

The George Wright Forum

The GWS Journal of Parks, Protected Areas & Cultural Sites

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On the cover: Students from around the USA met to consider fresh directions for the National Park Service at the inaugural George Wright Society Student Summit, held July 2016 in Glacier National Park, Montana. Their perspectives are presented in a series of articles beginning on p. 14. Photos courtesy of the Student Summit participants.

SOCIETY NEWS, NOTES & MAIL

Palmer takes over as GWS Executive Director

Jennifer Palmer, a conservation scientist, educator, and wildlife biologist, is the new Executive Director of the George Wright Society. Her appointment follows an extensive search by the Board of Directors to find a leader to succeed David Harmon, who stepped down in April after 27 years with the Society, 19 of them as Executive Director.

“Finding a new leader to fill Dave’s shoes was never going to be an easy task, but we feel very lucky to have found someone with Jennifer’s cross-cutting background and expertise in conservation science, education, communications, and biology,” said GWS President Nathalie Gagnon.

Jennifer has worked across the U.S. and internationally in more than 35 countries, and has an astounding record of success with more than 15 years working with organizations such as the International Union for Conservation of Nature (IUCN), NOAA, The Ocean Foundation, and the WILD Foundation. A prestigious Kinship Conservation Fellow who has worked with luminaries such as Dr. Sylvia Earle, Jennifer is also the founder of Women for Wildlife, an initiative committed to promoting women as leaders in the fields of conservation and wildlife biology.

“I am thrilled to join such a premier organization of leaders and experts devoted to natural and cultural resource management, research, protection, and interpretation across North America and the world,” said Jennifer on her appointment. “I look forward to serving our remarkable membership and building new partnerships in this diverse and inspiring community.”

Dave will be staying on with the Society on a part-time basis, dedicated to advancing specific projects, while our Membership and Conference Coordinator, Emily Dekker-Fiala, will continue to support the Society in her existing role.

As part of this transition, Jennifer will also be relocating the George Wright Society from Michigan to the San Francisco Bay Area. She has established an executive office there, but for the time being the GWS mailing address and telephone number remain the same.

Over 350 gather in Virginia for the GWS2017 Conference

“Connections Across People, Place, and Time,” the 2017 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites, drew over 350 people to Norfolk, Virginia, the first week of April. The nineteenth in a series of conferences whose origins go back to 1976, GWS2017 featured three plenary sessions, over eighty two-hour concurrent sessions, a four-day poster session, field trips, and several special events. A conference proceedings is planned as a record of the meeting.

Once again, planning for the program was complicated by uncertainties in how many National Park Service employees would be allowed by the Department of the Interior to attend. This is an issue that has affected the last three biennial conferences. For GWS2017, NPS originally requested funding that would have allowed about 275 of its employees to attend. However, Interior twice asked for reductions in the number of NPS employees partic-

ipating. In the end, about 70 NPS personnel attended (a 75% reduction). With no prospect for changes anytime soon to the Department of the Interior conference approval process, the GWS Board of Directors will be reviewing the future of our biennial conferences to see if there are changes we can make to alleviate these complications.

Call for nominations, 2017 GWS Board of Directors election

Each year, two seats on the Board of Directors come up for election. This year, the seats are held by David Graber and Lynn Wilson. While Graber is eligible for a second three-year term he has indicated that he will not run again. Wilson is reaching the end of her second three-year term, and so is ineligible to run again. We are now accepting nominations of GWS members who would like to join the field of candidates. The term of office runs from January 1, 2018, through December 31, 2020. Nominations are open through July 21, 2017.

The nomination procedure is as follows: members nominate candidates for possible inclusion on the ballot by sending the candidate's name to the Board's nominating committee. The committee then, in its discretion, determines the composition of the ballot from the field of potential candidates. Among the criteria the nominating committee considers when determining which potential candidates to include on the ballot are his/her skills and experience (and how those might complement the skills and experience of current Board members), the goal of adding to and/or maintaining the diversity on the Board, and the goal of maintaining a balance between various resource perspectives on the Board. It also is possible for members to place candidates directly on the ballot through petition; for details, contact the GWS office.

To be eligible, both the nominator and the potential candidate must be GWS members in good standing (it is permissible to nominate one's self). Potential candidates must be willing to travel to in-person Board meetings, which usually occur once a year; take part in Board conference calls, which occur several times per year; help prepare for and carry out the biennial conferences; and serve on Board committees and do other work associated with the Society. Travel costs and per diem to the annual Board meeting are paid for by the Society; otherwise there is no remuneration.

To propose someone for possible candidacy, send his or her name and complete contact details to: Nominating Committee, George Wright Society, P.O. Box 65, Hancock, MI 49930-0065 USA, or via email to info@georgewright.org. All potential candidates will be contacted by the nominating committee to get background information before the final ballot is determined. Again, the deadline for nominations is July 21, 2017.

Letter to the Editor: What NPS's second century should be

Dear Forum Editor:

I enjoyed the National Park Service Centennial Essay Series. I found it mostly thoughtful and informative, sometimes even provocative. Thank you for creating a platform from which disparate voices could express their concerns and ideas. The final essay, however, with its 76-word concluding sentence, looked backward at what had been written before without

clearly addressing where the National Park Service should go. Reading the same series, I came instead to this conclusion:

A Second Century of a Special Organization

The future of the National Park Service lies in finding the core of the job and focusing on that. Every park and program is geared toward preserving and presenting an element of the complex cultural mix that America has been, is, and will become. It embraces the story of a growing and changing nation.

The Park Service directly manages those spaces that represent aspects of America's natural and cultural landscape that contributed most dramatically to the evolving nation. They include spectacular lands, properties that exemplify the powerful and the typical, the glorious and the inglorious. They recall mistakes and successes. They illustrate a past—landmarks of human and natural history—that sets standards for a future.

Perhaps more valuable are the community programs. In every corner of the country, they offer money and advice to help create local parks, keep history alive by re-imagining the future of our built environment, stimulating development of a vast network of trails, encouraging public and personal fitness, giving new life to communities in decline, or simply preventing destruction of local legacies of land or buildings. These programs give towns and neighborhoods a direct stake in keeping their own legacy and building on it, rather than merely replacing it on some erratic cycle of politics or economics.

In a series of essays, various writers have contemplated aspects of what has been accomplished and how to both build on the successes and correct the mistakes.

Where will the National Park Service take the people in the next hundred years? Forward. Where is that? Where it can inspire each new generation with what has been done and, therefore, shape their understanding of what standards and benchmarks they can raise.

Landscapes are finite. More will not become available in the coming century. There is an urgent need to identify and protect nature's exemplars.

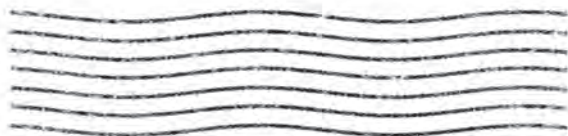
History and culture, however, are dynamic and growing. The chance to perpetuate key parts of new paths of art, politics, and everyday living will never be exhausted.

To the extent the Park Service can connect successive generations to the mosaic of growth and change, it will succeed. Should it fail to link people to the continuum of human and natural history, it will fail.

The future requires renewed respect for the human and natural environment.

It is the job of the National Park Service to teach the value of that mission. Nothing less will do.

Duncan Morrow
Springfield, Virginia



Letter from Woodstock
Rolf Diamant

Virtues of Good Government

THERE IS A 13TH-CENTURY BRICK TOWN HALL in the Italian city of Siena known as the *Palazzo Pubblico*. When it was built, the artist Ambrogio Lorenzetti was commissioned to paint a series of interior frescos depicting the “virtues of good government.” An expert on the frescos, the art historian Randolph Starn, has written that the pictures convey “the impression of people acting as good citizens should—freely, on their own, but also for the community’s needs.”¹ The wall-sized fresco named *Virtues of Good Government* is anchored by one titled the *Court of the Common Good* with allegorical representations of *Peace*, *Fortitude*, *Magnanimity*, and *Justice*. On the wall opposite Lorenzetti’s *Virtues* fresco the artist painted another, darker one, an alternative universe ruled by *Avarice*, *Pride*, and *Vainglory*—a reminder of what happens when the virtues of good government are abandoned.

I was reminded of these frescos on a recent blustery April day when I joined a small group of US and Canadian parks people on a field trip to Fort Monroe National Monument in Virginia. We were all attending the 2017 George Wright Society (GWS) Conference on Parks, Protected Areas, and Cultural Sites in nearby Norfolk. A few years ago I had written an essay about Fort Monroe for the Vermont Humanities Council’s *Civil War Book of Days*.² In the essay I recounted the story of Frank Baker, Sheppard Mallory, and James Townsend,

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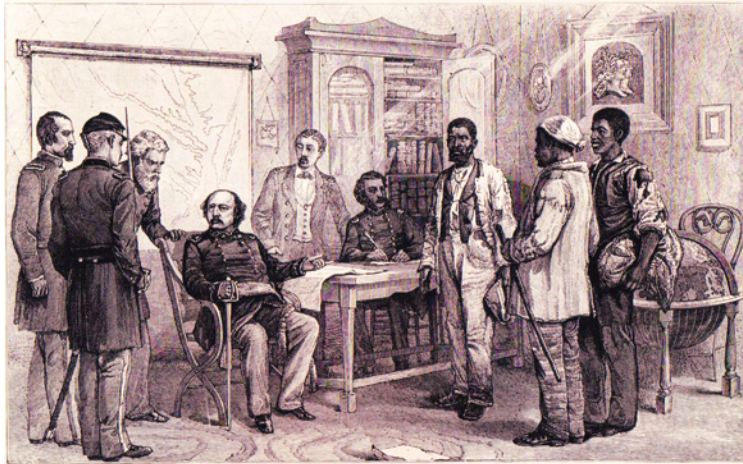
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Above: *Palazzo Pubblico*, Siena (author's photograph). **Right:** Details of Lorenzetti's fresco *Virtues of Good Government*. (Top) Justice is sovereign over a healthy and bountiful landscape of civic virtue. (Bottom) In the countryside of fear, desolation, and destruction, Fear holds aloft a banner that begins: "Because each seeks only his own good...." Reproduced with permission from Starn 1994.

a trio of enslaved men who, on May 23, 1861, made a nighttime crossing of the James River in a small rowboat headed for the presumed sanctuary of Fort Monroe—still flying the flag of the United States. At the beginning of the Civil War, army garrisons were refusing refuge to fugitive slaves, or worse, arresting them and returning them to bondage under the provisions of the Fugitive Slave Act (which in 1861 was still on the books). After Virginia ratified an ordinance of secession, Baker, Mallory, and Townsend, who had been put to work digging rebel artillery emplacements across the James River facing the fort, planned their escape. When the three fugitives made landfall near the walls of Fort Monroe, to their good fortune they were met by a sentry from the 1st Vermont Regiment, commanded by an abolitionist, Colonel John Wolcott Phelps. Rather than being turned back, the men were escorted to the fort's commander, Major General Benjamin Butler.



CONTRABAND OF WAR

Contraband of War, an illustration from Major General Benjamin F. Butler's autobiography, depicts his 1861 decision to declare fugitive slaves contraband, which led to their freedom (Library of Congress).

Butler pronounced Baker, Mallory, and Townsend to be “contraband of war” and on the following day turned down an appeal from a Confederate officer pressing for their return to slavery. Butler pointed out to the rebel officer that he could not make war on the United States and still seek redress under its laws. Word of Butler’s policy (soon to be backed up by Congress with the passage of the Confiscation Acts) rapidly spread through Tidewater Virginia and beyond, and within weeks a steady stream of fugitive slaves were arriving at the gates of Fort Monroe—thereafter known as “Freedom’s Fortress.”

When our GWS group arrived at the fort’s impressive moat, we were met by a sentry of the National Park Service (NPS), park ranger Aaron Firth. Firth guided us through the complex of buildings, casements, and landscapes now jointly managed by NPS and the Commonwealth of Virginia. The centrality of this national monument to the story of American freedom, Ranger Firth explained, cannot be understated. The actions taken at Fort Monroe on that spring day in 1861 transformed the fort into the symbolic keystone for a succession of anti-slavery measures that would eventually culminate in President Lincoln’s Emancipation Proclamation and the 13th Amendment.

Fort Monroe, like many of the other recently established national monuments, such as Birmingham Civil Rights, Stonewall, and Belmont-Paul Women’s Equality, enrich the national park system in ways that make it more representative and meaningful for all people, not just Americans. A member of our GWS tour group, Kevin McNamee, director of protected areas establishment for Parks Canada, observed that the US park system, unlike his own, has this larger purpose.

Trying to achieve this has been, of course, a long, often controversial road. An example is Reconstruction Era National Monument in Beaufort County, South Carolina, one of President Obama's last proclamations under the Antiquities Act. I was never sure I'd see the day when an NPS site would be dedicated to interpreting the history of this popularly maligned and broadly misunderstood period. Greg Downs, a historian at the University of California as at Davis and co-author (with Northwestern University historian Kate Masur) of the recently published NPS Reconstruction Era handbook,³ declared the monument proclamation to be "a long overdue moment, and one of the most significant expansions of the National Park Service since its founding."⁴ Described by Downs "as America's first great experiment in bi-racial democracy," the era of Reconstruction, long a political "third rail" for NPS, will finally receive the recognition it merits.⁵

As this 16th *Letter from Woodstock* is being written, an executive order was issued that directs the Department of the Interior to review twenty-one years of national monument designations and suggest legislative changes or modifications (likely reductions) to their boundaries. With similar intent, a bill (S. 437) has been introduced into Congress by Senator Lisa Murkowski, R-Alaska, with 26 co-sponsors, disingenuously called the "Improved National Monument Designation Process Act." The proposed legislation would, in effect, drive a stake through the heart of the 1906 Antiquities Act. Had the various "improvements" in S. 437 been in effect in earlier times, they would impeded or blocked many national parks that began as monuments, including Grand Canyon, Zion, Olympic, and Grand Teton, as well as more than 100 other national monuments, from being added to the national park system. In an op-ed published in the *New York Times*, law school professors John D. Lesly and Mark Squillace argue that the Antiquities Act has done "more than any other to shape our nation's conservation legacy" and that Congress should not change "a single word of what has been, by practically every measure, one of the most fruitful and farsighted laws it has ever put on the books."⁶

It turned out that our guide around Fort Monroe, Ranger Firth, represented exactly one-half of the national monument's staff—that's right, *two* people are overseeing a growing national park toured by more than 100,000 visitors last year. The superintendent's position was vacant due to a hiring freeze and on that day Ranger Firth was acting superintendent and everything else on down. All of the recent additions to the national park system are understaffed and underfunded; and, for that matter, nearly all national parks and NPS programs are confronting a steady attrition of employees and resources.

One consequence has been a growing trend in consolidation, particularly the merging of smaller parks' staff with those of larger parks. This trend has received little attention or comment, but the impact of consolidation is becoming clearer with time. Increasingly, parks are losing staff dedicated to their unique missions and resources. No one would argue about the efficacy and efficiency of sharing certain specialists; after all, that is what a "system" should be able to do. However, there will come a time, if it is not here already, when this consolidation stretches an ever-shrinking workforce to the point where staff can no longer sustain the key personal relationships and local knowledge necessary to be effective stewards and advocates for all they are responsible for.

This growing detachment is being further exacerbated as travel budgets are slashed and participation in scholarly and scientific conferences suppressed. Almost 80% of the park professionals on the original NPS attendance list for the 2017 George Wright Society Conference were ultimately prevented from attending. If this enforced isolation is sanctioned and promulgated, it will inevitably diminish NPS's ability to deliver a world-class park system and remain a leader in park management practices, scholarship, and science.

Staffing shortfalls have no end in sight. An Office of Management and Budget (OMB) directive lays out workforce reductions and cost savings that extend far into the future. At some point there is an obvious ironic futility in telling dedicated people like Ranger Firth to “do more with less.” As *New York Times* columnist Eduardo Porter warned, proposed cuts to domestic, discretionary spending will leave our government as “little more than a heavily armed pension plan with a health insurer on the side.” The OMB directive also calls for a massive reorganization exercise, intended to off-load or privatize a broad array of public services — a potential recipe for paralysis, dysfunction, and demoralization. If this comes to pass, the outlook will be bleak, not only for good government, but really, for any kind of government.

And yet, despite everything, as we walked through Fort Monroe there were indications of progress, like the irrepressible emergence of spring. Signs are going up, a fine interpretive brochure is available, there are excellent new exhibit panels installed in a shared museum space, and several significant historic preservation projects are underway. I have often written about the power of a functional park system and its partners. Fort Monroe has received support and assistance from NPS's Northeast Regional Office; Denver Service Center; Chesapeake Bay Program Office; Olmsted Center for Landscape Preservation; the Historic Architecture, Conservation & Engineering Center; and sister parks. Similarly, at Katahdin Woods and Waters National Monument in Maine, the new park's principal partner, Ellitsville Plantation, Inc., has stepped in to provide critical support, enabling an extraordinarily quick start-up. However, the determination, professionalism, and resiliency of the system and its partners can only be only stretched so far.

At the conclusion of our Fort Monroe tour we strolled the periphery of the parade ground under a marvelous canopy of live oak trees. Most of the trees are hundreds of years

Sign explaining historic preservation work, Fort Monroe National Monument (author's photograph).





A “witness tree” at Fort Monroe National Monument (photograph courtesy of Nora Mitchell).

old. Ranger Firth refers to them as “witness trees”—they were standing when Baker, Mallory, and Townsend first walked through the gates of the fort. I expect these old oaks may yet bear witness to a better future for the national parks and the government service charged with their care, and that eventually the *virtues of good government* envisioned by Ambrogio Lorenzetti many centuries ago may prevail once again in our time.

Endnotes

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4. Jennifer Schuessler, “President Obama Designates First National Monument Dedicated to Reconstruction,” *The New York Times* (January 12, 2017). Online at <https://www.nytimes.com/2017/01/12/arts/president-obama-designates-national-monuments-to-civil-rights-history.html>.
5. See Dwight Pitcaithley and Rolf Diamant, “Civil War to Civil Rights,” in *A Thinking Person’s Guide to America’s National Parks*, Robert Manning, Rolf Diamant, Nora Mitchell, and David Harmon, eds. (New York: George Braziller, 2016).
6. John D. Leshy and Mark Squillace, “The Endangered Antiquities Act,” *The New York Times* (March 31, 2017). Online at <https://www.nytimes.com/2017/03/31/opinion/the-endangered-antiquities-act.html>.

♥ The Heart of the Matter

New essential reading on parks, protected areas, and cultural sites

Half-Earth: Our Planet's Fight for Life, by Edward O. Wilson. New York: Liveright, 2016.

Reviewed by David Harmon

FOR CONSERVATIONISTS, anything E.O. Wilson writes is worth attending to. Not out of sheer deference—not because he has been afforded an almost demigod-like status in the popular press (although his fame is deserved). And not because he is infallible—the firestorm he set off when he reversed theoretical course and endorsed multilevel group selection in *The Social Conquest of Earth* burns on, brightly. It's because nearly everything he writes about conservation draws from a deep well of consideration. Its source is a life's worth of careful thinking about the (mostly unexamined) fundamentals that underlie our efforts to protect places on this planet: the social mechanisms that allow us to agree (or not) about what is worth saving, our affinity for life and lifelike processes, the importance of diversity, the consilience that (possibly) underlies the human quest for understanding.

His latest book, *Half-Earth*, is self-recommending to any reader of *The George Wright Forum* because it offers an answer to a basic question that, I think, many of us have either postponed or not thought about at all: what does success look like in protected natural area conservation? When can we say, yes, finally, we now have *enough* of the planet protected? So much of our mind-set about place-based nature conservation is conditioned by a kind of open-ended pessimism, in that—given the seemingly endless obstacles to our work—we have a hard time imagining that we could *ever* achieve a end-point. The overwhelming specter of climate change has, it would seem, practically smothered any remaining embers of optimism.

But in fact global targets are nothing new in conservation science. Some are simply numbers pulled out of the air based on a collective sense of what is “politically feasible”; we might place the Convention on Biological Diversity's numerical targets in this category. Others are straight-up scientific calculations. Indeed, the very idea that half of the planet should be kept in a natural state has been touted for some time now by the Nature Needs Half campaign (an effort which, in my opinion, is not given due acknowledgment in the book). For his part, Wilson arrives at his 50% figure by means of the species–area principle, which he helped develop exactly 50 years ago in *The Theory of Island Biogeography*. Putting it very simply, if you take

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half of a given area and dedicate it to conservation, you'll save about 80% of its species. He adroitly steps us through this in the first part of the book, and in addition provides a series of compelling examples of the variety of our planet's species that are at stake. Wilson, quite simply, has no peer when it comes to making biodiversity seem vivid and important. These pages alone make *Half-Earth* worth reading.

Now, many of you will be thinking, and with good reason, that there is much more to natural area conservation than the protection of biodiversity. There certainly is. By focusing so closely on biodiversity Wilson plays to his strengths, but there is a price to be paid. It comes toward the end of the book, which is where *Half-Earth* begins to lose a bit of steam. One might expect, and I for one certainly hoped, that Wilson would provide at the least the outlines of a blueprint for how to get to 50%. But he doesn't. As at least one other reviewer has noted (Robin McKie, writing last year in *The Guardian*), this is a serious shortcoming that somewhat deflates the soaring, and effective, rhetoric that came before.

In fairness to Wilson, getting down into the weeds of how to make the proposal really happen probably would have required doubling the size of the book. His intent in writing *Half-Earth*, I'm guessing, was simply to introduce the idea to the general public and make it seem worthy of attainment. Nonetheless, most reviews of the book, written by nonspecialists, seem to consider the 50% target to be audacious. But is it, really? To answer that question, you have no choice but to get technical. If your definition of half-earth is that 50% of the planet's terrestrial surface has to be in protected status as IUCN Category I protected areas (that is, designated wilderness/scientific restricted areas) or Category II (strict national parks) then, yeah, that's pretty audacious. Not necessarily impossible, mind you: continuing urbanization means that there will likely be significant opportunities for re-wilding a (relatively) depopulated countryside, and so one just might be able to conceive of a planet where half is strictly protected in a set of linked continental-scale networks of *primarily* wilderness/national parks.

But even in this scenario, the connectivity tendons (so to speak) will almost certainly have to consist of other types of protected areas, such as a Category V protected landscapes, that have humans living in them—and which, incidentally, protect significant levels of biodiversity, including some types that require human interaction. (China's recent proposal to make the entire Tibetan Plateau a national park will be an interesting test of some of these categorization principles. It's unclear whether any current human residents will be displaced if the proposal goes forward.)

This is the kind of discussion that will need to take place to move nature-needs-half, half-earth ideas from aspirational to operational. Wilson's *Half-Earth*, masterful as usual in what it does seek to explain, takes us up to that hurdle. Finding ways over it will take hard work in the technical realm, as well as a good measure of Wilsonian eloquence to make it palatable to the powers that be.

