

The State of History in the National Park Service

A Conversation and Reflections

The George Wright Forum

The GWS Journal of Parks, Protected Areas & Cultural Sites

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Origins

Founded in 1980, the George Wright Society is organized for the purposes of promoting the application of knowledge, fostering communication, improving resource management, and providing information to improve public understanding and appreciation of the basic purposes of natural and cultural parks and equivalent reserves. The Society is dedicated to the protection, preservation, and management of cultural and natural parks and reserves through research and education.

Mission

The George Wright Society advances the scientific and heritage values of parks and protected areas. The Society promotes professional research and resource stewardship across natural and cultural disciplines, provides avenues of communication, and encourages public policies that embrace these values.

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The Society strives to be the premier organization connecting people, places, knowledge, and ideas to foster excellence in natural and cultural resource management, research, protection, and interpretation in parks and equivalent reserves.

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On the cover: An array of reports relevant to the practice of history in the National Park Service has appeared over the last decade or so. The latest, and in many ways the most ambitious, is *Imperiled Promise: The State of History in the National Park Service*, which came out in late 2011 under the aegis of the Organization of American Historians. See the series of articles beginning on p. 246.

SOCIETY NEWS, NOTES & MAIL

GWS2013 Call for Proposals out; abstracts being accepted through October 1

In June we issued the Call for Proposals for “Protected Areas in a Changing World,” the next George Wright Society Conference on Parks, Protected Areas, and Cultural Sites. Scheduled for March 11–15, 2013, in Denver, Colorado, GWS2013 will be the 17th in a series of conferences that traces its lineage back to the 1976 Conference on Science in the National Parks. The first full-fledged GWS conference took place in 1983, and they have been organized regularly ever since.

Open to GWS members and non-members alike, the conference has an exciting, diverse program that covers all the disciplines and professions involved in park-related research and management. You can be a part of it! From now through October 1, we are accepting abstracts from people who wish to organize sessions and make individual presentations. For complete details and online submission forms, go to

www.georgewright.org/gws2013

While we face some challenges with regard to new reductions in federal travel budgets and a new conference approval process, we are working hard to make sure that the GWS conference offers an unparalleled experience to attendees. GWS2013 is your chance to catch up with old friends and colleagues, make important new contacts, discuss the latest innovations in park management, stay current with research findings in your field, and connect with people who share your core values. We look forward to welcoming you to the Front Range of the Rockies!

Boston-area parks to host first-ever Park Break focused on cultural resources

The week of October 15, 2012, will find Park Break in Boston studying cultural resource management in an urban setting. This will be a ground-breaking session, devoted solely to issues challenging managers of historic sites and related places, especially with regard to diversity in NPS working ranks and the people who visit these areas.

Three local parks will be the focus of the week's work: Boston African American National Historic Site, Boston National Historical Park, and Lowell National Historical Park. Engagement will center on the topics of making NPS sites more relevant to diverse communities and ways to attract diverse audiences to national park sites. All aspects of cultural resource management will be involved—museum services, building preservation, interpretation, cultural landscapes, planning, compliance, and preservation outreach to communities and partners. Topics may include the evolution of how historic parks and sites are chosen for designation and today's emphasis on selecting sites that better reflect the diversity of our shared heritage, making collections and exhibitry more relevant to diverse audiences, and partnering with diverse community groups to increase our capacity in telling America's story. For more information, visit the Park Break webpage at www.georgewright.org/parkbreak.

Beyond the 59th Park: Reforming the Nomenclature of the US National Park System

David Harmon

HAVE YOU EVER BEEN TO PINNACLES? Tucked away in California's Coast Ranges south of San Francisco, it's one of the many hidden gems of the national park system. I have, twice. Approaching it from the west, as I did the first time I went, out of the little town of Soledad you follow a winding road that dead ends at the park. If you get up early enough on a gentle spring morning, you arrive to an expanse of chaparral filled with diffused, soft light from the sun rising behind the Gabilan Range. The second time, I came in from the east—no road crosses the park—on a typically scorching summer afternoon. The aspect was harsher, and my hike up to Bear Gulch Reservoir much hotter, but it was still beautiful. Since I last went, Pinnacles has achieved considerable notoriety by embarking on a condor reintroduction program, adding even more interest to the prospect of a visit there.

