshall Award for Group Champion of Wilderness Stewardship** went to Ian Nelson and the Pacific Crest Trail Association for mobilizing volunteers for trail maintenance and organizing an annual Trails Skills College that trains volunteers in a variety of topics.
- **Bob Marshall Award for Partnership Champion in Wilderness Stewardship** recognized McKenzie Jensen and the Mt. Hood National Forest Wilderness Stewardship Program, in which frequent wilderness users devote time and effort toward wilderness protection in lieu of use limits.
- **Traditional Skills and Minimum Tool Leadership Award** honored Ron Taussig, White River National Forest, for his 36 years on the Blanco Ranger District teaching primitive skills such as horse packing, crosscut saw use, and Leave No Trace techniques to seasonal employees and volunteers.
- **Wilderness Education Leadership Award** was presented to Tim and Barbara Lydon, wilderness rangers at the Chugach National Forest, for promoting and preserving Alaska's wilderness character by partnering with numerous individuals and organizations.
- **Excellence in Wilderness Stewardship Research Award** went to Andrew Jacob Larson, R. Travis Belote, Courtney Alina Cansler, Sean Aaron Parks, and Matthew Deitz; to the Department of Forest Management, University of Montana; The Wilderness Society; School of Environmental and Forest Sciences, University of Washington; and the Aldo Leopold Wilderness Research Institute, Rocky Mountain Research Station. This collaboration of researchers

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

was recognized for their joint production of a publication pertaining to managing natural processes in wilderness.

- **Excellence in Research Application Award** recognized Laura Lopez-Hoffman, Darius Semmens, and Jay Diffendorfer, School of Natural Resources and Environment, Udall Center for Studies in Public Policy, University of Arizona, U.S. Geological Survey, Denver Federal Center. This collaboration of researchers was recognized for the production of an innovative study on the value associated with migratory species and wilderness.
- **Aldo Leopold Award for Overall Wilderness Stewardship Program** honored Steve Kimball, John Neary, Brad Hunter, Karisa Gardner, Jacob Hofman, Victoria Houser, Bill Tremblay, Teresa Hunt, David Rak, Geno Cisneros, Jennifer MacDonald, Lorelei Haukness, Dain Kelly, Kevin Hood, Rick Turner, Patty Krosse, Karen Dillman, and Marina Whitacre of the Tongass National Forest. These individuals conducted comprehensive wilderness character monitoring, including the establishment of a baseline for long-term sustainability of wilderness in the Tongass. The group also produced educational plans for all 19 Forest Service wilderness areas in Alaska.

In addition to the National Wilderness Awards, the U.S. Forest Service conferred two **National Wild and Scenic River Awards:**

- **Outstanding Stewardship of River Resources Award** went to California's Smith River Alliance. For more than 30 years, the alliance has partnered with the Forest Service in the protection, management, and stewardship of the 300-mile (500 km) Smith River Wild and Scenic River system, securing land acquisitions, prompting local river planning, and delivering river stewardship education to youth and local communities within the Smith River watershed.
- **Outstanding River Manager/River Ranger Award** recognized Heather Berg of the Clearwater-Nez Perce National Forest for her work administering conservation easements, managing a variety of recreation special use permits, and working with numerous partners to protect river resources. (Source: U.S. Forest Service, Washington Office)

Wilderness Land Trust Secures Last Inholding in Yolla Bolly-Middle Eel Wilderness

As the result of an extraordinary 10-year effort, the Wilderness Land Trust (WLT) has transferred to the U.S. Forest Service a 640-acre (260 ha) private inholding in the Yolla Bolly-Middle Eel Wilderness in California. The property was the last inholding in the 2006 addition to the wilderness area, which now contains 181,510 acres (73,500 ha) of rugged country at the headwaters of the Wild and Scenic Middle Fork of the Eel River. Six miles of the river flow through a deep canyon in the wilderness.

It took years of negotiations for the WLT to acquire the inholding, which contained a two-story, three-bedroom hunting "cabin" and barn, as well as a corral and artificial pond. Prior to acquiring this parcel, the trust bought and donated to the Forest Service two other inholdings in the Yolla Bolly owned by the same family. With the three parcels in government ownership, 15 miles (24 km) of road within the wilderness has been retired.