Growing the Next Generation of Protected Area Leadership: The George Wright Society Student Summits

***Jennifer Thomsen, Zachary D. Miller, Ryan Sharp,
Gina L. Depper, and Wayne Freimund, guest editors***

The George Wright Society Student Summit: Setting the Stage for the Next Century of Protected Area Management

***Jennifer Thomsen, Zachary D. Miller, Ryan Sharp, Gina L. Depper, and
Wayne Freimund***

Student chapters addressing complex challenges

THE BEGINNING OF THE NEXT CENTURY will largely be defined by the complexity of our challenges. Issues such as climate change demonstrate the interlinkages of our ecological, social, and political systems. Additionally, both social and ecological changes are occurring at an unprecedented rate. We now require all of our intellectual traditions to respond to this complexity and truly demonstrate multidisciplinary problem framing. Fortunately, emerging students of protected area management around the world are taking up that challenge. We are now, more than ever, attuned to system approaches that are inclusive rather than reductive. We recognize the limits of science and the need for civic engagement. We recognize the political nature of the challenges we face and seek ways to better link science with policy. We need interdisciplinary collections of students, scientists, managers, and policymakers to learn from one another and enrich our thinking. Young professionals must move on to populate faculty, management, and leadership roles to ensure that the second century of protected area conservation meets the challenges left by the past.

The George Wright Society (GWS) was founded to bring professionals together to further scientific and other scholarly inquiry related to protected areas. Natural sciences were

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heavily represented in the early days, but the GWS progressed to include cultural and social sciences to the highly interdisciplinary organization. Throughout the GWS's nearly 40-year history, agency scientists, practitioners, and academics have been sharing their thoughts and findings through *The George Wright Forum* and biennial conferences. Although the GWS has a loyal following, many professionals are starting to move on to different stages of their lives, including retirement. This illustrates a clear need to engage the future generation of protected area practitioners and researchers.

The GWS has a rich history of student involvement in the publication of articles for the *Forum* and in attending the biennial conference. However, there has not been, until recently, a formal mechanism for more meaningful engagement in the GWS. Out of this void came programs such as Park Break, which gives students an opportunity to spend a week in a national park helping managers address challenges. Since 2008 this program has provided opportunities to create professional and personal relationships between students and experts in the field. Given the success of the program the GWS has continued to explore ways to engage young professionals. Thus, the GWS began pursuing the idea of developing student chapters on college campuses. By formally providing more engagement opportunities in the GWS, students will come to see and support the organization's mission and become lifelong advocates for parks and protected areas.

Although student chapters began to develop and operate at their respective universities, there was a lack of communication among them. The initial student chapters, through no prompting from the GWS, developed the concept of a Student Summit, to discuss the future of parks and protected areas exclusively from student perspectives. The idea was to have the summit take place biennially, alternating with GWS conferences. The hope was to bring student chapter members together to discuss the management and conservation of important natural, cultural, and historical resources. It would give the chapters the opportunity to meet and build networks while considering some of the larger issues in the field.

This initial summit, held in the summer of 2016 and discussed in detail below, was conceived, developed, and implemented by students at six universities and included natural and social science disciplines. The diversity of backgrounds helped students engage in meaningful dialogue on critical issues that incorporated a variety of perspectives. The relationships among students and professors at the summit has stimulated further conversation and collaboration among the universities and will likely attract additional universities in subsequent years. Through efforts like this, the GWS, parks, and protected areas will remain viable into the future through the leadership of the next generation of conservation professionals.

Symbolic venue

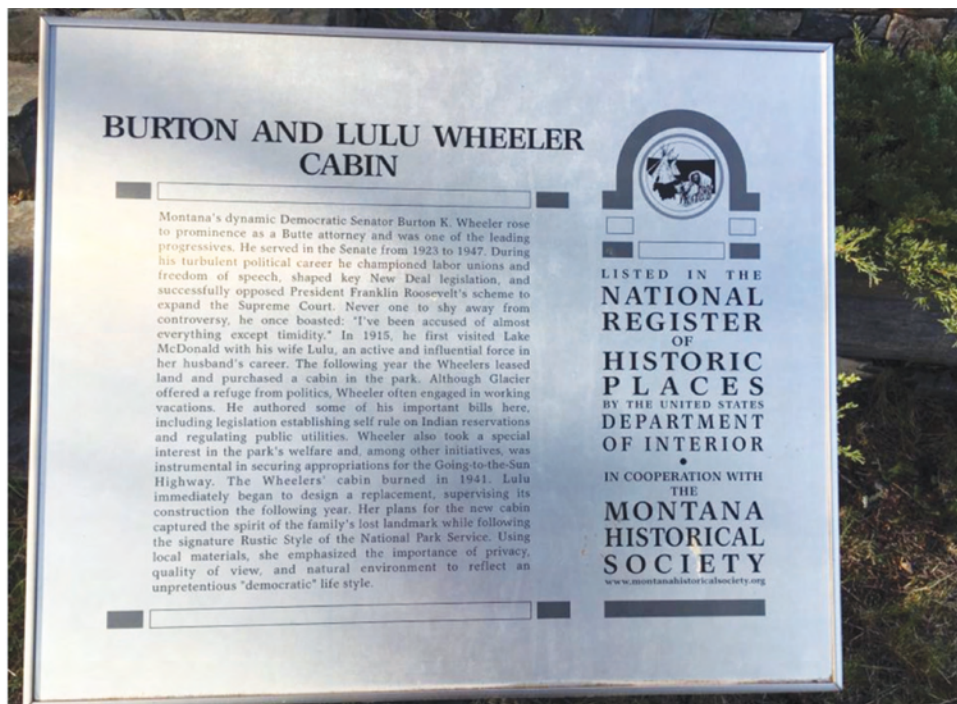
The first summit was held at the historic Wheeler property along the shores of Lake McDonald in Glacier National Park, USA (Figure 1). This property was the family home of former Montana Senator Burton Wheeler for much of the past century. When its lease concluded in 2013, it reverted back to the park. The property serves as a metaphor for the current state of protected area management in several ways. First, it is on the National Register of Historic Places and tells a profoundly important story about our past. It is also located in an inspi-

rational setting that allows the power of Glacier National Park to draw participants into the rhythms of nature. Finally, its next chapter is being developed through a partnership between Glacier National Park, the University of Montana, the Glacier Institute, the Glacier National Park Conservancy, and the Montana Preservation Alliance. The synergy of these institutions creates more strength than any one could achieve on its own. They are working to develop a vision that will feature transboundary management, peace, education, and demonstrations of the successes and failures in our science and management. The summit was the first formal meeting to be held through this new partnership. The legacy established by this group of emerging leaders will set the activity inspired by the Wheelers on a trajectory every bit as exciting as the careers of these vital professionals.

Emerging themes and structure for the summit

Conversations about the Student Summit started during the GWS conference in 2015. As the idea became a reality, student chapters organized and met separately to develop themes. These themes were developed to address deep, underlying challenges instead of specific topics (e.g., carrying capacity, invasive species, transboundary wildlife issues, etc.). The themes from the different chapters were pooled and voted on by members. The following five themes were the focus of the summit.

Figure 1. Montana Historical Society plaque describing the historic Wheeler Cabin in Glacier National Park, site of the GWS Student Summit. Photo courtesy of the participants.



Unbounding parks. Protected area management largely recognizes that parks affect and are affected by things outside of their boundaries. This theme is centered on what it means to work beyond the borders of parks. These boundaries are both real and imagined, and include topics such as private/public partnerships, gateway communities, migratory corridors, shifting species ranges, invasive species, and other transboundary resource issues. How can we protect and manage beyond boundaries? What are the best practices being implemented?

Who are we? Core park values and identities. National parks and the National Park Service (NPS) have always told a story that was centered on core park values and the identity of NPS. As we are seeing changing park visitors and a struggle with the idea of relevancy to groups who do not visit national parks, what is the story that NPS is telling people today? How does the NPS's identity and core park values relate to changing visitor demographics and the idea of relevancy?

Find another park: Visitor use management in our most visited national parks. Dealing with visitor use in national parks has been a salient issue for decades. Some national parks in the US are now seeing record-breaking levels of visitation. At the same time, these parks feel strapped in their ability to deal with so many visitors and their impacts. How do we assess, plan for, manage, and research visitor use in national parks?

Nature gone wild: The struggle to keep national parks as they were. It's an age-old complaint: change. Despite our best efforts to keep the national parks as they were, climate change, invasive species, declining species, and thriving species continue to alter landscapes. How should the National Park Service prepare for these changes and what should future strategies for managing resources be?

Reimagining the National Park Service to be a resilient agency. We live in a time of rapid change. This theme focuses on building organizational capacity in NPS to be an agile and adaptive agency. How can NPS better integrate science into decisionmaking processes? How can NPS build relationships with universities to bring the best knowledge to bear on protected area management? Additionally, we have educational institutions that are preparing future park management and leaders. How do we better integrate these students into NPS? How can our educational institutions better prepare students to take on the challenges of protected area management?

These five themes served as the foundation for all discussions throughout the summit. It was structured into four main workshop sessions that built on each other, moving from the past, through the present, and to the future. The first session focused on where we have been in protected area management, with each group structuring their discussion around their respective theme. Once each group had time to develop main points, we employed a gallery walk that allowed each group to rotate to the other groups' themes and review the points that were written and add additional thoughts. The second session focused on where we are going in protected area management. Each group further expanded its discussion from the previous session to explore the present and future challenges and opportunities within each theme. Instead of a gallery walk, this session culminated in a group discussion, with each small group presenting to the broader group.

The third day of the summit was dedicated to immersion in the park to promote further reflection on the issues discussed while experiencing the park firsthand. After returning, each themed group met for the third session, which focused on bridging the past and present with the future of parks and protected areas. At this point, groups were able to dig deeper into their respective themes and prioritize areas to focus their discussions. The final session concentrated on outlining roles for the papers and discussing next steps within the small groups. We then concluded with a final wrap-up and reflection of where the GWS chapters want to go in the future, including exploring ideas for future summits.

Next generation for the George Wright Society

There were several goals for the first summit, including: (1) *Establishing a George Wright Society student chapter organizational system*, (2) *Understanding different perspectives*, (3) *Developing ways to address challenges*, and (4) *Disseminating summit findings*. The summit met these goals and achieved additional, unexpected, positive outcomes.

The summit provided a great way for students to share different perspectives and engage in meaningful discussion on complex topics. Students' diverse backgrounds, disciplines, and personal and professional experience brought unique insights into the pertinent issues from regions around the country. Small-group, large-group, and informal conversations gave opportunities for different perspectives to be shared and challenged. The summit also provided a forum for different ways of addressing challenges in the next 100 years of the National Park Service and protected area management. The dissemination of findings from the summit is materializing in this issue of the *Forum*. The findings were also shared in a session at the latest GWS conference in April 2017.

The unexpected outcomes of the summit included a connection with Parks Canada. In leading up to the summit, a student reached out to Parks Canada to get more information about its campus clubs. The relationship that developed led to a letter from Parks Canada youth engagement representatives being read to attendees of the summit. Video footage was taken at the summit for a Parks Canada "nature playbook" which was showcased at the 2016 World Conservation Congress. Some of the photos of the summit were also sent via Instagram to the Parks Canada campus clubs. In addition, the GWS student chapters Facebook group was embraced as a platform for communication among chapter members.

Maintaining momentum

The success of future student summits depends on continued enthusiasm, and a focus should be placed on providing organizational capacity and promotion of student chapters. Although originally intended to be held on the off years of the national GWS conference, the success of the inaugural summit, robust student enthusiasm, and support from the GWS may enable the summit to occur every year.

There are several key actions that can ensure the success of the student chapters. The first would be to grow the chapters more widely. One example of this is giving students an opportunity to disseminate their findings in places like the *Forum* and the national GWS conference. This could include a formal session, as well as an informal meeting/social of stu-



Figure 2. Students from across the USA gathered for several days of discussion and critical thinking. Photo courtesy of the summit participants.

dent chapters and other interested individuals, at GWS conferences. For members of student chapters, they can utilize tools such as the GWS student chapters' Facebook page (<https://www.facebook.com/groups/GWSstudentchapters/>) and other forms of communication to stay connected with and inspired by each other. On a more local level, it is encouraged that student chapters of the GWS reach out to include members who represent the diversity of individuals who are interested in protected area management to help further grow the chapters. Lastly, individuals who want to participate but do not have a student chapter at their university should be provided opportunities to do so.

Keys to a successful summit

Partnerships. The summit was truly a team effort and to ensure sustainability will need to continue to be so. A partnership between GWS and the hosting university is integral to a successful planning process. Collaboration between the hosting university and neighboring protected areas makes it possible to have a summit in a place that enmeshes attendees in the topics being discussed and allows an opportunity for professionals in the field to attend the event. Moreover, it develops relationships between the university and protected areas for future joint efforts. Additional partnerships, such as the one with Parks Canada, are also encouraged. Partnerships with donors can also be explored to ensure the future of the summits.



Figure 3. GWS Vice President Jerry Mitchell in conversation with the students. Photo courtesy of the participants.

Diverse funding. Funding is always a challenge. The GWS provided funding to help cover some of the costs of non-local students traveling to the area. We encourage that any future GWS-provided funds to be used for the same purpose. The sponsoring university provided matching funds to provide cost-free local transportation, food, bedding (sleeping bags/pads), and other necessities. The sponsoring university was also responsible for the logistical planning of the event, as well as coordination with the host of the event. In total, running a summit will likely cost between \$5,000 and \$8,000 for about 25 participants. Scholarships are necessary in order for students to be able to attend the summits. Creating a system for scholarships will allow diverse representation and enthusiastic attendees. Requiring students interested in attending and receiving funding to submit an information sheet about themselves can streamline the process of choosing participants and distributing funds.

Faculty guidance. Faculty guidance and support is necessary to help students organize and find funding. However, the spirit of the summit is for it to be a truly student-driven, student-led event. This approach was integrated into the fabric of the inaugural summit. Nowhere was this more important than in forming themes and leading discussions. This event gives a voice to the future leaders of protected area management to share their own visions, challenges, and worlds. Importantly, this unconstrained expression may help more integrated professionals challenge their own perspectives and the status quo.



Figure 4. The rugged natural setting of Glacier National Park helped inspire creative thinking. Photo courtesy of the participants.

Layered leadership. The formation of a leadership team is integral to the planning and implementation of the summit as well as the transition to a new leadership team for the next one. Leadership involves the GWS graduation student liaison to the Board of Directors, the previous summit organizer, two student representatives from the university planning the summit, and a representative from each university with a GWS student chapter. The leadership team participated in frequent calls leading up to the summit and facilitated dialogue afterward to ensure the outputs were generated and the momentum continued. During the summit, there were additional opportunities for leadership through the individual leaders of each themed sub-group. These leaders helped keep each group on task and coordinated with the other groups. The various layers of leadership supported the seamlessness of the summit and did not put the burden on a single individual or institution.

Clear goals and targeted outcomes. Clearly defined goals and targeted outcomes are important when bringing together groups from around the country that have not previously engaged with each other and are expected to have productive, thought-provoking discussions. The interconnected structure of the summit was critical to linking the goals to the targeted outcomes. Additionally, the communication before and after the summit contributed to the buy-in and accountability of participants to meet the goals and outcomes.

Balance of work and play. When hosting a summit, it is critical to make sure that partic-

ipants have ample opportunities to experience and enjoy the environment. Most participants had never visited Glacier National Park and immersion in the setting contributed to the discussions and personal bonds among participants. Additionally, the bulk of the sessions took place outside to further connect the themes to protected areas. Lastly, shared meals and informal gathering creates an opportunity to invite local protected area professionals to engage with the participants, which can support long-term professional relationships.

Positive attitude, flexibility, and open-mindedness. Arguably the most important factor in a successful summit is the participants' involvement. Despite the thorough planning of the summit, there are always factors out of one's control. A positive and flexible attitude ensures that the group does not let unexpected changes or obstacles stand in the way of a great summit experience. Open-mindedness is also integral to having meaningful and productive discussions with diverse perspectives despite differing lenses on a complex issue.

Implications for the GWS

The GWS will benefit from the exceptional work of the inaugural Student Summit. The event offered an unparalleled opportunity for young professionals to discuss the field in a working protected area setting. The energy and enthusiasm already generated will sustain the GWS for years to come. Even more important is the impact the student chapters and the related summits will have on park and protected areas. Perhaps in 50 years we will look back on this moment and realize the importance that bringing young, intelligent minds together had on the GWS and protected area management.

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Unbounding Parks and Protected Areas to Overcome Management Challenges for the Next 100 Years

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Jennifer Thomsen, and Chris Zajchowski*

Introduction

PARK AND PROTECTED AREA BOUNDARIES are defined within an ever-changing socioecological system. These human-generated boundaries identify areas of interest and are commonly used to prioritize land for different uses. However, park and protected area boundaries also overlap with various naturally constructed boundaries, in addition to other human-made boundaries, such as governmental areas of jurisdiction. As a result, these boundaries can create management complications and can impact wildlife populations that regularly cross both human-made and natural borders, as well as have an impact on other natural resource management objectives. In recent years, there has been a conceptual shift towards *transboundary* conservation efforts that have the potential to address landscape-scale challenges (Vasilijevic et al. 2015) and work across both human and natural boundaries. However, this focus has generally been on cooperation across international borders (Vasilijevic et al. 2015), and, in some contexts, successfully implementing transboundary management strategies can be a challenge (see, for example, Jeanetta Selier et al. 2016). In order to address these challenges and achieve long-term conservation success through transboundary conservation, we believe efforts must be made to understand the many boundaries that exist within and around parks and protected areas. In this paper, we not only examine international boundaries, but also consider other natural and human-made boundaries that might greatly influence management and conservation.

In order to provide a critical examination of boundary issues in parks and protected areas, we examine this topic from three perspectives. First, we discuss the historical context (i.e., where we have been?) with regards to transboundary management. We then examine

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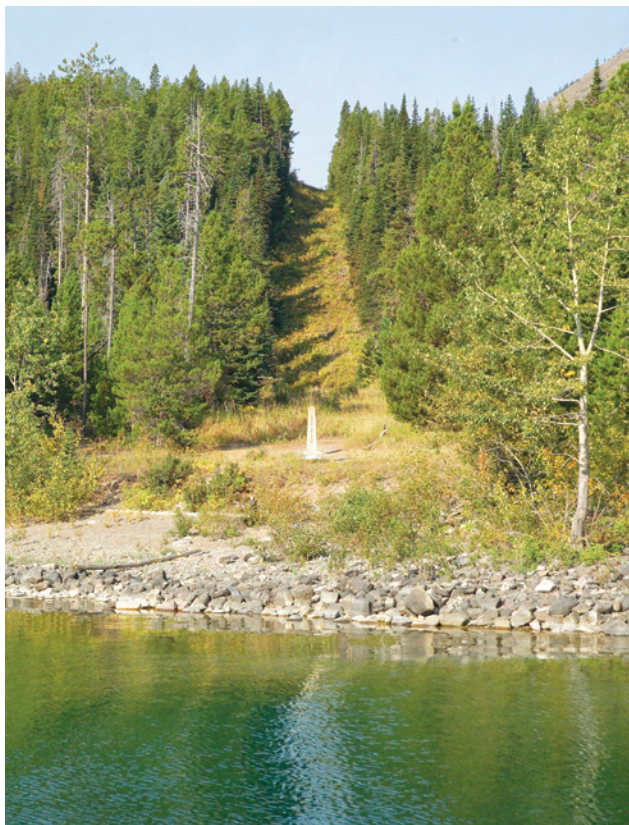
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future needs and opportunities for transboundary management. Finally, from this review we conclude that future transboundary management requires land managers to inventory the boundaries that currently exist and influence management, and we suggest boundaries that might be critical to examine in greater depth in order to move park management forward in a variable socioecological system. In short, in order to unbound parks to overcome management challenges for the next 100 years, we must first understand the current boundaries that exist and how they have been constructed, as well as those that may have been overlooked.

A bounded past: Where have we been?

Transboundary conservation began in Europe and North America in the early 20th century. The first officially designated transboundary protected area (TBPA), Waterton–Glacier International Peace Park, was established in 1932 across the Canada and USA border to celebrate the long-lasting peaceful relations between these two countries (Figure 1; Vasilijevic et al. 2015). However, the concept of transboundary conservation was pioneered in Europe. The governments of Poland and what was then Czechoslovakia signed the Krakow Protocol in 1924, which called for creation of peace parks in the Tatras Mountains to help resolve border issues and encourage international cooperation. These parks in the Tatras were not founded until after World War II, and the bilateral Pieniny Mountains Nature Park established in 1932 is considered to be the first official TBPA in Europe (Mittermeier et al. 2005; Vasilijevic et al. 2015). The examples of Waterton–Glacier International Peace Park and early transboundary parks in Europe demonstrate that political reasons, such as mitigating disputes and promoting the culture of peace and cooperation, can become

Figure 1. A 25-foot swath cut into the forest marks the International Boundary between Canada and the USA. By international agreement, this swath is maintained wherever the border is forested. Photo courtesy of David Restivo/ National Park Service.



driving forces for creation of TBPA. Since the 1930s, many other peace parks have been created and more are being planned in Africa, Asia, and other continents (Peace Parks Foundation 2016).

Another catalyst for transboundary cooperation has been ecologically focused management designed to meet wildlife needs. In Africa, transboundary efforts to protect mountain gorilla populations on the boundary between the colonies of Rwanda and the Congo originate from the 1920s–1930s, with the creation of Albert National Park by Belgium, the colonial power at that time (Linde et al. 2002). Several decades later, in the 1960s, when the African colonies gained independence and countries were separated, components of this park became Volcanoes National Park (Rwanda) and Virunga National Park (Democratic Republic of Congo), which created a *de facto* transboundary protected area. Now, along with several parks in Uganda, they form the trilateral Greater Virunga Transboundary Collaboration Initiative (Figure 2; Global Transboundary Conservation Network 2011; Vasiljevic et al. 2015). This and many other examples around the world have proved that ecological rationales are powerful impetuses for TBPA creation: transboundary parks better safeguard biodiversity, as they offer large and contiguous ecological habitats to protect species (Hamill and Besancon 2007).

Figure 2. Rwanda’s Parc National des Volcans (Volcanoes National Park), part of one of the world’s most important wildlife complexes, the Greater Virunga Transboundary Collaboration Initiative. Photo courtesy of Dave Proffer (via Wikimedia Commons).



In Central and South America, an ambition to better protect shared natural and cultural resources fostered transboundary conservation efforts. The concept of transboundary cooperation in this region was introduced in the 1970s at the First Central American Meeting on Management of Natural and Cultural Resources, which suggested that border areas with natural and cultural values of interest to all involved countries should be jointly managed, if they could benefit from integrated conservation actions (Budowski 1975). The first actual TBPA in Central America, Los Katios–Darien National Parks, was established between Colombia and Panama in 1980. Interestingly, the main driving force for creation of a joint park there was the need to prevent the spread of livestock disease from Panama further to South America (Mittermeier et al. 2005). This initiative resulted in cooperation on conservation issues. Another TBPA, La Amistad, was established between Costa Rica and Panama in 1982 with an explicit goal to manage natural resources jointly and to promote peaceful relations. The first TBPA in South America started with informal cooperation between Argentina and Brazil in the 1980s, which later became Iguacu–Iguazú complex.