Just before the WLT prepared to transfer the inholding to the Forest Service, the 2012 North Pass Fire hit the property and burned all of the structures to the ground. As Reid Haughey, president of WLT explained, "This acquisition was plagued by fires all-around. Not only did the property devalue 15 percent overnight from the North Pass Fire, but the stress that firefighting put on the Forest Service budget the following year meant that we almost lost the funds Congress had set aside for the acquisition."

In addition to the challenges posed by the fire, the Wilderness Land Trust had to deal with illegal marijuana farming. "We had to arrange for a local monitor to regularly visit the land, because there had been a lot of illicit pot farming activity in the area and this property included flat secluded sites with water – a perfect environment for cultivation," Haughey explained. (Source: wildernesslandtrust.org)

David R. Brower Office Available to Conservation Writers

The International League of Conservation Writers has established the David R. Brower Office of Conservation Writing in Golden, Colorado, at Fulcrum Publishing. Available to writers who will be in the Denver area doing research and working on environmental writing projects, the office includes his desk, photos of Mr. Brower, and a small reference library. The length of stay is based on availability.

Nearby resources include the American Alpine Club, University of

Colorado, Colorado State University, Rocky Mountain Land Library, and regional offices of many conservation and government organizations including The Wilderness Society, Sierra Club, National Wildlife Federation, U.S. Forest Service, Bureau of Land Management, and the Clear Creek Land Conservancy. In addition, the Denver Public Library maintains archives of papers of many leading conservationists, including Arthur Carhart, Gordon Chappell, Dave Foreman, Edward Hilliard, Enos Mills, Olaus Murie, Sigurd Olson, Mo Udall, and Howard Zahniser. Numerous other pertinent conservation records are also located at the library. Interested individuals should apply at http://browerconservationwriting.org/apply.html.

New Chilean-Argentine Transboundary Conservation Area Created

Conservationist Doug Tompkins, co-founder of The North Face, has donated 94,000 acres (38,000 ha) to help create the newly formed Yendegaia National Park in the southern Patagonia region of Chile. The administration of President Sebstian Piñera (whose term ended in March 2014) augmented the new preserve with a donation of 275,000 acres (110,000 ha). The park is strategically located next to Chile's Agostini National Park and borders Argentina's Tierra del Fuego National Park. The name Yendegaia means "deep bay" in the indigenous Yámana language, referring to the adjacent Beagle Channel.

The portion of the Yendegaia property donated by Mr. Tompkins was owned by a jailed drug dealer until 1998, when Doug and his wife, Kristine Tompkins, created a Chilean nonprofit organization and gathered the necessary funds to purchase the land. Since founding his first environmental foundation in 1990, Mr. Tompkins has preserved an estimated 4 million acres (1.6 million ha) of wilderness, both in Chile and Argentina, according to the *Santiago Times*. (Source: panampost.com, December 17, 2013)

Ecuador Approves Oil Drilling in Yasuni National Park

The pioneering Yasuni ITT initiative has collapsed, dealing a devastating blow for activists who are trying to save one of the world's most biodiverse regions from development and pollution (*IJW* Digest, April 2010 and August 2012). The decision also dashed the hopes of climate campaigners who believed that the Ecuador plan could provide a model for other nations to resist the lure of oil money and avoid fossil fuels exploitation.

The Ishpingo-Tambococha-Tiputini (ITT) initiative, set up in 2007, promised to leave oil in the ground if half of the $7.2 billion value of the petroleum reserves could be raised by the international community by 2023. But Ecuadorean president Rafael Correa claims the initiative is a failure due to the lack of foreign support, as the trust fund set up to manage the initiative has received only $13 million in deposits, a tiny fraction of the $3.6 billion goal. "The world has failed us," Correa said. "I have signed the executive decree for the liquidation of the Yasuni-ITT trust fund and with this, ended the initiative. It was not charity that we sought from the international community, but co-responsibility in the face of climate change."