Asia pioneered establishment of the first marine TBPA in 1999 by the signing of a memorandum of understanding between the government of Malaysia and the Republic of the Philippines. The protected area, Turtle Island Heritage Protected Area, in the Sulu Sea between Malaysia and the Philippines, was established in order to protect one of the world's few remaining major nesting grounds for green turtles (Vasilijevic et al. 2015).

The historical overview of the transboundary conservation concept shows that TBPAs have been established to enhance nature conservation efforts, promote goodwill and peace, ensure political stability, alleviate poverty, encourage economic development, and facilitate sociocultural integration. TBPAs have a number of practical benefits, including ecological, social, managerial, and political ones. The growing recognition of these benefits, as well as a better understanding of the opportunities that they provide to work at broader scales and achieve ecological integrity and regional integration, results in the increasing global trend to establish transboundary conservation initiatives (Quinn 2012; Vasilijevic et al. 2015).

However, it seems that proposals for transboundary conservation, in most cases, take into account primarily political and geophysical boundaries, and are generally based on the most pressing issues at the time. When issues have been resolved or changed (as occurred in the example of Colombia/Panama TBPA), the system evolves and new boundaries are created. Understanding the complexity and dynamics of transboundary socioecological systems is crucial for effective management of TBPAs and protection of the natural and cultural wonders that they preserve, and that requires land managers to explore how different boundaries have been created, how they change over time, and what the implications of these changes are.

Unbounding for the future: Where are we going?

Transboundary conservation has shifted from a unique strategy to the standard in how we address complex social–ecological issues. At the 5th World Parks Congress in 2003, the International Union for Conservation of Nature (IUCN) and its World Commission on Protected Areas (WCPA) launched the Global Transboundary Conservation Network that is

facilitated by the WCPA Transboundary Conservation Specialist Group (<http://tbpa.net/>). This network links over 200 experts in transboundary conservation from across the world, and a recent document has been published outlining systematic approaches and case study examples of transboundary conservation (Vasiljevic et al. 2015). Additionally, the Center for Large Landscape Conservation has developed a network of practitioners that work across state and country borders to address transboundary conservation in the context of North America (<http://www.largelandscapenetwork.org>). As such, transboundary conservation agreements have continued to increase.

Current transboundary management is working to ease tensions in today's critical geopolitical situations for future peace. For example, EcoPeace Middle East, founded in 1994, works across Jordanian, Palestinian, and Israeli borders to collectively protect and conserve the Jordan River Basin. This group has experienced political instabilities, including the Second Intifada in 2001, which increased Israeli-Palestinian violence and hostility. These events emphasize the importance of combining top-down and bottom-up efforts and EcoPeace Middle East employs researchers and conservation practitioners from all three countries, representing numerous cultures, with the common goal of peace through conservation. While there has been great progress in shifting the mindset to work across *geographic boundaries*, there are still many challenges with successful implementation of these efforts because of the complexity associated with working across *social, economic, and political boundaries*. To sustain relations in the Middle East and elsewhere over time, transboundary governance requires political buy-in and support, sound leadership, stakeholder representation, and stable funding, among other factors (Vasiljevic et al. 2015). In a world that is increasingly connected, transboundary management can be an effective tool to ease tensions among citizens of discordant governments.

In addition to social and political challenges, biological boundaries are rapidly shifting due to climate change (Gillings, Balmer, and Fuller 2015; Ash, Givnish, and Waller 2016; Brown et al. 2016). For example, more than 250 river basins are shared by more than one nation and many transboundary water agreements are not adaptable to account for the impacts of climate change, especially in large river basins of the Nile, Mekong, and Colorado (Cooley et al. 2009). Climate change is also resulting in changes in wildlife ranges, as some species are displaced in montane ecosystems by snowmelt while others in coastal ecosystems are by sea level rise (Monzón, Moyer-Horner, and Palamar 2011).

The unintentional spread of diseases and invasive species from human activities becomes more prevalent with climate change, as well as shifts in migratory and breeding patterns (Monzón, Moyer-Horner, and Palamar 2011). In the Greater Yellowstone Ecosystem, climate change shifts are evident in the impact on whitebark pine forests from the spread of the mountain pine beetle (Figure 3; Logan, Macfarlane, and Willcox 2010), shifts in fire regime (Westerling et al. 2011), and amphibian declines and wetland desiccation (McMenamin, Hadly, and Wright 2008). Thus, transboundary conservation will be critical in maintaining ecosystem resilience under numerous and diverse pressures.

These dynamic systems require us to manage boundaries as a fluid and adaptive system that can be resilient to shifting social, ecological, political, and economic systems. As



Figure 3. Mountain pine beetles are a natural part of the whitebark pine forests of the Greater Yellowstone Ecosystem, but recently, winter temperatures have not been cold enough to kill the beetles and their populations have increased. Also, a changing climate has physiologically stressed the trees, making them more susceptible to beetle infestations. Declining whitebark pine stands are an example of shifting biological boundaries. Photo courtesy of Don Becker/US Geological Survey.

transboundary parks and protected areas continue to grow in popularity, it is critical that the different types of boundaries are explored in depth to ensure the adaptability, resilience, and sustainability of these social–ecological systems.

Bridging the future and the past: How do we get where we want to go?

Through a review of literature and an examination of the past, present, and future context of transboundary conservation, we have identified two broad boundary types: (1) *naturally constructed*, which include biotic and geophysical boundaries, and (2) *socially constructed*, which include economic, political, and sociocultural boundaries (Table 1). Such a framework may prove critical in assessing, understanding, and addressing the diverse issues facing protected area managers worldwide.

Naturally constructed boundaries. *Biotic boundaries*, or species range limits, are based on ecological niche theory. An ecological niche is the “role” a species has in its environment along with its biological requirements to survive and reproduce (Grinnell 1917; Hutchin-

Boundary type	Spatial scale	Temporal scale	Fluidity	Examples
<i>Naturally constructed</i>				
Biotic	Sub-local to continental	Millennia	Low	Joshua tree range
Geophysical	Regional to continental	Millennia	Low	Mountains ranges to rivers
<i>Socially constructed</i>				
Sociocultural	Sub-local to global	Years to decades	High	Language, religious, and cultural borders
Economic	Local	Decades to centuries	Medium	Fee areas; permitting zones; easements; mineral/timber extraction zones, etc.
Political	Local to global	Centuries	Low	Borders between countries, states, towns, parks

Table 1. Important boundaries to recognize in land management. These boundaries are characterized by the scales at which they operate on and how easily they can change.

son 1957). Areas that meet these requirements are within the species’ range limits and biotic boundaries can be drawn around them (Soberón 2007). Interestingly, while a niche may change on evolutionary time scales, biotic boundaries will change as abiotic conditions change, which may be accelerated due to anthropogenic impacts such as climate change. For example, the range of the Joshua tree (*Yucca brevifolia*) is predicted to contract dramatically within the next century due to warmer temperatures and drier conditions (Cole et al. 2011). It is expected to only be found in its most-northern and high-elevation locations, which are predicted to maintain adequate environmental conditions for survivorship. Unfortunately, it is unlikely that the Joshua tree will migrate northward into suitable climates in the future because its dispersal is relatively slow compared with that of our predicted climate change (Cole et al. 2011). This may be in part due to the extinction of the Shasta ground sloth, which has been speculated as an important dispersal agent for the Joshua tree (Lenz 2001). These different time scales between biotic adaptation and change in geographic niche boundaries highlights the need for cross-boundary management.

Geophysical boundaries are barriers caused by geologic formations or events. Examples of these include large mountains and valleys or microtopographic features such as small mounds and hollows. These boundaries are important because they may decrease gene flow within populations, possibly leading to speciation (Piertney et al. 1998; Keyghobadi et al. 1999), or they may separate populations of humans, which may vary the anthropogenic impacts on ecosystems (Swetnam et al. 2016). However, the influence of geophysical boundaries on eco- and social systems are likely only important on shorter time scales. While they

may retard movement of organisms, ultimately environmental conditions likely select for species assemblages (i.e., “everything is everywhere, but the environment selects”; Baas-Becking 1934). However, even the short-term influence of geophysical boundaries is likely important in rapidly changing ecosystems, and understanding the scale of influence of these different features on management will be critical in incorporating these boundaries into ecosystem management.

Socially constructed boundaries. *Sociocultural boundaries* divide individuals and communities by specific identities, attitudes, beliefs, and cultural practices (Lamonte and Molnar 2002; Rose 2011; MacBride-Stewart, Gong, and Antell 2016). These boundaries exist both between parks and adjacent lands, as well as within parks and protected areas. Park policies outline acceptable behaviors and park staff educate, regulate, and enforce policies to encourage compliance in order to protect and preserve the natural and cultural resources within their care (Hammitt, Cole, and Monz 2015). These actions reinforce social and cultural norms deemed acceptable by land management agencies and their constituents (Manning 2011). For example, in the United States, “Leave No Trace” policies dictate a pro-environmental social and ethical framework that is mandated and enforced within many backcountry protected area settings, but often not outside of park boundaries (Vagias et al. 2014). Furthermore, within parks and protected areas, managers and park scientists also create boundaries or zones to allow for a wide spectrum of recreational opportunities (Moore and Driver 2005; Cervený et al. 2011). For example, zones for motorized and non-motorized use afford different recreational opportunities and social settings for park visitors within the same management context (Gray et al. 2010; Kil, Holland, and Stein 2012). These boundaries may be more static or fluid depending on the context, as well as whether the boundary is formally sanctioned by park management or informally created by niche visitor populations. Finally, the creation of these intra-park boundaries—whether formal or informal—is often regarded as a prudent management strategy to reduce user conflict and protect the natural and cultural resources present in any given setting (Manning 2011; Hammitt, Cole, and Monz 2015).

Economic boundaries are created both within parks as well as between them and surrounding communities. These boundaries are formed by the implementation of management actions, such as the use of visitor fees or permitting processes (Kerkvliet and Nowell 2000; Moore and Stevens 2000; Anderson and Freimund 2004). Additionally, concessions and consumptive leases for resource use or extraction may influence commercial, consumptive, and recreational activities within parks and protected areas (Pringel 2000; Ramirez and Baker-Mosley 2015; Borg et al. 2016). As a result, economic boundary structures exist from the monetization, commodification, and regulation of the resources existing both within and proximal to parks and protected areas. For example, a wealth of literature has assessed the impact of fees on park visitation, creating real or imagined boundaries for user groups based on demographic differences. The fluidity of these economic boundaries is often based on regular cycles for permitting review or lease renewal, but can also be altered by social and political actions.

Political boundaries exist both formally and informally within parks and protected areas, as well as between these lands and surrounding communities, states, territories, provinces,

and countries. At the level of nation-states, different management regimes are created to align with national boundaries and sociocultural and economic practices (Mittermeier et al. 2005; Vasilijevic et al. 2015). Internationally, land management agencies regularly navigate the interests of visitors, community members, lawmakers, industry and business, scientists, and the endemic biological, geological, and cultural resources within their purview (Vasilijevic et al. 2015). As mentioned above, political boundaries may be transcended through international transboundary management efforts, as in the cases of Waterton–Glacier International Peace Park, Greater Virunga Transboundary Collaboration initiative, and Turtle Island Heritage Protected Area (Global Transboundary Conservation Network 2011; Vasilijevic et al. 2015). Within nation-states, legal mandates created through the political process, such as the Wilderness Act of 1964 and the Clean Air Act of 1963 in the US, also create and define specific boundaries for recreational opportunities, as well as thresholds for park resources, such as airsheds and viewscales (Mace, Bell, and Loomis 2004; Hammitt, Cole, and Monz 2015). These political boundaries may be negotiated or contested by various stakeholders, and this process may be forced by both geophysical and biotic perturbations, as well as sociocultural or economic factors. The fluidity of boundaries might be relatively static, as a result of national boundaries, or malleable, such as in the US with the late-term use of the Antiquities Act of 1906 (Dustin, McAvoy, and Ogden 2005).

Whether naturally or socially constructed, humans generate the way boundaries are thought of and the value placed on them (Figure 4). Depending on the context and/or perspective taken, each of these types of boundaries might present challenges, opportunities, or both. Some boundaries, such as sociocultural ones, exist due to human perception. Others,

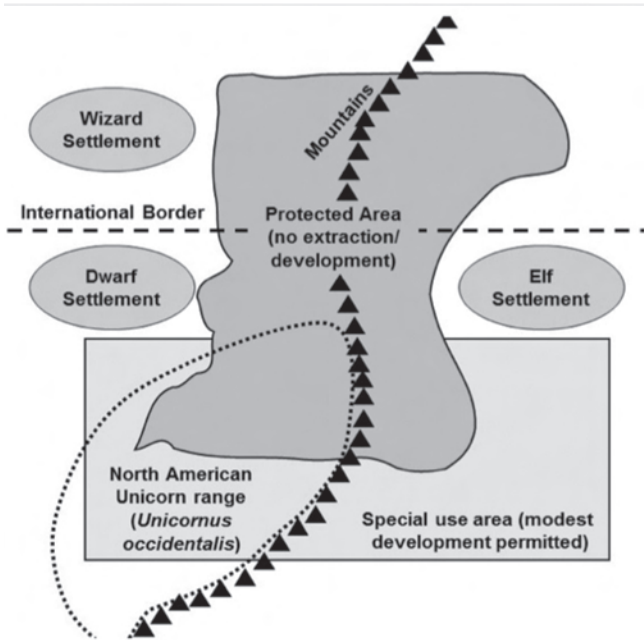


Figure 4. Hypothetical representation of the five boundaries: (1) biotic: North American unicorn range; (2) geophysical: mountains; (3) sociocultural: different city limits; (4) economic: boundary between permitted or unpermitted development; (5) political: international border.

such as biotic boundaries, exist outside of, or in spite of, human perception but are nonetheless processed through the human lens. A single boundary may be thought of as positive, negative, or insignificant depending on the context. Or, within the same context, different stakeholder groups may have drastically different perspectives of one boundary. The motivations and reasons for these differences in perspectives of stakeholders and contexts are critical to understand, as they play a significant role in both understanding boundaries and unbounding parks.

Conclusion

This paper has briefly examined the reasons for, benefits of, and present state of transboundary conservation. While transboundary conservation efforts have focused primarily on crossing international boundaries, we suggest that there are other boundaries, both human-generated and naturally constructed, that are related to and influence park management. Future transboundary management requires land managers to inventory these boundaries, as well as account for those that have been changed, ignored, or forgotten in order to move towards holistic park management.

Understanding how boundaries were created (whether socially or naturally), how they change across scales (whether temporally or spatially), and how fluid they may be (static or malleable) will inform more comprehensive management across boundaries at landscape scales. Further, considering all boundaries during stakeholder meetings and management decisionmaking will create better understanding and more holistic park management. While boundaries present challenges, they also present opportunities for park management insofar as we are able to use them to our advantage, or to cross them in an effort to “unbound parks” around the world.

While this paper asserts two broad boundary types and five specific boundaries, it represents only a first step in identifying and considering the many boundaries that are related to and affect park management and conservation. Additional research and consideration are needed to understand these boundaries as they relate to transboundary conservation efforts in order to overcome management challenges for the next 100 years.

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Perspectives on Visitor Use Management in the National Parks

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PUBLIC LAND MANAGERS ARE FACED WITH AN INCREASINGLY COMPLEX SET OF CHALLENGES associated with providing opportunities for enjoyment to the growing and diversifying public (McCool, Clark, and Stankey 2007). In response to these challenges, visitor use management (VUM) research emerged. VUM is the process of managing human use to maintain or achieve desired conditions or experiences (IVUMC 2016). This paper is designed to provide perspective and direction regarding VUM for another 100 years of success in national parks and other protected areas.

Where have we been?

Since the beginning of the National Park Service (NPS), the dual mandate of providing public enjoyment while preserving valuable resources has required sustainable VUM practices that balance human use with resource protection (Manning 2007). Challenges associated with sustainable management of parks and protected areas stem from many public lands being common pool resources (CPRs): where the use by one person reduces the amount available to others, yet excluding users is nearly impossible (Newsham and Bhagwat 2016). In terms of visitor use, the difficulties in sustainably managing CPRs result in crowding and overuse of resources, which degrade the integrity of the resource and the quality of the visitor experience. For decades, protected area managers have focused on addressing VUM challenges on public lands (Manning 2011).

Starting with a substantial rise in visitation to public lands in the 1960s, federal legislation began to require that agencies managing public recreation sites provide assessments that

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describe, report, and manage for a level of use that is appropriate for a given site (Manning 2007; McCool, Clark, and Stankey 2007). Borrowing from the concept of carrying capacity in the biological sciences, research related to visitor use on public lands recognized that this capacity is not only a function of natural conditions, but also of social values and visitor perceptions (Wager 1964). Due to this, capacity in protected areas is mostly concerned with the amount and type of use that can be accommodated in a defined area without unacceptable impacts to resources or the quality of the visitor experience (Shelby and Heberlein 1986; Manning and Anderson 2012).

Years of research have been dedicated to answering difficult capacity-related questions, which are essential to the development of sustainable VUM practices (Shelby and Heberlein 1986; Stankey and Manning 1986; Manning 2001, 2007; Manning and Anderson 2012). Over time, it became clear that there is not just one objective capacity for a park unit, but that capacity is driven by the purpose and management objectives of a given recreation site (Figure 1). From this understanding emerged management-by-objectives (MBO) frameworks that continue to guide recreation planning processes to date.

Figure 1. Like many other US national parks, Grand Canyon National Park has seen record-breaking crowds in recent years. Numbers alone, however, cannot tell us everything about what makes for a high-quality visitor experience. Years of research have been devoted to developing sustainable VUM practices. (Inset) Traffic backs up waiting to get into the park. (Below) Solitude is not always a prerequisite for having a memorable and rewarding experience. Both photos courtesy of Michael Quinn/National Park Service.



Management-by-objectives frameworks for parks and protected areas. Based on the realization that protected area capacities cannot be established without a clear designation of the purpose and objectives of a site, MBO frameworks help decisionmakers develop purposes and objectives, guide the process of acquiring the necessary information to make decisions, and help reach desired objectives. Multiple MBO frameworks were developed as agency-specific models or to improve on prior models, and provided a systematic process for making decisions related to VUM (McCool, Clark, and Stankey 2007). MBO frameworks generally have more similarities than distinctions and rely on the same basic model that contains three steps: (1) formulate management objectives and associated indicators and standards, (2) monitor indicators of quality, and (3) implement management practices to maintain standards of quality (Manning 2007; Manning and Anderson 2012). Examples of such frameworks include Limits of Acceptable Change (LAC) and Visitor Experience and Resource Protection (VERP). LAC is primarily used by the US Department of Agriculture–Forest Service while VERP is used more often by the NPS.

The VERP framework was developed to address management challenges and strategies that are specific to NPS. Compared with other MBO frameworks, VERP was designed to be part of the planning process and has largely become more of a way of producing a plan rather than a separate, capacity-specific process (McCool, Clark, and Stankey 2007). While integrating VERP into the planning process was the original intent (Hof and Lime 1997), applying VERP in other settings was a challenge for managers, and recognizable examples are few and far between. Despite challenges associated with VERP specifically, the development and use of MBO frameworks has been guiding protected area management for the last 40 years. Important challenges, opportunities, and lessons learned have emerged from that experience.

Where are we going?

Challenges associated with VUM are only likely to grow in many protected areas around the world. For instance, 51 national parks in the US broke their visitation records in 2015, and the national park system as a whole saw record-breaking levels of visitation, with over 300 million recreation visits (NPS 2016a). In the face of these high use levels, overcoming some of the barriers associated with VUM is essential to ensuring the successful management of protected areas into the next century.

One challenge with VUM is that many protected areas lack basic descriptive social data that act as a baseline of existing conditions. Although programs have been implemented to help protected area managers understand more about visitor demographics, few protected areas have information about what their visitors are doing and experiencing, or where they are going. For instance, protected area managers may want to manage their backcountry to minimize impacts, but do not know the number of people that are hiking in the area. MBO frameworks depend on having both a *descriptive* and a *prescriptive* component. As protected areas tend to be more crisis-oriented in their response to events, there is a tendency to jump to solving a “problem” (prescriptive) without first understanding the greater situation (descriptive).

In the past, public land management agencies in the US developed and applied MBO frameworks independently. The result is a variety of frameworks (e.g., LAC, VERP, etc.) meant to achieve the same goals and a corresponding lack of communication across agencies to disseminate valuable management strategies and lessons learned. Recent efforts to address some of these past trends and challenges resulted in creation of the Interagency Visitor Use Management Council (IVUMC). This effort represents six land management agencies that worked together to establish an MBO framework that can be applied across agencies in a variety of protected area contexts. The Visitor Use Management Framework (VUMF) that came out of the interagency collaboration provides guidelines for the VUM process and applies the same concepts and language to any type of protected area (IVUMC 2016).

While collaboration across agencies is important, the new VUM might still encounter the challenges of prior frameworks. Specifically, insufficient political will and organizational ability to implement MBO frameworks has led to the misapplication of concepts and ideas, in some cases resulting in high-profile litigation cases that could be avoided. One example is the Yosemite Valley Plan (YVP), where the Merced River Comprehensive Management Plan was deemed insufficient for addressing visitor use on the Merced River (Figure 2). Although public criticism and legal action against the plan stemmed from several issues, the most salient was that the indicator variables identified in the plan focused on wilderness values (Bacon et al. 2006). These wilderness-oriented indicators are not appropriate for addressing issues in a frontcountry setting such as the Yosemite Valley. The result was that the park had to start the plan over, spending additional time and resources developing a new program to address

Figure 2. Misapplication of prior VUM frameworks led to protracted lawsuits over how to manage the Merced River flowing through Yosemite Valley. Photo courtesy of Kylir Horton (via Wikimedia Commons).



visitor use (Yosemite National Park 2004). This case study exemplifies how indicators must be matched to clearly identified plan objectives (Manning et al. 2005). As the example illustrates, the success of the VUMF is still contingent on the political will and organizational ability to implement planning efforts informed by MBO frameworks. Without these capacities, any MBO framework will likely be unsuccessful.

Both managers and researchers are also beginning to recognize the dynamic, complex, and rapidly changing context in which protected areas exist. Although most MBO frameworks are designed to respond to change, many have only been applied on fairly small scales, such as a particular trail or feature. Managing by sites instead of systems may bring unintended consequences. For instance, reducing the size of a parking lot to limit the number of people who have access to a trail may result in road congestion, displacement/increased use in other areas, or resource degradation as people park vehicles further away and create social trails to access the trailhead. Implementing a management strategy for a single location without recognizing its context in a larger protected area may simply move the problems to a different location, or even create a new problem. How can VUM concepts be applied on a larger scale, such as an entire protected area or region, to help managers address rapid and dynamic change in a complex world?

How do we bridge the past and the future?

Previous sections have focused on what we have learned about VUM from past research and outlines current challenges and likely futures. This section offers a series of suggestions that help bridge the gap between the past and the future of VUM by providing a vision of how to move forward for another successful 100 years of national parks.

Build organizational capacity. NPS and other protected area agencies need to invest in their capacities to understand and manage visitor use. This includes staff who are trained in and understand the role of social science in protected area management. There are some positive signs that this is already occurring. For instance, both Grand Teton and Yellowstone national parks have recently hired social scientists. Although a single person is unable to address the multitude of concerns that face many park and protected areas, they can help parks prioritize resources for monitoring, implement plans and frameworks, assess needs, and coordinate research.

Embrace large-scale visitor use management plans. To address VUM issues in national parks, managers should fully embrace the concept of large-scale plans. Although many plans address visitor use on a smaller scale (such as trails, high-use features, etc.), there has been an overall hesitation to fully embrace explicit VUM plans on a park-wide scale due to the complexity of such a task. Many times, planning for visitor use is done within the scope of a different overall plan, such as a transportation plan. This leads to a piecemeal approach to VUM that ignores the interactive, complex, and highly dynamic nature of protected areas. The result of this is that management actions in one location may lead to unintended challenges in others. For instance, a transportation plan that addresses traffic congestion by introducing a shuttle system may result in backcountry problems as more people access these areas in clustered temporal distributions that negatively affect experiences and resources.

Instead of reacting to issue after issue, system-wide VUM plans would enable protected area managers to understand conditions, anticipate challenges, and minimize impacts to resources and/or visitor experiences.

Although large-scale VUM plans are a step in the right direction, they also need to be responsive in an uncertain future (McCool et al. 2015). Visitor use is not static, and assuming that future levels will be consistent with those of the past may be a mistake in a fast-changing world. Climate change, political support, demand for outdoor recreation, demographic structure changes, and economic twists and turns are only a few contributors to uncertain future visitation (Figure 3). Two key techniques that can be used to help managers address this uncertainty are scenario planning and adaptive management (McCool et al. 2015). When coupled, they can help managers realize and proactively respond to potential futures using a multitude of dynamic management techniques.

Leverage relationships. As insufficient funding is likely to remain a challenge for NPS, it is essential that protected area professionals continue to leverage relationships among many partners to help address VUM challenges. These partners include local communities, volunteer groups, nonprofit organizations, other public land agencies, universities, and international organizations. In particular, global partnerships with organizations such as the International Union for Conservation of Nature (IUCN) may be an untapped resource. These organizations have the capacity to understand and bring together protected area management

Figure 3. Skiers at Lassen Volcanic National Park. The possible impacts of climate change on winter recreation are just one of many visitor use imponderables park managers wrestle with today. Photo courtesy of the National Park Service.



strategies from around the world to form a systematic, adaptable approach to VUM on a more global scale (IUCN 2016a). Although there are groups addressing similar protected area challenges in IUCN (IUCN 2016b), the benefit of learning from and collaborating on VUM at an international scale is yet to be seen. Collectively, global partners can provide expertise, research experience, personnel to assist with projects, valuable insight, political will, and other capacities to help fulfill the dual NPS mandate of providing enjoyment while protecting resources.

Conclusion

VUM will continue to be a challenge for NPS and many other protected areas throughout the world. Although managing visitor use will undoubtedly be a difficult task, the past century of learning and research has blazed a trail forward. Young, driven, and inspired professionals around the globe are picking up that trail and continually furthering our understanding of how we can best provide for outstanding, transformational experiences while protecting valuable resources. We hope this essay provides insights and guidance into VUM issues as we moved forward into the second century of national parks.

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Bringing Parks Back to the People: Revisiting the Dual Mandate and Core Values of the National Park Service

Cassidy Jones, Nate Shipley, and Sabah Ul-Hasan

Introduction

THE NATIONAL PARK SERVICE (NPS) is tasked with protecting natural and cultural resources while simultaneously providing opportunities for public use and enjoyment. This dichotomous mission, known as the “dual mandate,” defines NPS’s unique and complex purpose. In 2016, NPS’s centennial year, many national parks saw record-breaking visitation (Repanshek 2016; Tabish 2016). The impacts associated with increased visitation garnered extensive scrutiny and focused attention on the challenges of managing for both resource integrity and social engagement.

Leading up to the centennial, NPS prioritized making the national parks relevant to all Americans (National Park Service 2011; National Park Service Stewardship Institute 2015). Though national park visitation is greater than ever (Flowers 2016), many Americans still appear to be unconnected to the parks (Peterson 2014). Enhancing relevancy and engagement while mitigating the ways in which people impact park resources presents yet another pair of disjointed challenges for NPS.

As we examine the core values of NPS, we review the historical treatment of the dual mandate and attend to the marginalization of the “public enjoyment” aspect of the NPS mission. We then explore ways for NPS to embrace leisure and recreation in order to foster stewardship among an increasingly diverse and urbanized American citizenry. To secure relevancy *and* reinforce conservation, we ultimately recommend that NPS re-calibrate its internal priorities to encourage use of parks and engender a long-term connection to nature.

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Where have we been?

The dual mandate stems from the NPS Organic Act of 1916, which states that the agency shall manage national parks for resource conservation and public enjoyment. Tension between the two edicts of the dual mandate developed quickly, and in 1925 NPS's first director, Stephen Mather, reasoned it would be impossible for the public to enjoy parks without maintaining intact resources (Martin 2005). The Redwood Act of 1978 (amending the General Authorities Act of 1970) supported Mather's position by stating protection should take precedence over use by the people whenever the two are in conflict (Dilsaver 1994). Current NPS management policies reaffirm resource protection as NPS's predominant duty (National Park Service 2006). While stringent resource protection policies have guided vital national park conservation decisions, we maintain that NPS should establish equally high standards for providing opportunities for public enjoyment. Alternatively, by minimizing its charge to provide public enjoyment, NPS further distances itself from the American people and from its duty to cultivate citizen stewardship.

The astonishing scenery and unique story of this country are assets shared by all Americans, and NPS must engage with the public as responsible owners and stewards of their communally owned parks. Yet, in current dialogue people are referred to in sterile terms, such as "carrying capacity" or "number of visitors," and the public enjoyment function of the dual mandate has taken a back seat in research discourse and management practice. Figure 1 illustrates how researchers have focused more on issues related to protection of the national parks *from* the people than on designing experiences *for* the people.

An imbalanced approach to researching and managing national parks may have contributed to the challenges NPS now faces. Within its overarching agency goal of achieving relevance, NPS addresses multiple issues connected to the public enjoyment edict. Cultural disconnect among young people, poor representation of diverse populations (both as park visitors and in the NPS workforce), and increasing incidents of visitor transgression in parks all are complex problems of public enjoyment (Peterson 2014). With this in mind, we consider the commendable work NPS is doing to address such issues, and we urge NPS to take further action by adopting an internal priority shift toward public enjoyment.

Where are we going?

New park interpretation practices exhibit NPS's desire to focus more on visitor enjoyment and engagement. For example, park interpreters are beginning to use facilitated dialogue techniques to create interpretive programs that involve the lived experiences and perspectives of visitors (Stephen T. Mather Training Center 2013). Outside of park settings, a growing number of new programs and strategic plans invite people to explore and connect with NPS. Initiatives include: The Urban Agenda, a plan to connect NPS to people living in cities (National Park Service Stewardship Institute 2015); OneNPS, a strategic objective to activate the synergy of parks and NPS programs in communities (National Park Service Stewardship Institute 2015); and Every Kid in Park, a program to give all fourth graders in America access to federal lands and waters (US Department of the Interior 2017). In addition to new programs, recently designated national monuments, such as César E. Chávez and Charles

visit their national parks, it is crucial for them to be treated as stewards and conservationists rather than as threats to resources. Furthermore, people need to feel emotionally connected to parks in order to develop a sense of ownership and an ethic of stewardship.

How do we bridge the past with the future?

Leisure is a direct motivation for the public to visit this country’s national treasures (Sne-penger et al. 2006). People who visit national parks do not do so to be instructed; rather, they visit to experience and be moved by the grandeur of iconic places (Figure 2). Emotion is a critical and fundamental motivation of human behavior (Dolan 2002; Phelps and LeDoux 2005). Thus, if people are emotionally connected to parks and feel as if they belong, they are more likely to support the parks and treat them respectfully. By focusing on leisure and recreation as mechanisms that foster emotional connection, NPS can help visitors develop an ethic of care and a willingness to safeguard parks for future generations.

Figure 2. People don’t come to national parks to learn lessons. They come to be emotionally moved by the experience of iconic places. (Above) Vietnam Veterans Memorial (photo courtesy of Marvin Lynchard/Department of Defense). (Below) Big Bend National Park (photo courtesy of Niagara66 via Wikimedia Commons).



While continued focus on providing leisure is one method for sustaining support for parks, further consideration should be given to the unique park characteristics that appeal to various visitor identities. One potential method for understanding how national parks appeal to people is examining the brand of NPS. Graves (2013) presents a relevant psychological rationale underlying consumer behavior: when people buy products, they may often do so largely based on the branding of the product as opposed to an overt rationalization of the purchase decision. Extensive marketing research has constructed an entire consumer psychology of brands (Schmitt 2012), providing vital concepts such as brand attachment and brands as identity signals. Applying psychological principles of branding, NPS can design a brand that people trust and value, much like they trust and value their favorite brand of car or computer. With this in mind, we are compelled to ask some difficult questions: Does the current brand of NPS reflect the duality of its mission? Does the NPS brand suggest positive emotional experiences for visitors, or does it instill a sense of restriction to the public?

If the NPS brand communicates how it sustains rather than restricts access to parks, the agency may appeal more broadly to people who are not already natural resource enthusiasts and avid outdoor recreationalists. NPS can better define and exemplify its brand by reconsidering the public image it portrays. For instance, NPS can emanate a sense of familiarity to visitors by presenting parks as special places and not just as protected areas. Similarly, a renewed focus on serving visitors may stimulate profound, lifelong connections to national parks that extend beyond one-time visits.

In order to manage a possible rebranding, NPS should consider restructuring its current ranks agency-wide. By involving more communicators, marketers, psychologists, sociologists, and other professionals from the social science disciplines, NPS would be better positioned to attend to both prongs of the dual mandate equally. By building a workforce that hosts specialists in human behavior and other social disciplines, NPS can better create a foundation that reflects both the resource and social aspects of stewarding the national parks.

Lastly, NPS should cultivate stronger external relationships with state, regional, and local parks and nature centers (Figure 3). Research suggests that regularly occurring family leisure activities are better predictors of overall family cohesion than those that require greater investments in time, money, or effort (Zabriske and McCormick 2001). Similarly, environmental socialization research suggests the importance of recurring, expanding, and frequent interaction with nature in the developmental stages of many “natural-history-oriented young adults” (James, Bixler, and Vadala 2010).

Considered together, core family leisure and environmental socialization conceptually support the recommendation that NPS should consider strengthening relationships with local nature-based parks. While some natural resource professionals may reason a single visit to a national park provides a transformative experience, it is an unlikely outcome for most visitors. It is more likely that visitors develop lifelong interests in nature through repeated emotional experiences with nearby nature. By supporting public engagement with nearby parks and natural spaces, NPS can develop visitor interest in local natural and cultural heritage, which may evolve into a broader interest in protecting and enjoying national parks.



Figure 3. NPS should cultivate stronger external relationships with state, regional, and local parks and nature centers. Research suggests that regularly occurring family leisure activities are better predictors of overall family cohesion than those that require greater investments in time, money or effort. Among the groups Santa Monica Mountains National Recreation Area partners with are the City of Malibu Parks & Recreation Department, The Children’s Nature Institute, California State Parks, and Los Angeles County Recreation & Parks Department. Photo courtesy of the National Park Service.

Summary

The dual mandate enunciated in the National Park Service (NPS) Organic Act has guided administration and management of America’s national parks since 1916, shaping an enduring and inspiring legacy. But as modern society evolves and new generations mature, NPS must direct increasing energy and attention to maintaining its cultural relevancy. While acknowledging the importance of preserving resource integrity, NPS would benefit immensely from making a commitment to care for its visitors in the same manner in which it cares for the resources under its purview.

NPS can strengthen its relationship with the American people by talking *with* visitors as opposed to talking *to* and *about* them (Figure 1a); after all, people come to the national parks to seek emotional and fulfilling leisure experiences, not to be lectured and managed (Snepenger et al. 2006). NPS can expand its workforce to include people with educational backgrounds in social disciplines to balance staff who specialize in science and conservation, a restructuring that honors the dual mandate. NPS can allocate resources to constructing new affiliations with state, regional, and local parks, nature centers, and cultural heritage sites to encourage more frequent and recurring experiences in parks and nature beyond the occasional visit to a national park.

To many Americans, NPS is the green and gray uniform, the arrowhead, the American bison, the giant sequoia, and purple mountains' majesty. However, if a modern public recognizes national parks as crucial bastions of the nation's cultural and natural history, NPS is more likely to endure as a relevant cultural concept for *all* Americans. By seeking ways to become not just relevant but *indispensable*, NPS encourages the American public to become invested in national parks. Though conservation work is both prudent and necessary, by providing opportunities for quality public enjoyment, NPS fosters key stakeholder support that will protect the national parks in perpetuity.

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Reimagining the National Park Service to be a Resilient Agency

Gina L. Depper, Thomas Lang, Mariana Rocha Souza, and Brooke Mechels

Introduction

THE ORGANIC ACT, signed in 1916, established the National Park Service (NPS), an agency to manage the parks of the United States of America. When the agency was launched it inherited the management of 35 national parks and monuments. The agency now manages 417 units which span more than 84 million acres across the United States and several international locations. With the breadth of the system and the diversity of the units, management can be a challenge. Declining funding over time has left NPS stretched thin (Government Accountability Office 2016). Environmental issues such as climate change have complicated decisionmaking with uncertainty and growing data needs (Field et al. 2007). Social issues, such as rising visitation and the homogeneity of visitors, are other concerns for NPS (Manning and Anderson 2014; National Park Service 2011). As the National Park Service enters the next 100 years, how can it be resilient to the changes it will encounter?

The purpose of this paper is to share some insights on this question. When discussing resilience we mean “the ability to recover from change” (Hammit and Cole 1998: 155). We address the resilience of NPS through its mission, education, and partnerships.

NPS is renowned for its dual mission of providing for public enjoyment, while preserving park resources unimpaired for future generations. However, social and environmental changes are increasingly making the mission difficult to achieve. How will change continue to impact the mission and what can NPS do?

National parks were seen as valuable places for education from the agency’s onset (Runte 1997). Yet NPS increasingly recognizes that a large portion of the population is absent from its units. Thus, education is expanding beyond park boundaries. Are the initiatives that NPS offers enough to create an era of widespread public support?

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Partnerships have been important to national parks even prior to the agency's existence. Amid the current funding climate, NPS has sought new partnerships. What sorts of partnerships should NPS pursue to move the work of the agency forward and to make up for funding and staffing shortages?

Through reviewing the mission, education, and partnerships in terms of where NPS has been, where it is going, and how it can get there, we begin to sketch a resilient way forward for the agency.

Where have we been?

Defining the National Park Service mission. As one of the first major land conservation agencies in the world, the National Park Service has stood on the front lines of cultural and ecological preservation. For NPS, resilience has come through its reliance on the Organic Act, the first federal piece of legislation that recognized the coupled importance of access to public land, and of preserving the physical aspects of the American experience, “for the benefit and enjoyment of the people.”

Despite the dual mission, it is important to remember that “when national parks were first established, protection of the ‘environment’ as now defined was the least of preservationists’ aims” (Runte 1997: 11). Showcasing the natural wonders and proving the nation’s worth to the world was the motivating factor (Figure 1; Runte 1997). At the agency’s outset there was a push to get people in the parks. Many were anxious that without experiencing the parks, the public would not support “scenic preservation” (Runte 1997: 89–91). While focusing on tourism led to stability for the agency, it brought about concern for the future of the resources (Tweed 2010).



Figure 1. Showcasing natural wonders was one of the prime objectives in the early years of the National Park Service. Wawona Tree, Sequoia National Park. Photo courtesy of Keystone View Company, Library of Congress.

The late 1960s and 1970s were a time when more consideration for the environment took place. During this period, legislative initiatives were passed in an effort to protect the environment. The passing of the National Environmental Policy Act in 1970 led NPS to begin conducting systematic assessments of the landscapes and environments under its charge. The General Authorities Act, also passed in 1970, facilitated the development of a more cohesive agency, as it required NPS to be managed as whole, rather than independent park units. These changes led to a more defined management structure within NPS, as well as a larger consideration for wildlife and environmental conservation requirements.

While the NPS mission promises the best of both worlds, conservation and use do not always go hand in hand. The NPS *Management Policies* of 2006 clarify that when there is a conflict between the two that conservation should take precedence (National Park Service 2006). However, a lack of data and time can make it challenging to follow this policy. NPS managers often find themselves in tough situations, making decisions with the resources available, to best meet the mission. In the 21st century the mission represents the idealistic optimism of the past, but current visitation and a changing environment put managers in a precarious balancing act.

Education in the early days. The push to get people into parks was successful, and throughout the 1940s and 1950s NPS garnered tremendous support from the American public (Huth 1990; Runte 1997). With people in the parks, NPS leadership recognized the opportunity for education. As early as 1917, NPS was offering tours and lectures in the parks (Huth 1990). Interpretive programs with rangers and park museums surfaced in the 1920s and helped visitors to learn about the environment they were experiencing (Huth 1990). While valuable, early education efforts concentrated largely on visitors and occurred mostly within the parks.

Over the years, education and interpretation expanded. NPS developed interpretive visitor centers and living history programs to provide for visitor enjoyment (Mackintosh 1986). As technology progressed NPS worked to keep up, providing radio, audio-visual displays and eventually a website for every unit (Brockman 1978; Mackintosh 1986). While education for park visitors continues to be important, NPS is aware that its visitors no longer reflect the demographics of the American public (Humes, Jones, and Ramirez 2011; Taylor, Grandjean, and Gramann 2011). The need to expand beyond park boundaries and reach out to new audiences to facilitate connections has become apparent. Since the Interpretation and Education division is the welcoming face of NPS, it has taken up the charge.

Using partners to set up the young agency. The early years of NPS were faced with two World Wars, an economic depression, and a Dust Bowl that affected the entire country. Regardless of the challenges, the young agency fought to create a solid foundation, and much of its success can likely be attributed to partnerships. NPS was open to many kinds of partnerships and established them with private industry, nonprofit associations, universities, and government programs.

Some of the earliest partnerships were established with railroads to give Americans access to the national parks (Runte 1997). Quickly following industry partnerships was the development of nonprofit partners. The National Parks and Conservation Association (now the

National Parks Conservation Association) was founded in 1919 with several aims, including education, research, and encouraging visitation (Miles 1995). At the park level, organizations were created to allow for the facilitation of donations (Brockman 1978). University partnerships were also essential to the young NPS. Stephen Mather, Horace Albright and Newton Drury, three of the first four directors of NPS, leaned heavily on their alma mater, the University of California–Berkeley (UC–Berkeley). UC–Berkeley alumni and professors undertook research in the parks, the university hosted conferences, and the NPS Education Division was housed on campus during its early years (Brockman 1978; Martin 2015).

Throughout the past, NPS used partnerships to help at critical times, but often found resilience from within. Going forward, NPS could benefit from engaging with external support systems even more.

Where are we going?

Difficulty with the dual mandate. For the past century NPS has been performing a unique feat: it has substantiated and preserved American history and contributed to environmental conservation and recreational opportunities. In the early days, preservation and public use coexisted peacefully. The number of visitors to the parks was small enough to ensure the durability of the resources (Sax 1980). This is no longer the case.

Over the last few decades, NPS units have seen a marked increase in visitation numbers—by 2000, Great Smoky Mountains National Park was hosting over 10 million visitors a year. And in 2015, NPS units in total saw over 305 million visitors. With popularity of national parks at an all-time high, these numbers are not expected to drop. What NPS must now consider is how to sustain the agency’s mission of environmental preservation as it comes into conflict with public use.

The mission is further complicated by a dynamic and changing environment. Issues such as climate change, pollution, and the fragmentation of ecosystems make it impossible to preserve the environment as it was. Given this, NPS has sought to conserve ecosystems in a state that is as close to natural as possible. The difficulty with this is the assumption that Europeans found the land in a natural, untouched state when they arrived (Tweed 2010). Prominent theory suggests that humans entered North America as early as 18,000 years ago and research indicates that they impacted the land (Steinberg 2009). These findings make it tough to determine what the natural state of the land was in order to keep it that way. With continued predictions for environmental change, preserving the land unimpaired is a promise NPS cannot keep. To be resilient, the agency will need to better communicate the complexities of its mission to the public and gain their understanding and support.

Education as a way to connect with the nation. The recognition that visitors to NPS units do not reflect the American public has led to a concern that people who do not visit the sites will not feel connected and will not support them. NPS education efforts have tried to address this and bring new audiences into the units.

Research has shown that some minority groups visit NPS sites less than white, non-Hispanic populations (Taylor, Grandjean, and Gramann 2011). Sharing previously untold stories at NPS units has been one way to make visits more relevant to diverse audiences. The

Oconaluftee River Trail connecting the Oconaluftee Visitor Center and Cherokee, North Carolina, at Great Smoky Mountains National Park is an example of this. The park partnered with the Cherokee to provide interpretative signs on Cherokee history alongside the trail. This gave the Cherokee the opportunity to share their story and make the park more significant to them.

Children are another audience that NPS education efforts are hoping to reach. Growing evidence shows that youth spend less time outdoors and are not as connected to nature or history as previous generations (Clements 2004; Charles and Louv 2009; National Parks Conservation Association 2009). The Every Kid in a Park program was developed to change this and bring fourth graders into parks (Figure 2). NPS units also offer curriculum-based programs to reach out to schools and iTunes U podcasts to help educators learn and share information with students. Lastly, the Junior Ranger program aims to involve children in activities to learn about parks. Such programs facilitate engagement with NPS and its resources.

Education initiatives have also reached beyond park borders to meet people where they are. NPS online “learning quests” share information about parks, resources, and events. Distance learning has made “virtual field trips” available for teachers to share with students. And, a web ranger program exists to allow kids to learn about NPS in a digitally interactive way. All of these collaborations and programs are likely to help NPS be resilient in its second century.

Partnering for survival. A resilient agency needs funding and staff for its units. With dwindling congressional support, partnerships with corporate sponsors are being explored as a potential financial remedy. Sponsorships like these are managed through the National Park Foundation (NPF) and other similar organizations. The revision to Director’s Order #21 allows superintendents and regions to accept donations. For the centennial, several donation types were tested out. These included allowing vehicles to exhibit donor labels and letting an alcohol brand sponsor the Find Your Park campaign. These policy changes received criticism from various organizations (e.g., Public Citizen, CREDO



Figure 2. The Every Kid in a Park program gives free admittance to national parks to every fourth grader across the country. Photo courtesy of Shenandoah National Park.

Action, and the Campaign for a Commercial-Free Childhood), but support from the NPF and the Public Lands Alliance. Given the pressing challenges of NPS, sponsors are a great way to relieve pressure. However, partners that align with the agency's mission and values are ideal.