Polls show that between 78% and 90% of Ecuadoreans are opposed to drilling in this sensitive region. As a result of the president's decision, the Confederation of Indigenous Nationalities, the Confederation of People of Kichwa Nationality, the Confederation of University Students, and environmental organizations such as Acción Ecológica have presented a proposal for a referendum to the constitutional court. They will need to collect 584,000 signatures – 5% of all registered voters in the country – in support of the petition. Voters would be asked, "Do you agree that the Ecuadorean government should keep the crude in the ITT underground indefinitely?" President Correa has urged people to collect the signatures, saying he is sure that his own proposal to extract crude from Yasuni would win in a referendum. (Sources: *The Guardian*, August 16, 2013; Inter Press Service, August 24, 2013)

United States Loses Voting Rights at UNESCO

America's ability to exercise its influence in countries around the world through the United Nations' education and aid programs has been greatly diminished. The United States has lost its vote at UNESCO (United Nations Educational, Scientific and Cultural Organization) two years after cutting off its financial contribution to the organization due to the admission of Palestinians as full members. Among many other programs, UNESCO certifies World Heritage sites around the globe.

Under UNESCO's constitution, any country that fails to pay dues for two years loses its vote in the general assembly. "I deeply regret this," said Irina Bokova, UNESCO's director general. "This is not some kind of punishment on behalf of UNESCO for nonpayment. It's just our rules. We've lost our biggest contributor;

this has a bearing on all our programs." The United States has been involved in the organization since 1945.

Before withdrawing its financial support, the United States provided about $70 million, or 22% of the agency's annual budget. Without that funding, some UNESCO staff members have been laid off and programs and projects have been delayed. An emergency fund has received contributions from Saudi Arabia, Qatar, Norway, and other countries, but it is unlikely similar funding will be forthcoming in the future, according to Ms. Bokova. (Source: *New York Times*, November 8, 2013)

Joshua Tree National Park Expresses Concern over Proposed Solar Power Project

The U.S. Bureau of Land Management (BLM) has issued a Draft Supplemental Environmental Impact Statement (DSEIS) for the proposed Palen Solar Electric Generating System (PSEGS) project adjacent to Joshua Tree National Park (NP), California. Seventy-five percent of the park is designated wilderness, encompassing 595,000 acres (240,000 ha). PSEGS proposes constructing and operating two 750-foot tall (230 m) solar power towers on the site.

In comments addressed to the BLM, the National Park Service (NPS) expressed greatest concern over "the potential significant adverse impacts to the day and night views from Joshua Tree NP, and the potential for significant adverse cumulative impacts due to development proposed and occurring in the surrounding areas."

A survey conducted by Joshua Tree NP in November 2010 identified the most important protected attributes valued by park visitors. Unobstructed views, starry night skies, and natural darkness were among the high-ranking attributes identified. The NPS is concerned that not only are natural lightscapes critical for nighttime scenery, such as viewing a starry sky, but are also critical for maintaining nocturnal habitat. Many wildlife species rely on natural patterns of light and dark for navigation, to cue behaviors, or to hide from predators. And in a cultural sense, human-caused light may be obtrusive in the same manner that noise can disrupt a contemplative or peaceful scene, according to the NPS comments.

In planning meetings between the NPS and BLM, five locations were presented by the NPS that would have more effectively addressed the areas of concern as they relate to the park, but none of the recommendations were assessed in the DSEIS.

Other concerns expressed by the NPS are the effects of the red-and-white hazard lighting that is currently required by the Federal Aviation Administration, the impact to air quality that the project's natural gas use could cause, the impacts to bird species due to solar flux from the project, and the unaddressed routing of power transmission lines. (Source: letter from NPS Pacific West Region Regional Director, Christine S. Lehnertz, to Frank McMenimen, BLM Project Manager, Palm Springs, California, dated November 19, 2013)

Sahara's Wildlife Suffers Catastrophic Collapse

According to a study published in the journal *Diversity and Distributions* and led by the Wildlife Conservation Society and Zoological Society of London, the Sahara has suffered a catastrophic collapse of its wildlife populations. The study by more than 40 authors representing 28 scientific organizations assessed 14 desert species and found that half are regionally extinct or confined to 1% or less of their historical range. The causes of these declines are unclear, although overhunting is likely to have played a role.

The study found the Bubal hartebeest is extinct, the scimitar horned oryx is extinct in the wild, and the African wild dog and African lion have vanished from the Sahara – the world's largest tropical desert. The dama gazelle and addax are gone from 99% of their range, the leopard from 97%, and the cheetah from 90%. Only the Nubian ibex still inhabits most of its historical range, although it is classified as vulnerable due to numerous threats, including widespread hunting.