The agency partakes in a plethora of other partnerships, including those with universities and land management agencies. Universities have continued to play a role in national parks through research, lectures, and programs that train future NPS professionals. An example of a partnership to tackle staffing issues and training a new generation of park professionals is the Yosemite Leadership Program (YLP). YLP creates an opportunity for undergraduates to act as park rangers (Figure 3). In this program students are immersed in field based experiences. The partnership meets critical NPS needs and promotes awareness of the agency at the University of California–Merced (UC–Merced).

In a rapidly changing environment, seeking out partnerships with other land management agencies facing similar challenges is important. Under climate change, many agencies have experienced expanding fire seasons. The National Interagency Fire Center is a partnership between eight agencies and organizations that all deal with wildland fire issues. The center helps plan for and manage fires across the agencies' units. In a time with funding and staffing shortages, leveraging resources in this way can assist NPS in its resilience.

How are we going to get there?

Maintaining the mission. In order to maintain NPS's mission, research is necessary. NPS needs to better understand the social and environmental changes occurring and information is needed as fast as decisions have to be made. To achieve this, the bridge between scientists,

Figure 3. The Yosemite Leadership Program is one of several efforts to train new park professionals. Photo courtesy of the YLP/University of California–Merced.



scholars in the humanities, and NPS units needs to be strengthened. Connecting staff with scientists and other scholars is a way to communicate the needs of NPS and increase opportunities for research. Organizing professional meetings in NPS units and presenting to staff is another way researchers can help. These types of meetings share cutting-edge work that may be applicable and able to be implemented. With travel ceilings becoming a challenge for NPS, this is a way for some employees to attend conferences. Such collaborations can help bring science and humanities scholarship into decisionmaking.

In addition, the complexities of the mission need to be communicated to the public to help people understand the reasons for NPS decisions. Citizen science and similar forms of volunteerism are a great way for the public to better understand the changes taking place. Creating opportunities to join in research which documents social and environmental changes could be beneficial for park data needs as well as public understanding of the issues.

NPS initiated a successful digital campaign for the centennial using the hashtag #find-yourpark. There is an opportunity through media to raise awareness about change and the NPS's mission. New tactics could crowd-source evidence on "environmental changes" or a #supportyourpark campaign could be initiated to support park managers when making tough decisions. These tactics could be effective, especially when seeking to reach non-visitors.

Engaging the public through education. To engage the next generation of park visitors and supporters, NPS should invest further in education. There are already successful programs in place (i.e., Every Kid in a Park and Junior Rangers). We encourage more programs like these and suggest that future programs not be restricted by age or grade level. This could become a reality through a donation program. The NPF runs a campaign, Open OutDoors for Kids, where donors support getting kids outside. Marketing this campaign at a local level could be helpful.

NPS education efforts should also target parents. There is readily available information on the NPS website for teachers and kids, but not for parents. Research indicates that parents are primary influencers in the development of environmental commitment (Chawla 1999). Given their role, more focus should be on helping them cultivate environmental stewards. Visiting parents could be informed, through instructional kits or short programs, on how to use the park to teach values and concepts to their children.

Lastly, research suggests that repeated experiences are important to developing concern for the environment (James, Bixler, and Vadala 2010). Local and state parks are often closer than national parks and can provide continued experiences which will allow a connection to nature to develop. NPS should strive to facilitate access to these units as well. For example, links to state and local park websites could be placed on the NPS "Find A Park" webpage.

Partnerships to address structural issues. To be resilient, NPS should pursue partnerships that address critical needs such as funding and staffing. Corporate sponsors are one way to do this; however, some see partnerships with certain companies as damaging to the agency. Exploring partnerships with entities that share NPS core values is important. Donations are another way to meet NPS needs. Making the public aware of projects at local NPS sites, the costs for them, and their importance could encourage donations. Donors are more

likely to give when they know what their money is funding and this strategy would allow for engagement.

Partnerships that prepare the agency for the future are also critical to resilience. The YLP at UC–Merced is beneficial for parks by increasing the number of trained rangers and young supporters, and for students by helping them to develop careers. This type of program should be extended to other parks around the country. Additionally, increased communication with universities about academic programs could be useful. With declining training dollars, ensuring that university programs are providing the skills that future NPS professionals need is important.

Conclusion

The National Park Service faces many challenges in its second century. However, the dedication and ingenuity the agency showed in handling the obstacles in its first century can only lead to optimism for the next. Resilience for the agency will take a multi-faceted approach, including research, communication, outreach, program development, funding solicitations, and training collaborations. This article considered NPS resilience in terms of the mission, education, and partnerships, and several ways forward were identified. These suggestions may help achieve resilience for the National Park Service in its second century.

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Into the Second Century of the National Park Service: A Synthesis of Student Perspectives at 100 Years

*Peter W. Metcalf, Zachary D. Miller, Peter Mkumbo, Gina L. Depper,
and Jennifer Thomsen*

AT THE DAWN OF ITS SECOND CENTURY, the National Park Service (NPS) faces an incredible number of complex and difficult challenges. Some of these were highlighted by the authors of this special section, including: achieving both aspects of the NPS's dual mandate; protecting resources in the face of climate change, land development, and record visitation levels; securing sustainable funding; adapting to changing visitor use patterns and leisure preferences; and building relevancy with an urbanizing and diversifying population. How NPS responds to these and other challenges, as well as to those that will undoubtedly arise, will largely determine its future. The inaugural George Wright Student Summit provided the opportunity for the voices of a younger generation to express their own ideas and perspectives about what these challenges are and how to best address them, as well as a vision for NPS moving into the second century.

Responding to critical challenges is not new to NPS. Throughout its history, NPS has fought for political relevancy, struggled for sufficient funding, adapted to changing leisure and travel patterns, addressed transboundary threats, and reimagined how it tells the story of America (Keiter 2013; Harmon and Conard 2016). Along the way, NPS has become a global leader in scientifically informed protected area management (Keiter 2013). The national park system has grown from a handful of mostly Western parks to having a presence in rural and urban areas in every state and territory. NPS is staffed by tens of thousands of highly dedicated and skilled personnel and enjoys broad public support (Pew 2015; NPS 2017a). We believe NPS is well positioned to navigate these challenges in a manner that energizes

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the storied organization and help make parks more relevant to the changing dynamics of our country and world.

Boldly moving forward: Reflections on the special section

The articles included in this special section of *The George Wright Forum* provide a reflective and thoughtful discussion on how NPS might effectively respond to the challenges it faces entering the next century. The Student Summit participants and their faculty advisors intentionally sought to offer bold and creative ideas unbound by common pragmatic or research constraints. Some of these ideas cut against our individual or collectively held sacred truths about park and protected area management. This article provides a synthesis based off the previous articles. In this, the authors of this article identified four common threads that emerged from the collection: Parks are for people; Promote the national parks; Building bridges across boundaries; and Embrace institutional reform. Together these four threads weave in and out of the collection to frame a vision that NPS, scholars, and practitioners can follow boldly into the agency's second century. In the following sections, we summarize and reflect on each thread.

Parks are for people

The first thread is a clear call for a stronger and more visible commitment to the public enjoyment aspect of NPS's mission. The park system exists in large part as spaces for people to play in, explore, recreate, and escape the pressures and challenges of everyday life. They offer unparalleled opportunity for learning and discovery, not just about park resources, but with friends and family. Yet, there is good reason to ask whether people see themselves *in* the parks or whether they simply see parks as types of museums that protect our history, our heritage, or the environment. And if the former, which people identify with parks and why do others not? NPS, Jones et al. (this issue) write, must care for visitors to parks to the same degree that it so diligently cares for the natural, cultural, and historic resources it protects. Such diligent attention to visitor use and enjoyment is critical to build and maintain cultural relevancy in today's society (Reynolds 2010; Peterson, 2014).

At first glance, it would be easy to miss how potentially subversive to NPS priorities this suggestion is. After all, the parks are witnessing record visitation and struggling to protect resources in the face of such onslaught (Keiter 2013; Flowers 2016). Yet, the authors are on solid ground when they question the agency's commitment, communication, and culture around the public enjoyment aspect of its mission. NPS has a complicated history with where people fit into its spaces and mission. Many of the iconic landscape parks, particularly in the West, were built on the erasure of indigenous peoples (Spence 1999), an erasure that is only recently being acknowledged and fitfully addressed (Nabokov and Loendorf 2004; King 2007; Wolfley 2016). Similarly (but in no way comparably), NPS's commitment to resource protection—which is unquestionably vital—has led to less stewardship of the visitor experience, or, worse, an organizational culture that can view visitor use as antagonistic to resource protection instead of the reason for it. Jones et al.'s word illustrations (this issue) artfully suggest how this cultural orientation has led to an imbalance in research and management

priorities between the two aspects of NPS's mission. This is further evidenced by the historical focus on visitor carrying capacity, as well as limited priority given to visitor use planning in its own right and at park-unit scales (Miller et al., this issue).

Going forward, NPS is encouraged to reflect on what image it communicates to the public about its place in parks. A brief review in February 2017 of more than 40 park unit home pages across all types of units and regions of the country underscores the current misalignment. The dominant photos on almost every park unit home page depicted unpeopled landscapes, or historic or cultural objects. Even pictures of visitor facilities such as campgrounds or urban running trails contained few people. Pictures that did contain people usually showed them at a distance, often standing politely as some uniformed personnel gave a talk. Close-ups, laughter, families, and play were only occasionally included. Notably only a handful of pictures depicted people of color, even in culturally oriented parks or parks located close to ethnically diverse communities. Anyone who visits these park websites would be justifiably excused for thinking that only older, white, middle-class nature-lovers belong in parks.

Changing this perception is essential if NPS wants to maintain long-term relevancy to the American public. Recent efforts to partner with community groups in urban, rural, or minority communities are to be commended and expanded. Yet, recasting parks as places for people requires more than just outreach and marketing. It requires an openness by park management to allow, encourage, and plan for new and diverse ways of enjoying that space. Greater investments in social science research would provide managers a more informed understanding of how people relate to, use, and want to use park spaces (Miller et al., this issue). This should be coupled with rigorous, integrated visitor and resource planning so that the two sides of the dual mandate can be simultaneously advanced as mutually supportive goals rather than antagonistic ones.

Promote the national parks

Addressing many of the challenges the parks face requires NPS to cultivate a broad base of social and political support. The Organic Act explicitly directs that NPS “*shall promote and regulate the use of Federal areas known as national parks...*” (16 U.S.C. §1; emphasis added). It is not discretionary, but rather a statutory and pragmatic imperative that NPS actively strives to inform the public and policymakers at all levels of government about why parks are important socially, culturally, economically, and ecologically to the health and vitality of the nation.

The recent national campaigns Every Kid in a Park (US Department of the Interior 2017) and Find Your Park (Figure 1; NPS 2017c) are great starts in raising visibility and getting new people into parks. Similar national campaigns that encourage people to visit parks should continue to be developed in partnership with state and local tourism bureaus, the tourism and outdoor recreation industries, conservation organizations, and other interested partners. Targeted efforts that seek to build awareness of lesser-known, less-visited, or local national park system units should also be undertaken in partnership with local businesses, educational organizations, and community groups (Depper et al., this issue).



Figure 1. The Find Your Park advertising campaign helped drive visitation to the US national park system to an all-time high of 331 million visitors in 2016. Photo courtesy of Lyndon B. Johnson National Historical Park.

Promotional efforts should strive to improve the diversity of visitors and the agency workforce to better reflect the changing face of America—a widely recognized priority (Peterson 2014) and the focus of NPS’s recent *Call to Action* (NPS 2011). Jones et al. (this issue) make a highly provocative suggestion that to better reach new population segments (and especially younger demographics), NPS may need to rebrand itself from an agency that protects resources to an agency that provides special areas for leisure, learning, and discovery. As part of this rebranding, NPS and its partners could actively promote opportunities for people to learn and experience new ways to enjoy the outdoors. Just as visitors today can participate in ranger-led interpretive programs or park tours, visitors tomorrow could enroll in courses that teach outdoor recreation skills from camping to rock climbing, snorkeling to bird watching, among many others. Such courses would help people associate the national parks with being desirable spaces for recreation. In a similar vein, Depper et al. (this issue) suggest that the use of citizen science-type programs could lead to both greater support and understanding of the parks. This could help the public move from merely finding their park, to claiming a greater responsibility as citizen stewards of their national parks (Pitcaithley and Diamant 2016; Jones et al. this edition).

Finally, promoting the parks clearly must go beyond encouraging and facilitating visitor experiences to include the hard work of increasing public literacy about the national park idea and its importance to the American experiment. At their best, parks reflect our greatest

virtues as a people and actively promote democracy and equality through the quotidian interactions of visitors from many walks of life, as well as through the interpretation of our many stories. Parks also push us to live up to our ideals by shining an honest light on the darker episodes in our history, our present, and our collective psyche. And parks can be critical instruments of building peace and understanding between nations (Krafte et al., this edition). NPS is encouraged to be bold in communicating its importance in the social and political life of the country.

Build bridges across boundaries

Successfully managing the myriad challenges of the next century requires building bridges across external and internal boundaries. Krafte et al.'s brief history of transboundary parks (this issue) vividly illustrates that working across boundaries is of course not new. Yet in this era of rapid social and ecological change, it is more important than ever. The idea of building bridges offers a useful metaphor for this effort. Successful boundary spanning work must be deliberate, purposeful, and carefully designed and maintained or it is likely to fail. While bridges make boundaries more permeable, they also recognize the distinctiveness of the entities being linked, be they government agencies, human communities, conservation reserves, or social and ecological systems. It is imperative that NPS retains its distinctiveness as a conservation agency while opening itself up.

The first boundary to bridge is jurisdictional. Conserving ecological processes, viable populations of many species, or space for species to adapt to climate change requires greater collaboration with other federal resource agencies as well as state, tribal, and local governments. In certain places, such as the Crown of the Continent and Greater Yellowstone Ecosystem, NPS has made steady strides toward more coordinated regional management (Sax and Keiter 2007). Yet even in these locales, such cooperative efforts have often run afoul of different planning processes, budgetary issues, and land use priorities. Greater attention to and research on how to overcome the various social, political, and institutional obstacles to secure better cooperation should be a priority in the years ahead.

Visitor use planning must also be undertaken at larger, multi-jurisdictional scales. To facilitate this process, Miller et al. (this issue) encourage the development of a “common language” in management-by-objectives planning frameworks. This bridge would smooth the collection and sharing of relevant social data as well as foster planning efforts that treat each agency's space as part of a larger recreation system. In turn, appropriate places for existing and emerging recreational activities could be debated (e.g., the disagreements over mountain biking, BASE jumping, kayaking, and snowmobiling in national parks) and identified (Figure 2). Other federal agencies would also be better positioned to handle the spillover from crowded national parks. Krafte et al. (this issue) point out that this will entail crossing firmly established sociocultural and economic boundaries when it comes to what forms of leisure and recreation are considered “appropriate” within national parks.

The authors widely encouraged the continued cultivation and expansion of partnerships with universities, nonprofits, and other agencies. Such partnerships are vital for conducting research, improving the visitor experience, reaching underrepresented populations, engag-



Figure 2. Highlining at Taft Point, Yosemite National Park. Debates about the place of so-called extreme sports and recreation activities within national parks could be informed by management-by-objectives planning frameworks. Photo courtesy of LiAnna Davis via Wikimedia Commons.

ing the public effectively, and strengthening the overall management of the parks. Partnerships with state and local park systems, Jones et al. (this issue) argue, could be a particularly productive way to build long-term cradle-to-grave support for park and protected areas.

Some of the boundaries identified for bridging are *internal* to NPS. Bureaucratic division of labor and a reluctant leadership have hampered effective unit-wide visitor use planning (Miller et al., this issue). Krafte et al. (this issue) go a step further, arguing NPS would benefit not just from greater coordination within park units, but working as an integrated park system rather than a collection of individual units under a common agency. Some of the most difficult and important boundaries to bridge, however, may be conceptual. The assumptions about the role of people in parks, NPS preservationist paradigms, the role of science and uncertainty in decisionmaking, the concept of agency as expert, and public participation in agency decisionmaking all could benefit from collective interrogation and reflection.

Finally, Thomsen et al. (this issue) and Depper et al. (this issue) raised the importance of developing and encouraging the next generation of park professionals. In addition to university-based professional management programs and associations cited therein, this effort should include programs to develop career on-ramps for other types of skilled workers or to raise the visibility of NPS as a desirable career opportunity among a wide sector of the

American public (Nelson 2016). Programs like the Latino Heritage Internship Program are encouraging steps in the right direction (Figure 3; NPS 2016).

Embrace institutional reforms

The fourth and final thread that connects these pieces together is the need to embrace myriad institutional reforms. This will not be easy. NPS is a proud bureaucracy with a storied history of accomplishments (Goodsell 2011). But the agency must not become a living history museum of bureaucratic organization and 20th-century scientific management. The merits of structural change aside, the reforms suggested by the authors of this special section are primarily to organizational culture and priorities.

Many of the ideas suggested invite NPS to undergo critical reflection at every level of the institution about its basic assumptions surrounding its mission, the public, nature, and even the park idea. One key area of reflection is what constitutes acceptable human use of the national parks. For the most part, our mental models are stuck in a post-War perspective of private cars, family picnics, hiking, and ranger-led programs. As the public's leisure preferences shift, NPS must carefully consider where and how it can accommodate new uses, not just resist on traditional or ideological grounds. Any decision must evaluate the present and future visitor experience as well as the conditions and character of affected resources. This reflection process must be continuous and would be well served by the use of both descriptive and predictive models.

NPS must also continue to grapple with the character of its relation to the public. The public must become partners in stewardship, not simply visitors (Jones et al., this edition). This shift will require the agency to rethink its expert identity and positionality in decision-

Figure 3. The National Park Service and Hispanic Access Foundation work together to provide the Latino Heritage Internship Program, which “connects cultures in conservation” and provides on-ramps to agency employment. Photo courtesy of the National Park Service.



making processes. Efforts to improve public engagement and participation practices are widespread but much work remains before they are successfully institutionalized (Leong, Emmerson, and Byron 2011).

Finally, a key starting point for institutional reform would be to hire more people trained in the social sciences, humanities, education, marketing, and communications (Thomsen et al., this issue; Miller et al., this issue). Hiring more people with experience working in other park systems (state, county, city) or nongovernmental organizations would further diversify the agency's professional expertise and backgrounds. Together this would bring fresh perspectives, knowledge, skill sets, and, importantly, a broader set of values to bear on management activity and priorities. These workforce reforms would help develop organizational capacity to successfully manage park visitors, build partnerships, and engage the public in productive dialogue. None of these or other reforms will come easy. Becoming a more open, flexible, and adaptable institution will likely prove critical to thriving for another 100 years.

Imagining NPS at its bicentennial

If these threads were incorporated into the fabric of NPS, what might it look like at its bicentennial? Imagine for a moment a hot August afternoon in Gardiner, Montana (just outside of Yellowstone National Park), in the year 2116. The director steps to the dais ringed by a staff whose diversity reflects the country. Perhaps the director is the daughter of climate refugees from a Pacific Island nation, or perhaps he is a white male. Neither would draw much mention due to the lack of novelty. The director leads a proud and respected agency whose commitment to its now 200-year-old mission remains as strong as ever. NPS manages a system that has grown to over 800 units. Most of the growth has been in urban parks and monuments that protect historical and cultural resources, or provide valued greenspace. Many other Second Century-designated areas protect urban rewilding and include remnants of their industrial past, or recently abandoned rural landscapes that include novel assemblages of species. Together they tell the stories of the country from the Pleistocene to the present, from Gwich'in caribou hunting to Fordist industrial development, from Southern Gospel music to zephonia (a mid-21st-century mash up of Middle Eastern and Afro-Caribbean beats).

Let's imagine that the director is a woman. Behind her, as she talks about NPS's ongoing efforts to ease the human-nature dichotomy, wild bison and elk graze vigorous re-growth from the prescribed fire set last fall by members of the Crow Nation. The burn was part of a co-management arrangement that utilizes collectively agreed-upon integration of traditional knowledge and Western management techniques. Other cultural and ethnic groups, as well as many local communities, have also assumed greater prominence in individual park management activities and decisions. These and other structural and cultural changes to the NPS bureaucracy have allowed the agency to become more responsive to changing leisure patterns and political expectations that can test the agency's mission.

As the director discusses the parks' changing roles in a re-ruralizing America, she highlights the continued importance of parks as core areas in conservation reserve networks and how parks have acted both as refuges from and facilitative spaces for adaptation to climate change. She highlights the record visitation and the strain it places on a still chronically un-

derfunded agency. And she identifies the need to reinvigorate broader political support to fend off attempts to open the parks to extraction of ever more limited, and valuable, raw materials. But overall, the state of the parks is strong, buoyed by a network of partnerships, innovative civic engagement, and a passionate workforce. In this vision, traditions, both ancient and recent, as well as innovations are on display.

Conclusion

The purpose of the George Wright Society Student Summit was to bring together students to discuss the next 100 years of NPS. The summit discussions covered five themes: (1) *Unbounding parks*, (2) *National Park Service core park values and identities*, (3) *Visitor use management in our most visited national parks*, (4) *The struggle to keep national parks as they were*, and (5) *Reimagining the National Park Service to be a resilient agency*. Four of themes were expanded upon and discussed in this special section of *The George Wright Forum*. This final paper identified four common threads that surfaced throughout the preceding papers. These included the importance of parks for people, the need to continue and expand NPS promotion, the use of partnerships and collaboration to build bridges across boundaries, and embracing institutional reforms. The participatory process that led to the themes, the summit discussions, and the continued thought processes through writing these papers have led to an identification of some of the most relevant and important ways that NPS can move forward in its second century.

In supporting the summit, the GWS made a statement that students' opinions and perspectives are important and valuable. This issue of *The George Wright Forum* has given a voice to students' thoughts. The summit allowed for students from different backgrounds with similar interests to meet and candidly discuss some of the most pertinent issues facing NPS and brainstorm bold strategies for addressing them. The summit was successful in establishing connections among students and developing communication channels for maintaining those connections. The opportunity to publish papers has cultivated continued collaboration and conversation among attendees from different campuses. With the many environmental, social, and political uncertainties that the field faces, providing opportunities for young professionals to engage and develop are integral. The George Wright Society's Student Summits provide a meaningful way for young professionals to start stepping into their roles as important voices for public lands management.

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Music at the Monument: Research Informing a Healthy Parks Healthy People Event

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Introduction

THE US NATIONAL PARK SERVICE (NPS) manages one of the world's largest, most complex, and spectacularly unique group of protected areas (Vincent, Hanson, and Bjelopera 2014; Manning et al. 2016). Beyond traditional values such as recreation and scenic beauty, parks are increasingly being assessed for the ecosystem services they provide, and measured through the lens of coupled environmental and social health (Cox, Almeter, and Saterson 2013; van Riper and Kyle 2014; Larson, Jennings, and Cloutier 2016). Although growing, empirical evidence on the impact of parks on environmental and societal health is limited (Maller et al. 2009; Thompson and Aspinall 2011; Africa et al. 2014), thus leading to initiatives such as the NPS Healthy Parks Healthy People (HPHP) program and its associated science plan (NPS Healthy Parks Healthy People Science Plan 2013).

With regard to parks, being outdoors, and health, youth and veteran populations have rightfully been the subjects of particular attention over the past decade. For example, Richard Louv's 2005 book, *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder*, synthesized and spurred research that has focused on the outdoors and youth wellbeing. Additionally, the ongoing conflicts in Iraq and Afghanistan have had significant physical, psychological, and societal health impacts on our veterans and their families (Plach and Sells 2013; Karney et al. 2016), leading to strategies that expand upon traditional medical-based approaches, such as outdoor-based health interventions (e.g., Bennett et al. 2014; Dustin et al. 2016; Hawkins, Townsend, and Garst 2016).

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Parks and protected areas, such as those managed by NPS, provide locations and opportunities for health promotion in natural spaces, and new HPHP programs have emerged with the intention of aiding in facilitating health and wellbeing in these settings (NPS n.d.). Although scientific understanding of the relationship between environmental and societal health is evolving, the limited existing empirical evidence provides opportunities for improving park and health-related planning, programs, and outcomes through research (NPS 2013; Schmalz et al. 2013; Thomsen, Powell, and Allen 2013). The research discussed in this paper builds upon understanding of HPHP-based programming with an emphasis on veteran, youth and family populations.

This study examined Music at the Monument, a veteran-, youth-, and family-focused HPHP-sponsored event, as a case study. Specifically, this research explored outcomes associated with this HPHP initiative on health and wellbeing for veterans, youth, and families, while further informing organizational implications for this particular event, as well as other future HPHP-related programming.

Methods

A single-case study design was used to evaluate the Music at the Monument concert series. The free events, aimed at promoting health and wellbeing for veterans and youth, took place at the NPS-managed historic Sylvan Theater, overlooking the Washington Monument on the National Mall in Washington, DC, the first and third Friday of every month from May to October 2015. This was the inaugural year of the program, which was produced and fiscally sponsored by ex-National Football League football player and fitness advocate Darryl Haley and colleagues, and facilitated through the NPS HPHP program.

A case study approach “allows investigators to retain the holistic and meaningful characteristics of real-life events” (Yin 2003: 2), and is particularly useful in addressing *how* or *why* questions when a contemporary phenomenon is under examination (Kohlbacher 2005). Data for case studies are derived from multiple sources such as archival data, direct observations, and interviews. Each data source contributes to the overall understanding of the phenomenon, and can be weaved together to deepen and enhance that understanding (Baxter and Jack 2008). Therefore, the case study approach applied here was both exploratory and descriptive, and applied multiple data source collections, including direct observation during the events, qualitative interviews with event organizers and support staff, quantitative surveys with event participants, and archival information about the events.

Qualitative semi-structured interviews were conducted with event organizers and supporters, including the event producer, Darryl Haley; Diana Allen, chief of the NPS HPHP program; and anonymous event supporters who were veterans and employees of the Department of Veterans Affairs (VA). Each interview lasted 25–45 minutes and was recorded and transcribed for analysis. Interview questions focused on event goals, perceived outcomes, promotional strategies, and lessons they learned from this first year of programming. To improve validity of the results, all interviews were analyzed using NVivo Qualitative Software, applying open coding and constant comparison techniques (Lincoln and Guba 1985) among three of the lead researchers.

On-site quantitative surveys were collected with Music at the Monument participants during two of the events, in September and October 2015. A total of $n = 42$ respondents completed the surveys, for a total response rate of 97%. Survey questions focused on participant motivations, perceived outcomes from attending the event, and perceptions of effective promotion and communication of HPHP-related events like Music at the Monument. Motivations were assessed using 14-items, adapted from the Recreation Experience Preference scales, which have been used in numerous studies to examine visitors' impetus for visiting protected areas (Manfredo, Driver, and Tarrant, 1996; Manning 2011). Motivations were evaluated using an 8-item scale, where 0 = Not Relevant, and 1 = "Not at all Important" and 7 = "Extremely Important." Perceived outcomes were measured using 6-items, where 0 = "Unsure/Not sure," and 1 = "Strongly Disagree" and 5 = "Strongly Agree." The perceived outcomes were developed based upon the goals of the event organizers (discussed in the results). Effective promotion and communication strategies were evaluated using 5-items, where 1 = "Not Effective" and 5 = "Highly Effective." The communication strategy items were largely adopted from Doucette and Cole (1993), but the researchers added more modern items including *social media* (e.g., *Facebook*, *Twitter*, *Vine*, and *Instagram*) and items relevant to HPHP and Music at the Monument, including *VA personnel*, *Medical doctors*, and *Health insurance providers*.

The researchers also collected archival information about Music at the Monument to assess the quantity, quality, and type of marketing representation surrounding the event. This methodological process included Internet searches for media about Music at the Monument, as well as promotional materials provided by the event producer and supporters.

Finally, two of the lead researchers conducted direct observation at two of the events, in September and October 2015. Documenting observations through field notes and photos, these researchers individually evaluated on-site aspects of the event, including presence of event goal promotion and effect on participants, with a particular focus on perceived presence of veterans, family, and youth, and wellbeing and development.

Results

The case study approach provided a robust suite of results. Presented below, the associated results provide a description of the setting, the nature of the participants, the overarching goals of the event, how these related to the planning and promotion, and perceived outcomes.

Event setting. The Sylvan Theater consists of a partially covered wooden stage lined by trees and is approximately 100 yards southeast of the Washington Monument. Looking out from the stage, there is first a sidewalk, and then a gradually-inclining grass field leading up to the Monument. That field creates a natural space for stadium seating where people can gather. The edge of this field closest to the stage is formed by a cement retaining wall upon which people also seat themselves. Through-foot traffic passes directly in front of the stage and between the stage and spectators.

The pre-event set up for Music at the Monument was minimal. The event producer arrived early, as did other volunteers. Likewise, bands arrived early to set up their equipment and conduct a sound check. A park ranger also came to the stage prior to the event. On-site

promotion was fairly minimal. A few small signs were set on the stage including a banner approximately 8x4 foot in size, and two free-standing signs, that were slightly smaller, placed on each side of the stage. Sign content included the event title “Music at the Monument,” and referenced Haley and HPHP, as well as sponsorship information. An event purpose statement and description were also included in relatively small print and stated that the event was “supporting veterans and youth.” Finally, a truck painted with information from the local radio station that had been promoting the event, was consistently parked beside the stage.

Concerts began at either 4 or 5 pm and lasted about two hours. An emcee hosted the event, and on several occasions, a veteran and his or her family were introduced and honored before the music began. Reports from the event producer and other volunteers indicated Music at the Monument attendees ranged from 15 to 30 people at any given time, and these estimates correlated with observed participant numbers. Researcher observations suggested substantially more people discovered the event as they traveled to or from other features of the National Mall, and stopped to observe or participate. Park visitors approaching the Washington Monument from behind the grass field would halt their walk toward the monument to observe or applaud the band.

Event participants. Attendees mostly arrived in groups. The event producer and other volunteers greeted attendees. There was not always an obvious veteran or service member presence; however, five out of 42 people who took an on-site survey self-identified as veterans. A small number (fewer than five) of children were present throughout the events. Of the attendees who completed an on-site survey, median age was 38 years, and about half (52%) were female. Nearly two-thirds of attendees were from areas within the DC vicinity, including Virginia and Maryland. West Virginia, North Carolina, Minnesota, Illinois, Oklahoma, Texas, and California were also represented, and 14% of attendees were from other countries. Approximately 81% of the sample indicated that this was the first Music at the Monument event that they had attended, while the remaining 19% ranged from attending two to all seven of the concerts offered. Approximately 31% of respondents indicated that they attended Music at the Monument with their family members. Only 38% were aware that the event location was part of the national park system. Given the location of the event, attendees participated in active transport (e.g., walking, running, or cycling). Researcher observation also indicated Music at the Monument attendees experienced consistent positive affect. Behavioral indicators of positive affect, as observed by researchers, included smiling, laughing, singing, and dancing. Concurrently, four out of five attendees reported feeling very high levels of positive emotion during the event (a full description of attendee self-reported outcomes is described in Table 3).

Developing HPHP-centric event goals. When conceptualizing the Music at the Monument concert series, Haley, the event producer, wanted first and foremost to leverage the natural spaces available in parks as a form of health promotion. He described himself as a “believer in the fact that parks are in place for health and wellness, as well as therapy.” That belief led him to the HPHP initiative, of which he calls himself “an advocate and a volunteer who believes in the whole [mission of] Healthy Parks, Healthy People.” Event volunteers affiliated with the VA, and veterans themselves, echoed Haley’s vision for the event and its

alignment with the HPHP initiative—“being outdoors and enjoying the scenery and the form of relaxation that the parks bring, it’s invaluable.”

The producer and other key volunteers aligned their event goals with the broad goals of HPHP by seeking to serve vulnerable populations who, as Haley stated, need the “health and healing in our parks.” Allen, chief of the NPS HPHP program, which collaborated in an advisory capacity during the event planning and development, stated, “Music at the Monument was designed intentionally to bring together youth and veterans and their families in this park atmosphere for health and healing.” Moreover, Haley and others considered music to be an additional mechanism within the broader context of the HPHP initiative to create positive health outcomes. Haley stated that “we can utilize the parks ... [and] get more veterans in the parks, and that helps with jobs, health, wellness, rehabilitation, re-integration, and so on.” This subjective assessment aligns with empirical research indicating that music can aid in emotional regulation for veterans (Zoteyva, Forbes, and Rickard 2015). According to Haley, more than simply providing direct benefits to veterans and youth, event goals also aimed to indirectly serve these populations by increasing awareness of issues veterans and service members face, such as PTSD, reintegration following deployment, seeking and obtaining education and employment, and combating homelessness.

To summarize, the goals of the Music at the Monument event were to:

- Create an HPHP-centric event in a natural space to improve health and wellness, particularly among veterans, youth, and families.
- Enhance health and wellness of veterans, youth, and families through music.
- Increase public awareness of issues facing veterans and military service members, and their families.

Planning and promoting an effective HPHP event. To achieve the event goals, the event producer and volunteers faced challenges typical of outdoor events (e.g., event cancellation due to inclement weather, or creating shade and providing water in warm temperatures) as well as other, more unique planning and promotion considerations. Primarily, any event at an NPS site requires obtaining the appropriate permits and knowing and adhering to NPS regulations. This is particularly true of the National Mall—one of the busiest NPS sites. Allen noted that “the Park Service has a permitting process, so scheduling and the timing is really complex, [and] for The Mall, just getting on the schedule and getting the permitting is a huge hurdle.” Requests for permits in this space run upward of 3,000 annually. Park rangers were on hand before or during most of the events to connect with the event producer and to ensure that the facilities were ready for the occasion.

Event promotion was another consideration in the planning process. Examination of archival information regarding Music at the Monument yielded evidence of substantial promotional efforts that were disseminated before and during the span of the event series. For example, numerous social media approaches were employed to promote information about the event. Music at the Monument was featured on several YouTube videos, where the event producer spoke about the purpose and details regarding the dates, location and timing of the event, as well as a video demonstrating one of the music performances with the participants

dancing in front of the Sylvan Theater. During the span of the event season, an official website was developed (Musicatthemonument.com) containing information about the purpose, event, videos, press, and a photo gallery. Additionally, the event was featured on several related websites including those of the National Park Service, the VA, and a local radio station that had also been promoting the event on air.

Event attendees were asked to indicate the most effective communication strategies for promoting HPHP-related events such as Music at the Monument (Table 1). Results suggest that *social media* are perceived as the most effective strategy, as approximately 62% of respondents indicated that this method is “highly effective” ($M = 4.38$). Respondents also perceived *radio commercials* ($M = 4.11$), *signs/posters* ($M = 4.08$), and *displays at the parks/visitor centers* ($M = 4.06$) as effective strategies. Methods that resulted in the lowest mean values were *medical doctors* ($M = 2.51$), and *health insurance providers* ($M = 2.36$). Approximately 27% of respondents indicated that these two strategies were “not effective” means of promoting HPHP-related events such as Music at the Monument.

Based on the attendance during the first year of this concert series, Music at the Monument planners and supporters anticipate changes to the current promotional and communication strategies that will increase participation. “I think right now,” said a volunteer veteran affiliated with the VA, “it hasn’t even reached the potential that it can have because I don’t think we’ve really marketed it—it’s the first time we did this [and] we didn’t really know what to expect. I think from this, we could probably do more weekly promos as opposed to one overall generic promo.” Based on communication and event promotion research, this regular and consistent approach is likely to yield higher participation in future years (Dowson and

Table 1. Music at the Monument participant perceptions of promotion and communication effectiveness ($n = 42$).

Effectiveness of Communication Strategies...	Percentage					Mean
	Not Effective	Slightly Effective			Highly Effective	
	1	2	3	4	5	
Social media (e.g., Facebook, Twitter, Vine, Instagram)	2.6	2.6	10.3	23.1	61.5	4.38
Radio commercials	0	2.7	24.3	32.4	40.5	4.11
Signs/Posters	0	0	19.4	52.8	27.8	4.08
Displays at the parks/visitor centers	2.8	2.8	16.7	41.7	36.1	4.06
Videos/TV commercials	2.7	5.4	21.6	35.1	35.1	3.95
Celebrity spokespeople	5.4	8.1	35.1	18.9	32.4	3.65
Guidebooks	16.7	0	36.1	30.6	16.7	3.31
Brochures	5.6	5.6	50	30.6	8.3	3.31
Park personnel (Rangers)	10.8	8.1	40.5	21.6	18.9	3.30
Veterans Affairs personnel	13.5	16.2	32.4	13.5	24.3	3.19
Medical doctors	27	27	29.7	0	16.2	2.51
Health Insurance providers	27.8	30.6	27.8	5.6	8.3	2.36

Bassett 2015; Musgrave and Henderson 2015). In addition, Haley suggested that in subsequent years, they would shift the start time to 5 rather than 4 pm, because they learned “that’s a big difference in D.C. for people to get off work.” Based on researcher observations, this too would aid in increasing participation, as the majority of observed participation did not occur until after 5:30 pm.

Meeting HPHP and Music at the Monument goals: Event evaluation and assessment.

Surveys of attendees and direct observation of the events suggested that while the majority of attendees were not veterans or youth, participants’ primary motivations for attending the event were *being outdoors* ($M = 6.30$), *enjoying nature* ($M = 6.12$), *relaxation* ($M = 6.08$), and *getting away from routine* ($M = 6.05$) (Table 2). *Psychological rest* ($M = 5.83$), and *psychological health* ($M = 5.41$) were also important motivations.

Likewise, approximately 80% of respondents “strongly agreed” that they experienced *positive emotion* ($M = 4.63$), 73% indicated that they experienced *stress relief* ($M = 4.46$), 61% experienced *mental health and wellbeing* ($M = 4.15$), and 53% experienced *social/community support and cohesion* through the event (Table 3). Items including *opportunities to connect and bond with family* ($M = 3.56$), *experience patriotism* ($M = 3.38$), and *connect with veterans and service members* ($M = 2.88$) resulted in substantially lower mean values, indicating that these variables were not strong outcomes of the event. Interestingly, 17% of the population indicated that they were “unsure/not sure” about the event facilitating *opportunities to con-*

Table 2. Music at the Monument participant motivations ($n = 42$; mean values exclude “Not Relevant”).

Motivations...	Percentage								Mean
	Not Relevant 0	Not At All Important 1	2	3	Moderately Important 4	5	6	Extremely Important 7	
To be outdoors	2.5	0	0	2.5	7.5	2.5	15	70	6.30
Enjoying nature	2.4	0	0	2.4	9.8	7.3	17.1	61	6.12
For relaxation	2.5	0	0	2.5	7.5	12.5	17.5	57.5	6.08
To getaway from routine	5	0	0	2.5	7.5	2.5	22.5	60	6.05
Psychological rest	2.4	2.4	0	2.4	14.6	9.8	12.2	56.1	5.83
Psychological health	7.3	2.4	0	2.4	19.5	7.4	9.8	51.2	5.41
Escape personal/ social pressures	7.5	2.5	2.5	2.5	17.5	5	15	47.5	5.33
Family/friend togetherness	9.8	0	7.3	2.4	9.8	7.3	12.2	51.2	5.29
Learning	5	2.5	5	2.5	25	15	10	35	5.00
For family leisure/ recreation	10	10	0	5	12.5	5	10	47.5	4.93
Physical rest	19.5	4.9	0	0	19.5	9.8	0	46.3	4.56
Solitude	15	7.5	7.5	5	20	7.5	10	27.5	4.08
For challenge	17.9	12.8	10.3	10.3	7.7	7.7	10.3	23.1	3.56
Physical fitness/ exercise	22	14.6	4.9	4.9	19.5	0	14.6	19.5	3.41

Music on the Monument program provides me with...	Percentage						Mean
	Unsure/Not Sure 0	Strongly Disagree 1	2	3	4	Strongly Agree 5	
Positive emotion	0	5	0	2.5	12.5	80	4.63
Stress relief	0	4.9	0	12.2	9.8	73.2	4.46
Mental health and wellbeing	2.4	4.9	2.4	17.1	12.2	61	4.15
Social/community support and cohesion	2.5	2.5	2.5	22.5	17.5	52.5	4.08
Physical health and wellbeing	0	2.6	5.1	33.3	20.5	38.5	3.87
Exercise	4.9	7.3	0	41.5	14.6	31.7	3.80
Opportunities to connect and bond with my family	7.7	7.7	5.1	20.5	17.9	41	3.56
Opportunities to experience patriotism	12.5	0	7.5	30	17.5	32.5	3.38
Opportunities to connect with veterans or service members	17.1	4.9	4.9	39	14.6	19.5	2.88

Table 3. Music at the Monument participant perceived outcomes (n = 42; Mean values exclude “Unsure/Not Sure”).

nect with veterans and service members and 5% indicated that they strongly disagreed with this potential outcome.

Interviews with key stakeholders suggested achieving event goals was an observed and lived experience. For example, Haley indicated that “[Participants] walk away with something that’s either going to enhance their lives, change their lives, put a new tool in the toolbox and say, ‘Hey look, we get something that I can utilize tomorrow that is going to help my life be a little bit better.’” Expanding specifically on veteran wellbeing and the general public, Allen stated, “Watching the healing opportunities and meeting others through the crowd and seeing how they were impacted, I think it causes people to talk and reflect on what the veterans have given to our country and the state of their wellbeing—and the role of our parks as medicine and therapy.” Similarly, an event volunteer, who was also a veteran and a VA official noted, “Everybody’s not a veteran, but in some sort of way, we’re all connected to a veteran.” And, he suggested that holding the concert series at the Mall adjacent to the Washington Monument increased visibility and awareness. The event was an “opportunity for the family to come together and relax”; specifically “for those families who have a member who is still deployed ... it gives them an opportunity to just get out of the house and come sit in the grass and relax and enjoy some music, some sunshine and other people,” said a volunteer veteran and VA official. Another volunteer and VA official reflected how the events connected him to his service experiences, as he reflected upon a quote from a retired general he knew, when he said “Teach, learn, and smile.” The supporter elaborated about the impact of the event further, stating “You can teach someone and when you’re engaging, you get the opportunity to teach someone, and you get the opportunity to learn from other people and smile.”

Discussion

The purpose of this case study was to examine outcomes associated with an HPHP-focused event series, Music at the Monument; to further understand participant perceptions, and how they correlate with organizer goals for this type of programming; and inform future HPHP-related event planning through specific lessons learned. The year these data were collected was the first year of Music at the Monument, and many positive outcomes resulted from the event, as highlighted through participant responses, interviews with stakeholders, and observed behaviors at the events. Notably, organizer and supporter goals and objectives for the event directly correlated with participants' perceived outcomes with regard to wellbeing. This is a foundational component of HPHP programming, and results suggest that this outcome was achieved, as participants' experienced "positive emotion," "stress relief," mental health and wellbeing," and "social cohesion." These findings were also supported through direct observation, where positive affect was frequently witnessed among the population of interest. Furthermore, participants were motivated to be "outdoors" or "enjoying nature," which is representative of HPHP efforts (NPS 2013) and consistent with the growing body of literature suggesting that nature can provide health benefits (Maller et al. 2009; Africa et al. 2014). However, specific to veterans and family and youth, participant motivations and associated outcomes were not as heavily aligned with event organizer and supporter objectives. For example, only 31% of respondents reported that they attended the event with their families. This, too, correlated with direct observations, noting the small number of family and youth, and clearly identified military personnel at the events. A concerted effort on promotion with specific emphasis on the event goals, and the shift to later timing of the event, as noted through organizer and volunteer interviews, will likely enhance overall participation and proposed outcomes.

Proponents of HPHP initiatives through NPS should be aware that the majority of participants in this sample (62%) were unaware that they were experiencing Music at the Monument at an NPS unit, despite the iconic location at the National Mall. Specific to marketing and communicating about the event, "social media," "radio," and "printed media" were perceived as the most effective means of promoting Music at the Monument. These strategies aligned with the efforts experienced through direct observation and archival explorations; however, on-site promotion specific to veterans, youth, and families could be enhanced in the future by expanding these strategies. Interestingly, participants of this event indicated that "Medical doctors" and "Insurance providers" were not effective means of promoting HPHP-related events. While this is only representative of a small sample and one event series, proponents of initiatives such as the "Parks Rx" movement that engages medical professionals, or collaborative partnership programs with insurance providers, should contemplate this finding. These types of efforts may need additional, diverse communication strategies to effectively promote perceptual and associated behavioral change that could lead to HPHP-related participant outcomes.

Overall, Music at the Monument provides an example of a successful fledgling HPHP-related program, where organizer and supporter goals align with the perceptions of the participants. With regard to HPHP initiatives, this event series meets several objectives of the NPS

program, including forging new partnerships, providing access and health opportunities in park spaces, and reaching diverse audiences. Ultimately, this event series provided participants, whether veteran, youth, or not, with positive affect, stress relief, and mental health and wellbeing.

This research marks one of the first studies examining the goals and perceived outcomes of an NPS HPHP-related event. However, there are a number of limitations that should be considered with this study and associated results. The sample size, although largely representative given the high response rate, is small, negating the ability to rigorously examine the quantitative data from this sample. Furthermore, the quantitative sample and direct observations only represent perspectives from two Music at the Monument events during the fall of 2015. While the results are informative for this particular event, implications that are imputed to other HPHP-related programs should consider these findings, while also being mindful of these limitations.