"The Sahara serves as an example of a wider historical neglect of deserts and the human communities who depend on them," said the study's lead author, Sara Durant. "The scientific community can make an important contribution to conservation in deserts by establishing baseline information on biodiversity and developing new approaches to sustainable management of desert species and ecosystems."

On a more positive note, some governments have recently made important commitments to protecting the Sahara. Niger has recently established a 37,000-square-mile (97,000 square km) Termit and Tin Toumma National Nature Reserve, which harbors most of the world's 220 remaining wild addax and one of the few surviving populations of dama gazelle and Saharan cheetah. In

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Book Reviews

JOHN SHULTIS, BOOK REVIEW EDITOR

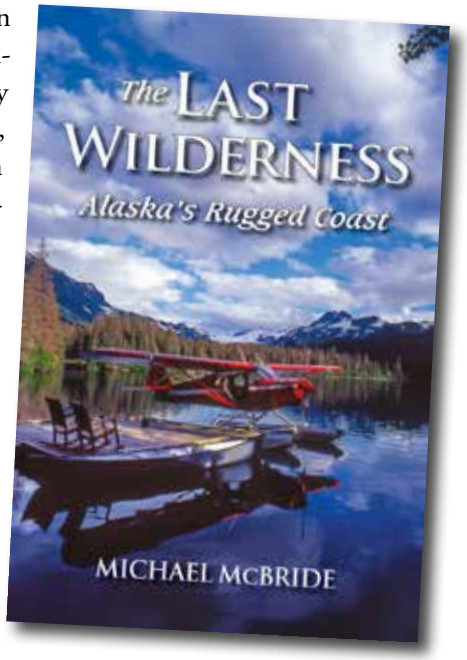
The Last Wilderness: Alaska's Rugged Coast

By Michael McBride. 2013. Fulcrum Publishing. 233 pp. $27.95 (hc)

This is a story to touch the heart and soul of wilderness lovers everywhere. It is the unfolding story of Michael and Diane McBride's 1960s dream to acquire the skills and resources, one hands-on Alaskan job after another, to build a life in a remote setting and "live deliberately in nature." The dream comes true at isolated China Poot Bay, across dangerous open water from Homer on Alaska's rugged Coast, also the prior site of an ancient Native village, so old that archeological digs discovered evidence 20 feet (7 m) deep. Here they would raise and homeschool their two children and live primarily off the land – gardening, clamming, hunting, and fishing – and create the now world-renowned Kachemak Bay Wilderness Lodge.

With meager savings and a mortgage, they buy vacant land with a few deserted cabins at China Poot, surrounded by primal spruce forest overlooking a bay and estuary flooded and exposed daily with up to 20-foot (7 m) tides. There, in November 1969, they move into an unfinished deserted cabin without even a boat or radio connecting them to civilization. But needing more money, it was back and forth to Homer to work for pay to buy materials to complete a home, and rustic but comfortable facilities to attract paying guests who would value an experience of wild nature as they did. Michael worked on the cabin whenever possible, but also at carpentry jobs in town, on crab and salmon fishing boats, and as a bush pilot and hunting guide. With an addition to their cabin finally built they hosted their first guests, two fellow Alaskans who went on to found Alaska Airlines, and who were soon followed by other influential clients, who told their friends and colleagues about their unique experiences.

Inspired to expand their coastal estuary location at China Poot with a subalpine lake wilderness setting, they built a unique fly-in cabin for clients at remote Loonsong Lake, deep in the Kenai Mountains in the Valley of Four Glaciers, offering "more than a take-your-breath-away-scenery." This place also became the "axis" of Michael and Diane's own hearts. In 1978 they established the equally unique Chenik Bear Camp and environmental programs near the now-famous McNeil River Brown Bear Sanctuary. In 10 chapters their 50-year journey is described – "Crossing the Bay," "How It All Started," "The First Few Years," "Raising a Family," "Loonsong," "Apanuugpak – The Native Connection," "Chenik Bear Camp," "Of Flights and Waves," "Beneath Cold Waters," and "Looking Back."



Woven into the story are exciting descriptions of narrow escapes, rescues, accidents, and dangerous events both experienced and avoided. By mid-journey their facilities and environmental programs were touted as a model for ecotourism everywhere and were attracting environmental leaders, rich and famous clients, and worldwide publicity in news, travel, TV, and film media. Michael, already an Alaskan environmental leader, began receiving national and international recognition and responsibility, becoming a member of the Explorers Club, a Royal Geographic Society Fellow, and a National Smithsonian Institute and Wild Foundation Board member. He joined LightHawk-Volunteer Pilots Flying for Conservation in America, and helped establish The Batteleurs, a similar organization in Africa.

Michael and Diane's story is exciting and compelling. Reading it out loud, their dream became our dream – a human dream – to be a pioneer, to live close to nature, to work hard, find a way, and overcome great odds. And we often reread treasured phrases and paragraphs describing wilderness experiences, scenes, and conditions with exceptional richness and poetic clarity. This imparted a sensual reality and delight to the descriptions of, for example: the awesome grandeur of the mountains and glaciers; wild-flowered meadows; qualities of water, silence, darkness, and starlight; intense cold melting away to a welcoming fire; swimming with the salmon; and surreal descriptions of Alaska's underwater wilderness.

We love wilderness and have tried ourselves to describe what its qualities and experience of them can mean. Here is a book that accomplishes that for us. Opportunities such as those Michael and Diane McBride found are scarce now, as they did experience some of "The Last Wilderness." But here is a wilderness story we can engage in as if it were our own.

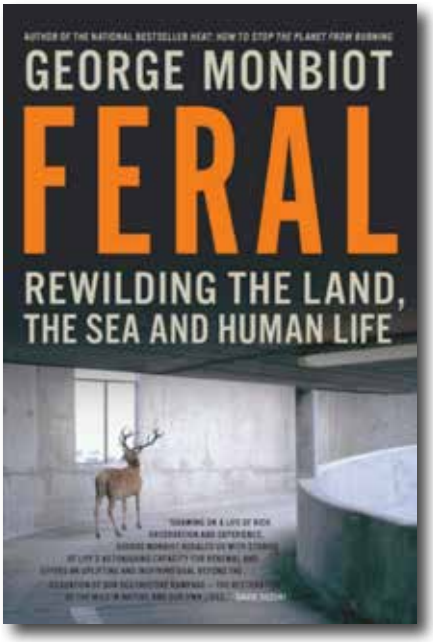
REVIEWED BY JOHN HENDEE, editor in chief emeritus of *IJW* and WILD Foundation board member; email: john@wild.org; and MARILYN HENDEE, retired wilderness experience program guide and leader.

Feral: Rewilding the Land, the Sea, and Human Life

By George Monbiot. 2013. Allen Lane, Toronto. 331 pp. $29.95 (hc).

George Monbiot is an English writer and journalist who, in his distinguished and very controversial career, has routinely challenged global environmental and political practices. In previous books, he has covered such topics as climate change, the anti-environmental practices of global organizations such as the World Bank, the impacts of forced migrations through African conservation efforts, and the corporate takeover of Western democracy. These issues are also blended into *Feral*, his most recent book, which critiques the traditional practices by land management agencies in the United Kingdom.

Monbiot uses the concept of rewilding to achieve two purposes. First, he believes it will allow moribund ecological processes to be reintroduced into UK ecosystems. Indeed, he suggests that "the species we have chosen … to protect are often those associated with damaged and impoverished places" (p. 222). As a result, people in the UK "live in



a shadowland, a dim, flattened relic of what there once was, of what there could be again" (p. 89). Second, due in part to living in such a sickened landscape, an "ill-defined longing" for a wilder life, which he calls "ecological boredom" (p. xv) has been created. This state is also created by the lack of large mammals: "The absence of monsters forces us to sublimate and transliterate, to invent quests and challenges, to seek an escape from ecological boredom" (p. 139). Rewilding will thus not only restart long-dead ecological processes but will allow humans to engage with a more self-willed (though not wild) landscape.

To Monbiot, rewilding is not so much an attempt to restore an ecosystem to a prior state, but more simply to "permit ecological process to resume" (p. 8); it is also "about resisting the urge to control nature and allowing it to find its own way" (p. 9). He also stresses that rewilding must be a democratic process, done only "with the consent and enthusiasm of those who work the land" (p. 12).

Feral is as controversial as his previous works. He is very critical of the existing economic and political systems in place in the UK that maintain the status quo of damaged monocultural ecosystems. The use of farming and fishing subsidies to support existing agricultural and fishing practices is particularly challenged. The impact of sheep on the UK landscape also comes in for particular attack: one suspects that John Muir, who called sheep "hoofed locusts" would have found Monbiot a kindred spirit!