Implications

Findings from this case study identified several recommendations specific to the Music at the Monument concert series. For example, event organizers could consider additional strategies for specifically highlighting the event's focus on veterans, veteran families, and youth development. The Music at the Monument event producers and volunteers regularly spotlight a veteran at the beginning of each concert; however, because the audience is somewhat transient by nature of the location, it may better serve the event to have references and announcements highlighting the focus on veterans and youth throughout the evening. Bands could be invited to incorporate the event goals into their own dialogue during musical interludes. Enhancing the promotion of event goals through communication strategies such as social media, radio, and on-site printed media could also attract more veterans, and youth, even if they or their families are simply visiting other National Mall sites and inadvertently become aware of the event. Similarly, expanding the explicit promotion of the overall connection of events to the NPS HPHP mission is pertinent to engage and expand current and future generation of national park stewards. Moving forward, the Music at the Monument event organizers and supporters plan to continue forging new partnerships and seeking additional fiscal support. The results of this case study indicate that these efforts will likely continue to be successful. However, replicating the methods applied to this study over the span of the next few years could aid in demonstrating whether the anticipated health and wellbeing outcomes associated with this event are increasing. Research methods focused on increasing the sample size of participants would allow for robust statistical analyses, which could lead to additional implications for this and other HPHP-related events.

Regarding HPHP-related programming generally, this case study provided a number of key lessons learned that could be applied to other events. For example, the event producer worked closely with and sought input from NPS professionals from the initial conceptualization of the event, and the response of NPS to the programming was overwhelmingly positive and supportive. According to Music at the Monument organizers and supporters, as well as NPS HPHP staff, the planning process should start early, with particular consider-

ation for building partnerships, seeking funding, obtaining permits, scheduling performers or participant attractions, and avoiding dates that may conflict with potentially competing events. Results from the quantitative surveys with participants suggest that it is important to understand the audiences' motivations and expectations for HPHP-related programming. If the motivations of the target audience are understood, then promotional strategies can be enhanced to align with them, while also adhering to the goals of the event. It is important to have a consistent, but diverse, promotional strategy that maintains a message highlighting event goals. Also, outdoor or nature-based venues are important features, and should be considered when planning for a specific location.

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The Best Idea Europe Has Ever Had? Natura 2000— The Largest Network of Protected Areas in the World

Wouter Langhout and Ariel L. Brunner

The birth of the Birds Directive

OUR STORY STARTS WITH BIRDS. When several countries in Europe in 1957 intensified their cooperation under the predecessor of the European Union (EU), an opportunity arose to address the topic of migratory birds. Italy and France were notorious for the large-scale massacres of finches, cranes, swans and other birds. Citizens from Germany, the Netherlands and Luxembourg engaged in vocal campaigns to “save the migratory birds” and found a willing ear in the European Commission (Meyer 2010), the EU institution that is tasked with proposing and implementing legislation. The campaigns gathered momentum following accession of the United Kingdom with its powerful birding community. Following a proposal from the commission, the EU member states adopted a piece of legislation that aimed to protect all wild birds and their habitats. The EU Birds Directive was born (European Economic Community 1979). It was adopted in 1979, and being the first dedicated EU law on the environment, it paved the way for many more initiatives, which together have enormously improved the quality of life on the European continent.

The Birds Directive was in many ways far ahead of its time: A rather short piece of EU legislation, consisting of only 20 articles, it set out all the necessary action for bird conservation in the EU. It introduced strict protection of all wild species of birds against their deliberate killing or removal from the wild. It also set up a comprehensive system of protected areas for species mentioned in its Annex I, and for all regularly occurring migratory birds. It introduced reporting obligations and general provisions on protecting bird habitats. Being a directive (a piece of EU legislation that needs to be converted into national legislation), it does leave considerable freedom to EU member states to implement the obligations in a way

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that is adapted to local circumstances and governance structures.¹ Significantly, it introduces the requirement of results, or positive outcomes; Article 2 obliges member states to maintain populations of wild birds at a good level (or increase them to that level, if necessary), underpinned by Article 3, which obliges member states to create and restore a sufficient area of habitat. This makes the legislation very strong.

Protecting nature with the Habitats Directive

The Habitats Directive (Council of the European Union 1992) was intended to complete the framework for the protection of species and ecosystems of EU concern. Recognizing the fact that nature is the common heritage of all Europeans and that this heritage was under threat, the European Commission put forward a legal proposal for an all-encompassing piece of nature legislation in 1988 (Kramer 1993). A special role was played by the Bern Convention on the Conservation of European Wildlife and Natural Habitats, which came into force in 1982.² The Bern Convention was in many ways the testing ground for the Habitats Directive, and many aspects of the former would be included in the legal text of the latter, sometimes word-by-word.

Like the Birds Directive, the Habitats Directive created a framework for the strict protection of species. Although it could not offer protection to all species, it does protect hundreds deemed to be of European interest within many different taxonomic groups, including insects, mollusks and orchids. It also introduced a more robust system of reporting, which after years of bickering within the EU member states, has evolved into an in-depth assessment of the state of nature in the EU every six years (European Environment Agency 2015). Another hugely important new provision was on financing. The Habitats Directive recognized that there is an obligation for the EU to help finance nature conservation. In particular, member states with a relatively large amount of protected species and habitats would need to invest more to reach the objectives of the Habitats Directive, and the legislation therefore included a provision for the EU to help the member states share the costs.

However, the most important innovation of the Habitats Directive was the Natura 2000 network. The Habitats Directive created its own system of protected areas. These are designated on the basis of their value for the conservation of species mentioned in Annex II and “habitat types” (best understood as detailed ecosystem types) in Annex I. Incorporating these sites and the sites designated under the Birds Directive, the Natura 2000 network was created. Over the years, and because of the increasing number of member states in the European Union, the network has grown considerably and now consists of more than 27 000 sites, covering more than 4.3 million sq km (1.6 million sq mi; European Commission 2016).

The Birds and Habitats directives have brought, over the years, a profound improvement to nature conservation legislation in Europe. The most striking impact has been on the regulation of hunting and the prevention of the persecution of wildlife. Spring hunting, trapping, trade in locally caught cage birds, predator persecution, poisoning, and many other intrinsically unsustainable practices have now disappeared thanks to the law books. Some illegal activities do still persist in fields and forests, unfortunately, and are also of serious concern in certain other areas (Brochet et al. 2015). But improved protection has triggered

spectacular recoveries in the species most vulnerable to persecution such as large mammals, raptors and colonial water birds (Deinet et al. 2013).

Before we discuss Natura 2000 more in-depth, however, another key player needs to be mentioned: the Court of Justice of the EU.

The European Court of Justice saves the day

The Court of Justice of the EU, originally set up to police the rules of the common market, has been instrumental in the implementation of the EU directives, and continues to be so today. Under the EU treaties, the European Commission as guardian of the treaties can bring legal action before the Court of Justice against member states that fail to fulfill their obligations under EU legislation. The jurisprudence of the court serves as guidance for other member states on how to implement EU legislation. And ultimately, the court can impose heavy financial penalties on member states for violations.

The Birds and Habitats directives are among the pieces of legislation that have been subject to the most litigation. This is not for a lack of clarity, however, as the commission, even with relatively limited technical and legal capacity, manages to win most of the cases it brings, and many cases are similar in nature. The court usually rules against the member states, after which damages are determined and restored (sometimes fully, but often partially or not at all). Very rarely, the court is brought in at an earlier stage, to halt projects or to restrict hunting seasons immediately while it later rules about whether the projects or hunting seasons were in accordance with the Birds and Habitats directives or not. In addition, through its rulings the court provides detail on the interpretation of the legal text, and there is a considerable body of jurisprudence that has almost consistently explained the directives in a strict, coherent way, true to the intentions of the lawmakers at the time. There have been no financial penalties thus far, but nonetheless the court remains an effective stick to ensure implementation, and will continue to play this role over the years to come.

Designating Natura 2000 sites under the Birds Directive

Site designation under the Birds Directive is governed by a very general provision to protect “the most important sites” for birds. This has allowed member states to initially take a very minimalist approach. In the later drafting of the Habitat Directive, the commission included much more specific provisions setting a detailed scientific process for site identification and protection. The need for clear scientific bases for the protection of bird sites prompted the commission in 1981 to instigate the compilation of an inventory of crucial bird sites, asking for the support of the International Council for Bird Preservation, BirdLife International’s predecessor. The first pan-European inventory was finally published in 1989, the first inventory of Important Bird Areas (IBAs) in Europe. IBAs were designated on the basis of scientific and quantitative criteria. Sites with more than 1% of the European or global population of threatened species qualify as IBAs, as do sites with large numbers of migratory birds such as storks, cranes, and birds of prey. Areas with endemic bird species, or with specific bird species communities, also qualify. On the basis of these criteria, the Council for Bird Preservation identified over 1,000 sites in 32 countries, with the view of these areas being

designated as protected areas. This milestone publication has been a turning point in the history of biodiversity conservation, leading to BirdLife's IBAs program, which now covers the entire planet, and, in turn, to the ongoing effort to identify Key Biodiversity Areas.³ It has also resulted in a number of other attempts to take a systematic approach to geographic priority-setting in conservation.

While the 1989 inventory has had an immediate impact on many aspects of conservation work in Europe, most member states resisted calls to give all IBAs legal protection. Member states were at the time of the opinion that they were doing enough by simply adding a different layer of designation to existing national parks and other protected areas. They saw no reason to designate any further sites. For a while it looked like this would be the end result of the Birds Directive—a small network of sites that on its own would be unable to do much for saving the many wild bird species in Europe.

A ruling of the Court of Justice turned the tide. The European Commission brought the Netherlands to the court in 1998. The Netherlands had designated only a few sites at the time, and the proposal the government had made after pressure from the European Commission was insufficient. The Court of Justice used the IBAs inventory as a reference when ruling on the Netherlands' fulfillment of obligations under the Birds Directive and found that many sites were missing, subsequently condemning the Netherlands. The court therefore established that the IBAs constituted a scientific basis on which to designate Natura 2000 sites for birds, and these superior scientific methods were to be used by the member states. Many cases followed against most other member states and subsequent rulings by the court confirmed this jurisprudence. Updated IBA inventories by BirdLife International and the progressive enlargement of the EU have eventually created a strong Europe-wide network of Natura 2000 sites for birds. There are now more than 5,000 Natura 2000 sites for birds, covering more than 250,000 sq mi. While on land the process is mostly complete, designation of marine sites has been severely delayed, mainly due to the difficulty for civil society to gather the necessary data. This has been changing rapidly in recent years with the widespread availability of satellite tracking technology, and in 2015 BirdLife published the first Marine IBAs Atlas, giving a significant boost to marine site protection in the EU (Tarzia and Campos 2014).

Designating Natura 2000 sites under the Habitats Directive

The Habitats Directive included a detailed process for designating sites in the legal provisions. Learning from the experience with the Birds Directive, the lawmakers already included detailed provisions on what needed to be done, and the European Commission also developed guidance and a formal process with member states, nongovernmental organizations (NGOs), and scientists to assess whether the designation was sufficient. And although in this case the European Commission ultimately also had to bring a few member states to the Court of Justice, the process in general proceeded much more quickly.

All this time there was very little happening in the marine environment. Initially, member states claimed that the obligation to establish the Natura 2000 network did not go beyond coastal waters. However, in 2005 (again) the Court of Justice confirmed that in territories where EU member states are sovereign, they need to designate Natura 2000 sites according

to the Habitats Directive. This is particularly complicated at sea where jurisdiction is not always clear. The situation in the Mediterranean is particularly problematic. Mediterranean countries have no sovereignty (and cannot designate Natura 2000 sites) beyond the 12 nautical miles near their coasts because of a lack of political agreement. They first need to agree on how to divide the territory beyond the 12 nautical miles under the UN Convention on the Law of the Sea before they can proceed to designate sites.

Another complicating factor is our limited understanding of the marine environment. Both for Natura 2000 sites for birds and for sites for other species and habitat types we often do not know where they are exactly. It is very costly and complicated to undertake research in the marine environment. For seabirds, this involves locating the breeding colonies and putting satellite tags on birds to discover their foraging areas. For dolphins and porpoises, the only sound method is ocean-wide surveys. For some of the marine habitat types, dedicated deep sea expeditions are needed.

Today, the Natura 2000 network consists of more than 27,000 sites and more than 700,000 sq mi, covering 18% of the terrestrial area of the EU (Figure 1). Natura 2000 has grown as the EU has, from 6 member states in 1979 when the Birds Directive was adopted, to 12 in 1992 when the Habitats Directive was adopted, and now to 28 in 2017.

Wrestling with plans and projects

Natura 2000 sites are strictly protected, but no activities are banned in them *a priori*. All sites need to have conservation objectives to clarify what the protected species and habitat types are and what role the site needs to play in their conservation and in the network as a whole. Any activity that significantly deteriorates the sites is prohibited, with deterioration being measured in relation to the site's objectives. Plans and projects (to be interpreted broadly) that are likely to have significant negative effects on the sites are also prohibited, and an ecological assessment of the effects of potentially damaging plans and projects must be carried out. The only significantly damaging plans and projects that can go ahead are those justified by "imperative reasons of overriding public interest," where there are no suitable alternatives and mitigation measures are not enough to avoid the damage. In these cases, projects can go ahead but (ecological) compensation must be put in place before the damage is done. This is a rather simple model, and yet it provides everything that is needed for the conservation of these sites.

The conflict around the Via Baltica in Poland (BirdLife 2010) has been one of the best examples of what Natura 2000 can do. The Polish Government proposed to build a road through the Rospuda Valley and several other Natura 2000 sites, as part of the Via Baltica, which connects Prague to Helsinki. The Rospuda Valley is one of the last wilderness areas in Europe and is of crucial importance for European nature. It is an important site for several species protected under the Birds and Habitats directives, such as white-tailed eagles, wolves, and lynx, as well for several species of wetland birds. Campaigners, led by OTOP (BirdLife in Poland) were quick to condemn the decision to slice through several Natura 2000 sites.

The Polish government however was bent on getting the road built through the valley, and work started in 2007. The European Commission therefore brought Poland before the

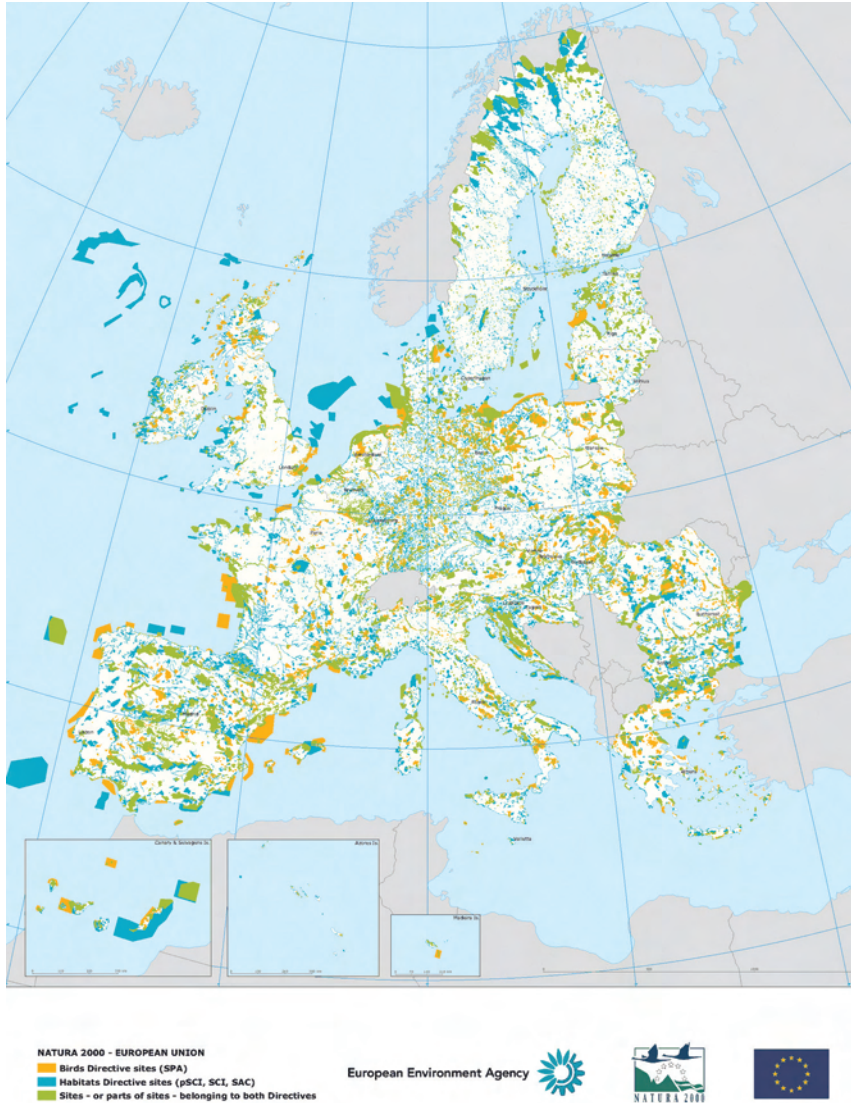


Figure 1. The Natura 2000 Network.

EU Court of Justice asking for immediate measures, upon which the court ordered Poland to halt construction of the road immediately on the threat of a hefty daily fine (Court of Justice of the European Union 2007). Construction was halted shortly thereafter. In 2009, the government chose an alternative route for the road. Via Baltica has been completed in the meanwhile, and the Rospuda Valley has been saved. This shows that the combination of swift legal action, the power of Natura 2000, and campaigning by environmental NGOs can save Natura 2000 sites even in the face of an unwilling government.

Across the board, local and national authorities are fiercely trying to realize unwise projects in the way they want. In addition to ignoring suitable alternatives, they also claim that projects are of public interest, even when they serve only minor or primarily business interests. Lately some member states have also become aware of the European Commission's reluctance to ask the Court of Justice to immediately halt projects while the court rules on the legality of the assessment. The Via Baltica case described above is, unfortunately, an exception. In dozens of cases, court rulings have arrived after the damaging infrastructure had been completed or habitats had been irreversibly compromised (Sundseth and Roth 2014). There are also structural weaknesses in the "appropriate assessment" procedures that are the main tool for preventing the degradation of Natura 2000 sites. Project proponents select and pay the consultant that carries out the ecological assessment. They typically hire the consultants that tell them that there will not be any ecological impacts, sometimes even before carrying out the assessment. Genuinely honest consultants face the prospect of losing clients, which creates a downward pull on the quality of assessments. Another crucial issue is the poor inspection capabilities in most member states. Developers often try to just go ahead with projects without assessment, and hope that nobody asks questions, knowing that the chances of detection are often minimal (especially when local authorities support them) and penalties low. In much of Europe the system relies massively on the watchdog role of NGOs, whose freedom of action is increasingly being curtailed in many places. Despite all of these problems, there is increasing evidence that Natura 2000 is leading to more site protection and better development standards, such as around the construction of the Bratislava ring road in Slovakia or the Lublin airport in Poland, for which the procedures were properly followed.

While Natura 2000 has eventually brought widespread improvement in the way large infrastructures take biodiversity into consideration, this has not been the case across all sectors. Both national authorities and the European Commission have been very reluctant to take on sectors that have popular support, such as farmers or fishermen. They often enjoy unlawful blanket exemptions and legal action is exceedingly rare even in the most egregious cases of law-breaking. As a result, while it seems that Natura 2000 can indeed stop construction companies from paving over wilderness sites, it still needs to prove that it can stop farmers from plowing up protected grasslands, even though this also blatantly contravenes Natura 2000.

Managing Natura 2000 sites

Europe is a densely populated continent. Millennia of human presence on the continent have reduced natural vegetation to small remnants. Only a few small wilderness areas remain, often in mountainous areas or areas that were otherwise unsuitable for human habitation. Human activity has not always only been destructive, however. In Europe, agriculture and ecosystems have often evolved together, over very long time frames, in systems with high biodiversity. There are many outstanding examples of farmland with a high nature value, spread across the continent, including some of its most spectacular landscapes, such as Iberian cork oak savannahs, alpine pastures, or central European flooded hay meadows.

Recognizing that the small Natura 2000 sites would need active management, the Habitats Directive therefore obliges member states to put in place management plans or otherwise

take appropriate conservation measures for all of them. Unfortunately, there are huge delays in putting the management plans in place. Out of the more than 27,000 Natura 2000 sites, only 10,000 or so had a management plan as of 2012. There are no signs that member states are deploying other equivalent measures on a large scale. This is causing a serious problem for conservation, as it very likely means that although the sites are being protected from harmful plans and projects, there is often no agreement on what need to be achieved on the sites and how. It also means that ongoing degradation, for example due to alteration of hydrology or recreational activities, is left unaddressed.

Another problem is the lack of funding. The EU under the Habitats Directive needs to help member states with funding the management of Natura 2000. There are a variety of funds available. The LIFE fund, a small EU fund with a budget of around €50 million per year, can fund one-off conservation interventions (such as restoration) and help with the development of successful management practices. Other funds—such as the EU Rural Development fund—can be used to incentivize landowners to adopt biodiversity-friendly land management. But there is no real EU funding stream for core management interventions and the aforementioned funds are by no means adequate. A study by the Institute for European Environmental Policy investigated the available funding and found that there are many shortcomings. In total, less than 20% of the needed resources are made available.

Natura 2000 works!

In spite of the above challenges, Natura 2000 has made a crucial contribution to saving nature in Europe. There have been two landmark scientific studies on the effectiveness of the Natura 2000 on birds. In 2007, a team of scientists analyzed trends of bird species in Europe (Donald et al. 2007). Using years of data collected by volunteers and professional ornithologists, they were able to disentangle the many factors that could potentially influence populations of birds. The scientists found that species on Annex I, for which Natura 2000 sites are designated, had significantly more positive trends in the EU in the period 1990–2000 compared with 1970–1990. This means that when site designation in the EU was largely completed, the populations of species targeted by the Natura 2000 network increased. Species on the annex also experienced significantly more positive trends in the EU compared with those outside the rest of Europe, where there were at the time no comparable systems of protected areas. Another key finding was that for all bird species combined, population trends in EU member states were more positive if the share of territory covered by Natura 2000 sites for birds was higher. The second paper, published in 2016 (Sanderson et al. 2016), repeated the first analysis, but using a more recent data set covering bird population trends up to 2012. The paper also confirmed that in this extended period the species on Annex I were performing better than the other bird species. It expanded however the scope of the analysis significantly by including climate change. Climate change is emerging as a key driver of population trends in Europe. The analysis showed that the positive effects of Natura 2000 sites on bird populations are clearly detected even when controlled for the strong influence of climate change. A variety of national studies confirms the positive impact of Natura 2000, although at a lower scale (Pelissier et al. 2013; Kolecek et al. 2014).

The contribution of Natura 2000 to saving other species and habitat types is less well documented. This is no surprise since in general these groups are less well-studied than birds. Worryingly, the latest report by the EU member states under the Habitats Directive (European Environment Agency 2015) seems to indicate no real overall progress, and in fact there seems to be a deterioration in the status of the protected habitat types. It is however likely that, as proven for birds, trends are less negative inside Natura 2000 than outside it. This is an area where urgent scientific research is needed.

Conclusion

With the Natura 2000 network, based on the Birds and Habitats directives, the EU has created a vast network of protected sites, spanning a large part of the European continent and guaranteeing sufficient representation of its biodiversity. The network and the legislation underpinning it have been the main driver for conservation in Europe over recent decades. The Court of Justice, through its sound and consistent rulings, has helped with the successful rolling out of the network in the face of often unwilling and even hostile EU member states. The Natura 2000 sites are protected by powerful legal provisions, but much work needs to be done to ensure that all sectors respect the provisions fully, and in securing the necessary funds for its management. The network has certainly delivered for birds, and is likely to be beneficial to other species and habitat types, but a new push is needed to reverse overall ongoing decline in biodiversity and to make the saving of Europe's natural heritage a reality.