Monbiot is a wonderful, powerful writer, using his life experiences around the world and meetings with various people to help describe and

shape his suggestions for rewilding the UK and creating a new human relationship with landscapes. *Feral* provides both a devastating critique of current land management practices as well as a positive vision of how we can reignite moribund ecosystems and humans by allowing ecological processes to take their own course.

REVIEWED BY JOHN SHULTIS, book review editor of the *IJW* and associate professor in the Ecosystem Science and Management Program at the University of Northern British Columbia (john.shultis@unbc.ca).

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Chad, the scimitar horned oryx may be reintroduced in the wild in the Ouadi Rimé-Ouadi Achim Game Reserve, with the support of the government. (Source: *Science Daily*, December 3, 2013)

Peru Attempts to Promote Climate Change Tourism

At 16,000 feet (5,000 m) in elevation, Pastoruri glacier once attracted up to 100,000 tourists per year to Peru's Huascaran National Park. One of more than 700 Peruvian glaciers, Pastoruri has shrunk in half during the last 20 years and now spans only one-third of a square mile (0.9 square km). Peru is home to 70% of the world's tropical glaciers.

In an attempt to attract a seriously dwindling number of tourists to the site, nearby towns are now promoting Pastoruri as a place to see climate change in action. But only 34,000 visitors decided to partake of "the climate change route" in 2012, as the trip has been rebranded. National park officials say the route aims to inspire, not depress. For example, they point to lichens and mosses that have managed to thrive in the oxidized puddles at the foot of Pastoruri. However, local guide Valerio Huerta says, "There isn't much left of our great tourist attraction. Tourists now always leave totally disappointed."

The change in visitation has been devastating to the local communities. About one-quarter of the people who live in and around the Cordillera Blanca, where Huascaran National Park is located, depend on glacier tourism. Travel agencies have gone out of business and small-time food vendors are losing their only source of income. According to Marcos Pastor, who works for the state agency charged with protecting natural sites, "Tourism is one of the few economic activities in Peru that distributes money directly to locals." (Source: Reuters, November 10, 2013)

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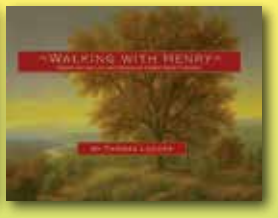

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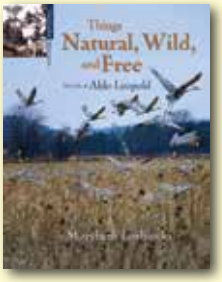

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Marybeth Lorbiecki

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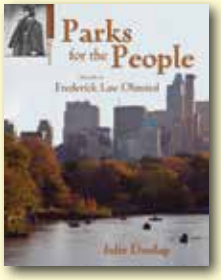

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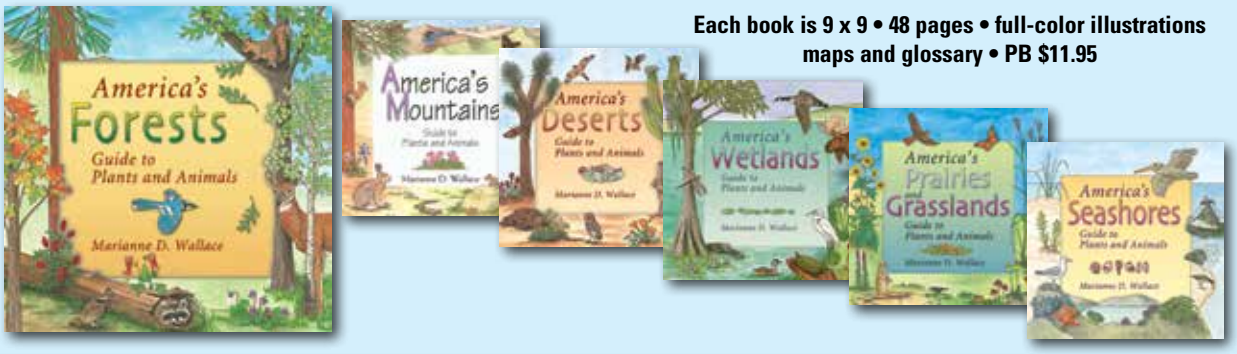

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