Endnotes

1. The other main type of EU legislation is regulations, which are directly applicable and do not need to be transposed into national legislation. The difference between a directive and a regulation is fully explained here: https://europa.eu/european-union/eu-law/legal-acts_en.
2. The Bern Convention introduces the concept of conservation status and a network of protected sites. It also offers protection to many species and introduces reporting obligations. The main difference is the lack of a court to enforce the legislation; instead the Bern Convention operates through arbitration between contracting parties. The convention has a large number of contracting parties, including all EU member states but also countries in Africa and other countries in Europe. The full text can be found here: <http://www.coe.int/en/web/bern-convention>.
3. Key Biodiversity Areas will standardize the identification of important areas for biodiversity across taxonomic groups. More information can be found on the KBA website: <http://www.keybiodiversityareas.org>.

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Fit for Purpose! How Europe's Key Pillars for Nature Conservation Barely Escaped Abolition

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Introduction

AS MUCH AS IN OTHER PARTS OF THE WORLD, nature in Europe has been facing a variety of direct and indirect environmental impacts over a long period of time. Overexploitation of natural resources, intensified agriculture, urban development, alien invasive species, and large-scale landscape fragmentation are among the key factors driving the rapid loss of biodiversity (European Commission 2011; Ibisch et al. 2016; Maxwell et al. 2016).

An increasing awareness of environmental issues has led to the European Union (EU) becoming a pioneer in environmental legislation from its early stages (Jänicke 2005; Langhout and Brunner 2017), setting examples and laying the groundwork for global ambitions and progress in environmental and social standards. Yet, when the current European Commission took office in 2014, environment, nature and sustainability were pushed towards the bottom of the political agenda and instead replaced by attempts to roll back progress in various environmental policy sectors (Cavoski 2015). This paper describes and reflects upon a two-year struggle to save the core of Europe's nature legislation, known as the Birds and the Habitats directives. This account illustrates that in spite of both societal progress over the last four decades and the advent of the United Nations' Sustainable Development Goals (SDGs), nature and wildlife conservation are still considered a polar opposite to economic development by some interest groups and are still facing the danger of being declared as obsolete. At least this story can provide a temporary happy ending—but it also illustrates that a lack of implementation can be a source of conflict and detriment to societal support among stakeholders.

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Better, smarter, REFIT—how much regulation at the EU level is necessary?

The discontent of member states with the legislation of the EU is as old as the union itself. Especially in times of major European crises, governments have always taken the easy, but unreflective approach: they blame the “Brussels bureaucracy” and demand more control to be returned to their national governments. In 2003, in order to strengthen the trust of the member states and citizens in the institutions of the EU, the European Commission—in agreement with the European Parliament and the Council of the European Union—passed the *Better Regulation Agenda* (European Parliament, Council of the European Union and European Commission 2003). In 2010, this was continued by *Smart Regulation in the European Union* (European Commission 2010), followed two years later by the launch of the *Regulatory Fitness and Performance Program*, or REFIT (European Commission 2012). The program is a key component of the commission’s “Better Regulation Agenda” and is designed to ensure efficiency and effectiveness of the regulatory framework within the EU, aiming at reducing costs and simplifying legislation. REFIT is an ongoing program to keep the entire inventory of EU legislation under review.

Better regulation under the current EU Commission

After the last elections in 2014, the new European Commission commenced an unprecedented downsizing of the environmental agenda—with issues such as biodiversity and natural resources being fully omitted (de Pous 2016). Henceforward, the post of a dedicated environment commissioner was merged with the maritime affairs and fisheries portfolio. Although the adoption of the United Nations’ Sustainable Development Goals (SDGs) was on the horizon, not a single commissioner’s mandate contained the term “sustainability” (Vincente 2014). After public criticism it was only added later on to the mandate of the commission’s first vice-president. The commission’s ten political priorities (European Commission 2014a) showed, quite plainly, that combating pressing environmental issues (e.g., the rapid loss of biodiversity, the degradation of ecosystems, and climate change) were not on the agenda for the five-year legislative period. Instead, the focus was put on evaluating existing and proposed legislation in great detail to pursue an agenda of short-term economic growth, jobs, and competition. In 2015, 93 legal proposals were either withdrawn or were set for withdrawal by the end of 2016, including legislation such as the Soil Framework Directive, which was intended to reduce soil degradation. In total, over 6,100 legal acts have been repealed since 2005 (European Commission 2016a).

Given the high, albeit rough, estimate of the number of existing legally binding and non-binding acts in the EU—more than 40,000 in 2015 (Bonde 2015)—a verification of their fitness for purpose seems more than justified. However, instead of following an approach based on efficiency, financial impact, and cost/benefit factors, the commission focuses on the single objective of reducing administrative burdens and costs for the economy and businesses. In doing so, the commission purposively ignores the long-term benefits of environmental legislation for society, such as healthy ecosystems, clean water, and fertile soils, effectively giving up environmental and social standards and, moreover, jeopardizing the precautionary principle. Within the REFIT program, the commission embedded so-called Fitness Checks:

comprehensive evaluations of policy measures aimed at identifying regulatory burdens, overlaps and gaps, and inconsistencies, as well as obsolete measures. According to the commission's REFIT scoreboard, "the results of not less than 11 evaluations [in the area of environment] are expected before the end of 2017" (European Commission 2016b).

In 2016, seventeen environmental initiatives were under evaluation, including the very bedrock of European nature conservation, the Birds and Habitats directives: two directives that safeguard and enhance a wide range of ecosystem services, such as carbon storage, pollination and flood prevention, worth 200–300 billion Euros annually (European Commission 2013a). Evidence suggests that the problems publicly associated with the existing legislation have instead another source: in spite of the huge public benefits provided by the directives, a study conducted in 2011 illustrated that the current allocation of funds covers only 9–19% of the annual minimum funding needs (5.8 billion Euros) for proper implementation (Ganttioler et al. 2010; Kettunen et al. 2011).¹ In contrast, the EU Common Agricultural Policy (CAP)—which accounts for about 40% of the EU's total budget, and squanders more than €0 billion annually to farmers as direct payments with no public benefits in return—was never even considered to be evaluated under REFIT. Current analyses have identified agricultural practice in Europe as one of the biggest drivers for the loss of biodiversity and the emission of greenhouse gases, thereby contradicting other major EU policies (Henle et al. 2008; European Environment Agency 2010; Pe'er et al. 2014). In summary, the decision by the EU Commission to put a REFIT focus on environmental legislation can be described as politically motivated in full neglect of scientific evidence in support of the directives.

Nature conservation under scrutiny

The EU nature legislation is fundamental to nature protection in Europe, safeguarding more than 1,400 threatened species and 1 million sq km of natural habitats that fall under its protection (European Commission 2016c). After passage, various studies show that many species experienced a spectacular comeback, to a large extent due to effective legal protection through the nature directives (Deinert et al. 2013; Sanderson et al. 2015).

The Special Protection Areas under the Birds Directive and the Special Areas of Conservation under the Habitats Directive together form the world's largest network of protected areas: the Natura 2000 network. Each year over 1 billion people visit Natura 2000 sites, including the Danube Delta, the Picos de Europa, the Carpathian Mountains, and the Wadden Sea, supporting 4.5 to 8 million jobs (BIO Intelligence Service 2011) and providing large economic benefits for the regions (Figure 1).

The lengthy scrutiny of the EU Nature Directives started when the EU Commission's president gave his newly appointed commissioner for the environment the official mandate for "the overhaul of the existing environmental legislation framework" and, not only to carry out an extensive evaluation of the two directives, but to "assess the potential for merging them into a modern piece of legislation" (European Commission 2014b). Merging the two directives would equate to opening up the legal text for negotiations between the European Parliament and the European Council with an unforeseeable outcome, taking into consideration the declining priority of environmental protection for the majority of member states.



Figure 1. The majority of the flood plains of the Havel River in Saxony-Anhalt, Germany, are designated as Natura 2000 sites. They are important refuges for migratory birds (© 2017 NABU/Volker Gehrmann).

Both directives are relatively old pieces of legislation. However, the transfer into national laws, the designation and establishment of the Natura 2000 network of protected areas, drafting and consulting on management plans, and many other aspects of implementation took longer than initially expected. The fact is, nature needs time and only in the last decade have the directives started to deliver the anticipated (and very promising) results. The recoveries of the Eurasian gray wolf (*Canis lupus*), the Eurasian beaver (*Castor fiber*), and the common crane (*Grus grus*) are just a few flagship examples of some of the achievements. Project sponsors and planners have learned to comply and plan with conservation standards of the legislation. After decades of hard work, the directives are now integrated into the legal systems and planning processes of the member states; conflicts between industry, land users, and nature conservation have declined. Nevertheless, some land user and industry organizations seized the opportunity to proclaim that “unnecessary burdens” had arisen from the protection of the natural heritage, and proposed changes to the directives during the Fitness Check process. The result would have been a lowering of European environmental standards.

#NatureAlert: The start of an unprecedented European environmental movement

Following the president's mandate, the EU commissioner for the environment started to carry out the Fitness Check of EU Nature legislation (for a timeline see European Commission 2016d). Consulting agencies were commissioned to evaluate the directives within the scope of five criteria: effectiveness, efficiency, relevance, coherence, and EU added value. At the beginning of 2015, four stakeholders in each of the 28 member states were consulted: two ministries, the respective national NGO coalition, and an industry or land user organization. Questionnaires were answered, interviews conducted, and scientific data compiled. As part of the European Commission's Better Regulation Agenda, EU citizens were later consulted for twelve weeks on the same five criteria. Brussels-based NGOs created an online platform offering the option to send the pre-filled questionnaire to join a conservation campaign asking to not change the nature directives; thus the #NatureAlert campaign was born. Citizens answered the call for participation and, after 12 weeks, over 90% of the total 552,470 replies received had raised their voice in favor of nature (Figure 2). This overwhelming level of support stunned EU policymakers, as it now leads (by a large margin) all EU public consultations in terms of overall participation by a large margin (until today, the closest runner-up is the highly controversial Transatlantic Trade and Investment Partnership, or TTIP, with 170,000 replies). In the following weeks, EU representatives suddenly used this consultation's result

Figure 2. Citizens hand more than half a million NatureAlert submissions over to EU Commissioner for the Environment Karmenu Vella (on the right) at the Fitness Check conference in Brussels in November 2015 (© 2015 FoEE).



to claim that the commission had managed “to bring the EU closer to its people” by “involving over half a million citizens in the decision making process” (European Commission 2015). The preliminary report of the consultants, presented at a conference later, confirmed that existing issues with directives had indeed been caused by deficient implementation and financing, not by the legislation itself. Subsequently, the commission announced the presentation of the final findings and political results of the Fitness Check evaluation for spring 2016.

In the following months it became apparent that the public consultation and the NatureAlert-campaign had triggered effects on the political agenda as well. At an Environment Council meeting, the German minister of the environment led an alliance of environment ministers from France, Italy, Spain, Luxembourg, Poland, Croatia, Slovenia, and Romania. In a pleading letter they urged the commission not to open up the directives to revision and hence risk their established legal certainty, but instead to promote better implementation. Subsequently, more environmental ministers followed this motion. In December 2015, the Environmental Council seized the opportunity around a debate on the EU’s Biodiversity Strategy 2020 (European Commission 2011) to publicly speak out against the EU Commission president’s plans “to merge and modernize” the nature directives. Full implementation of the Birds and Habitats directives is one of the six targets of the EU to halt biodiversity loss in Europe by 2020. Doing so also would step up efforts to comply with the Aichi commitments made by the EU and its member states in the conference of the Parties to the Convention on Biological Diversity in Japan in 2010.

In February 2016, a large majority of the European Parliament voted on a report following the citizens, NGOs, and the Environmental Council. Various other stakeholders, organizations, scientists, the Committee of the Regions (an EU advisory body) and over 300 small and medium-sized enterprises from around Europe joined the call, thus increasing the political pressure on the commission (BirdLife International, Europe and Central Asia 2014; Committee of the Regions 2015; European Federation of Associations for Hunting and Conservation 2015; BirdLife International, Europe and Central Asia 2016a; Breseford et al. 2016). As a result, whenever commission representatives were asked about the results of the Fitness Check, they responded by promising not wanting to water down environmental standards, but that the Commission was still evaluating all the evidence. And so after months of no reaction from the commission, spring turned into early summer with the fate of the nature directives still hanging by a thread.

Test of patience

Accordingly, conservationists grew tired of waiting for the EU Commission’s president, Jean-Claude Juncker, to take a decision on the Fitness Check and published their own concluding document of the evaluation, including proposed follow-up actions to better implement and finance European nature conservation (BirdLife International, Europe and Central Asia 2016b). Further, NGOs across Europe started mobilizing citizens again, calling on the commission to release the final version of the consultant’s evaluation study as well as the final political decision (Figure 3). Through social media over 11,000 messages were sent reminding



Figure 3. The German (left) and Luxembourgian ministerial representatives joined the NGOs in front of a banner during a meeting of the environment ministers urging the European Commission to publish the Fitness Check results (© 2016 NatureAlert).

the commission of the huge public support and calling on them to take action and save the EU nature directives.

The Dutch presidency of the European Council in the first half of 2016 had already announced and organized a large conference on “Future-proof Nature Policy” for the end of June 2016, aimed at discussing the final evaluation results of the Fitness Check with all stakeholders and governmental representatives. But as of the beginning of June the commission had not yet released the document and thus the conference was canceled at the last minute. A representative commented that the commission was working hard on overcoming the refugee crisis, which meant that other initiatives could not be processed at the same speed. The representative further stated that the commission would get back to the Fitness Check of the Birds and Habitats directives in fall 2016.

Following a formal “access to document request” by NGOs and a leak of the document to the press, the commission bowed to the high pressure and released the final version of the Fitness Check study before the summer break, which deemed the directives “fit for purpose” (Milieu, IEEP, and ICF 2016). Therein, the consultants clearly assessed the legal text as being sound, but concluded that there was a tremendous lack of financial resources and poor implementation in the member states. The directives themselves, however, were considered efficient, effective, relevant, and coherent and provide a great EU added value. Further, the consultants offered suggestions on how to tackle the implementation issues, e.g., by increasing availability of funding, increasing integration of the directives’ objectives and requirements into key sectoral policies, and building capacity as well as increasing public awareness and understanding.

In a letter to the EU Commission’s president, the president of the European Parliament reminded him of the strong political signals given from both the parliament and the council and urged the commission clarify its position on the directives as soon as possible. However, on the commission website the timeline had changed from fall to “last quarter of 2016.” It wasn’t until the end of November that an orientation debate in the college of commissioners on the Fitness Check was announced, the final step needed in order to publish the political

results and end the lengthy exercise. In the weekly meeting of the 27 commissioners, together with their president, they were to debate all possible options from keeping the status quo without any further action to the possibility that the directives have to be changed as a follow-up of the Fitness Check. Before the meeting, every commissioner received a letter and a post card with a picture of one of their national Natura 2000 sites from the Brussels-based environmental umbrella organizations as well as from the national NGO alliances. The members were thereby reminded again of the commission's commitment to not lower any standards and were asked to listen to the 500,000+ citizens, the environment ministers, the European Parliament, scientists, NGOs and the various stakeholders who had asked for no changes to the legal texts, but better implementation.

On December 7, 2016, all commissioners came together to discuss the follow-up action in a non-public debate. At the official press conference following the meeting results were presented, but no word about the Fitness Check. And then the commissioner for the environment tweeted: "Thanks all colleagues for full support on Birds & Habitats Fitness Check—now we focus on implementation," followed by more statements announcing the good news on Twitter: "We all [the Commissioners] concluded the Birds & Habitats Directives are fit for purpose!" Moments later, the commission issued their official press release of the meeting and the tweets turned into official news. Therein, the commission announced: "These Directives are vital for Europe's nature conservation policy and as such, their implementation needs to be improved" (European Commission 2016e). Following up on the extensive evaluation and the orientation debate, the official commission document, published only a few days later, formally put an end to the Fitness Check (European Commission 2016f). As a follow-up, the commission decided to develop an action plan in 2017 to correct the deficiencies encountered in the implementation of the two vital directives. After more than two years the scrutiny had ended. The EU nature directives, the cornerstone of nature conservation in Europe and of the largest network of protected areas in the world, were saved from political pressure to deregulate, "modernize," and simplify them.

Future challenges: Improved implementation of EU nature legislation

Environmental NGOs across Europe welcomed the commission's decision, but also emphasized that hard work still lies ahead to turn this positive decision into a real victory for nature. The commission's proposed action plan, therefore, has to comprise strong and ambitious proposals to strengthen implementation as well as enforcement of the EU nature directives. While the action Plan should primarily focus on activities by the EU Commission, it should also trigger initiatives and speed up implementation activities at member state and regional levels.

In order to address the proven implementation deficiencies, the European Commission has to fully commit to overcoming the major funding shortages as highlighted in the final Fitness Check report, and thus create a new set-up for EU financing of nature conservation at the latest from 2021 onwards within the new Multiannual Financial Framework on the EU budget (European Commission 2013b). The evidence suggests that the current "integrated approach" that relies on member states to provide the necessary money through various

EU funds—e.g., the Common Agricultural Policy—has failed. Instead, a new, targeted, and better-communicated approach is needed that can facilitate nature-friendly and economically beneficial investments, especially in marginal and poor regions, with a specific focus to include landowners and land users in the management efforts of Natura 2000 sites. Hence, the German minister for the environment as well as German NGOs urged the commission to establish a standalone EU nature fund: a separate budget line dedicated exclusively to nature conservation (Bundesministerium für Umwelt 2015; NABU et al. 2016). A dedicated fund could, for example, finance management planning, species action programs, caretaking of sites, and the creation and maintenance of related institutions. Independently from the establishment of a separate budget line for nature, the overall financing requirements must be met in general. The European Commission in principle has such capability by earmarking all appropriate EU funds for biodiversity conservation.

Legal enforcement of the directives is yet another process that must be addressed in the action plan. The commission has to increase inspections to ensure compliance with the nature directives, such as by adopting an EU environmental inspections regulation to establish common standards for enforcing environmental provisions, thereby providing a level playing field for all member states. Further, capacities and competences for the European Commission's Directorate-General for Environment have to be improved in order to process complaints and infringement procedures faster and more effectively.

By introducing the concept of EU-financed "Nature Advisory Services," the European Commission could further set up central coordination offices in the member states to foster cross-border cooperation and to provide a platform for stakeholder dialogue, best practices, and information exchange regarding habitat and species protection under the nature directives.

But aside from the potential for improvement that lies within a better implementation of the directives themselves, there are external drivers that need to be addressed when it comes to achieving the 2020 goal to stop the loss of biodiversity. The key factors driving the rapid loss of biodiversity in Europe, notably agricultural intensification, have been clearly identified. Increasing land use intensity in some areas, coupled with land abandonment in others, have become the biggest cause of biodiversity loss and ecosystem degradation in Europe. Landscapes are becoming increasingly homogenized, dominated by high-yielding crops and leaving less and less space for nature. The Common Agricultural Policy is the key financing scheme behind these negative effects that have not only harmed the environment, but also the structure of farming in many European countries. As long as this policy remains unchanged, all conservation efforts are trapped within the dilemma of only being able to cure symptoms while the root cause remains unchanged. Hence, if the achievement of environmental goals and objectives were to be taken seriously by the European Commission, it must kick-start an ambitious reform of the Common Agricultural Policy for the next Multiannual Financial Framework (2021–2027). This overhaul has to ensure that it rewards farmers who protect the European natural heritage, wildlife and natural resources, which farming itself depends on. In general, biodiversity has to be mainstreamed into sectoral and cross-sectoral strategies, and subsidies and incentives with harmful environmental effects must be abolished. This

all would be in necessary compliance with the Aichi targets of the Convention of Biological Diversity (CBD).

Conclusion

Saving what probably is the best idea Europe has ever had in terms of nature conservation was not easy. It required a joint effort and a broad coalition of environmental nonprofit organizations, various institutions from the public and private sector, and even corporate partners to demonstrate that influencing political decisions at a supranational level is not impossible. Being able to mobilize more than 500,000 EU citizens voicing their support for the nature directives was a key driver to turn around the political debate. But winning in the political arena is only the journeyman's piece. Greater challenges—to form coalitions for a better implementation in the field and to improve financing of the EU nature directives—are at stake now. In addition, the political agenda of the EU needs to shift towards battling the root causes of environmental degradation—mainly by launching efforts for a true reform of the Common Agricultural Policy—in order to deliver on global objectives set by the Convention on Biological Diversity, the Paris Agreement on climate change, and the UN's SDGs.

Endnote

1. However, this only covers funding needs for the Natura 2000 network, not for the full implementation of both directives. For further information on Natura 2000, see Langhout and Brunner 2017 (this issue).

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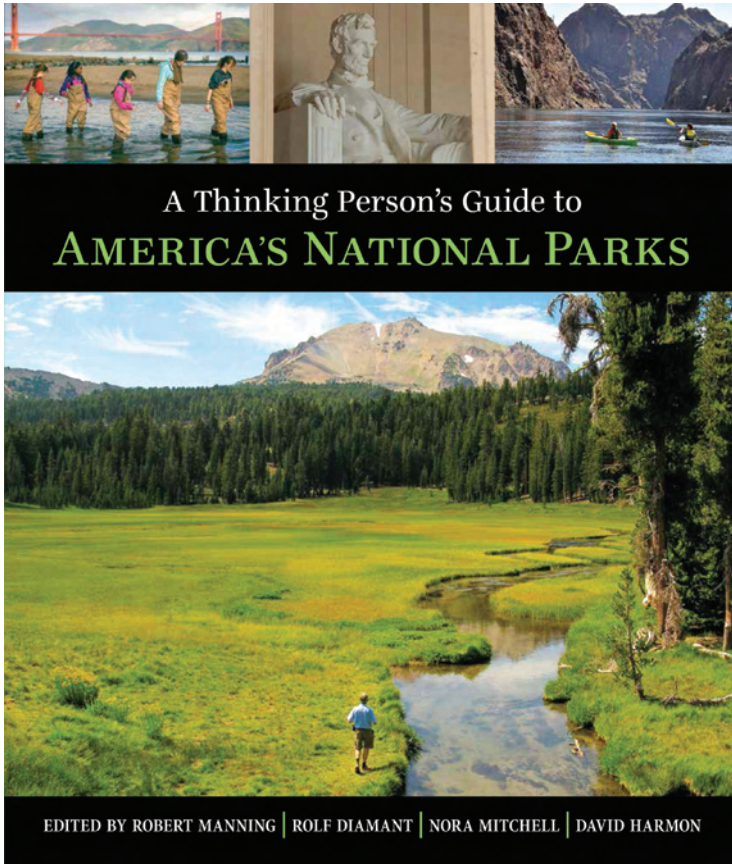
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