So, when I came across a news story on the Web in July about current efforts to get Pinnacles redesignated from a National Monument to a National Park, I took notice. The story, which appeared in a local newspaper, led with a paragraph simply noting that the legislation had passed a key House committee. Then the staff writer explained the significance of what had happened: "The House Natural Resources Committee unanimously approved of the legislation sponsored by Rep. Sam Farr, D-Carmel, and co-sponsored by Rep. Jeff Denham, R-Modesto, to make Pinnacles National Monument the 59th park in the National Park System."¹

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“The 59th park in the National Park System.” If you truly care about the system in its entirety, those words ought to go right to the pit of your stomach. Not because Pinnacles isn’t worth “full national park status” (a phrase frequently used). No, when you hear talk like this you should feel queasy because it stokes the confusion, already widespread, over what the purpose of the national park system is and how its nearly 400 components relate to one another. It reinforces the idea that the system consists of 58 places of value—the places termed National Park—while consigning the other 339 units to, at best, a distant second-class status.

In fact, it states in disarmingly simple language what all of us park-savvy sophisticates deny in our mouths but know, in our hearts, to be true: we do not have a national park system, but a national park caste system. And that caste system is in no small part rooted in the bewildering variety of park designations—at least two dozen in addition to National Park and National Monument—that has been allowed to accrue over the decades.

Make no mistake: the nomenclature of the national park system is a national disgrace. It is a parade of distinctions without a difference. It is a towering tower of bureaucratic babble. It is by turns oversubtle and underinformative. Most damningly, it is unintelligible to the average person and expert alike. If the parks are “America’s best idea,” as is so often claimed, then the fact that we have so many meaningless categories for them is America’s worst one.

I have gathered the evidence in Table 1. Take a deep breath, and then dive in.

Table 1. Designations of units of the national park system. The list doesn’t include designations such as National Heritage Area, National Historic Trail, etc., that are used for places affiliated with NPS but not part of the national park system.

1. National Battlefield	21. National Scenic River
2. National Battlefield Park	22. National Scenic Riverway
3. National Battlefield Site	23. National Scenic Riverways
4. National Historical Park	24. National Scenic Trail
5. National Historical Park and Ecological Preserve	25. National Seashore
6. National Historical Reserve	26. Ecological and Historic Preserve
7. National Historic Site	27. Gardens
8. National Lakeshore	28. House
9. National Memorial	29. International Historic Site
10. National Military Park	30. Island
11. National Monument	31. Mall
12. National Monument and Historic Shrine	32. Memorial
13. National Monument of America	33. Memorial Grove
14. National Park	34. Memorial Parkway
15. National Preserve	35. Park
16. National Recreation Area	36. Parks
17. National Recreational River	37. Parkway
18. National Reserve	38. Scenic and Recreational River
19. National River	39. Wild and Scenic River
20. National River and Recreation Area	40. Wild River

Now usually, when people tally the number of designations in the national park system, they come up with a number such as 25 or 30 or thereabouts. As you can see, I found 40. Have I overcounted? Should I have included “Island” (as in Theodore Roosevelt Island), “Mall” (as in the National Mall), or “House” (as in The White House)? Are all the “River” designations just variations on a theme, or are they truly separate? These are all valid questions, to which I would add one more: Who cares? What we have here is the terminological equivalent of kudzu. And, like kudzu, it adds nothing of value to the landscape.

As you scan the list of 40 unique appellations, ask yourself what this would mean if you were running America’s national parks like a no-nonsense business. Would you, as owner, direct your marketing department to come up with 40 different brand names for your one principal product? Oh well, you may reply, some of these brands are useful because they appeal to a particular market segment. War buffs, for example, are empowered to skip right past the Olympics and Yosemite and head on over to the National Military Parks. And if for some reason “Military” is not graphic enough for them, they can go instead to a National Battlefield Park, which tells you straight up that this is a place that saw some serious fighting. Or, if they are put off by the picnic-y associations of the word “park,” they can dispense with the NBP and go to a National Battlefield Site. And if *that* is not terse enough for your strong, silent types, they can cut to the chase at a National Battlefield. Someday, perhaps, if we continue this run of luck, the überbuffs who want All of the Above will be able to satisfy themselves at a National Military Battlefield Parksite.

How is the proliferation officially explained? NPS’s webpage on park nomenclature² begins with the bland observation that “the diversity of the parks is reflected in the variety of titles given to them.” It then goes through some of the designations and briefly explains the differences. Significantly, many of the explanations are qualified because there frequently are exceptions to the differences. Here, as an example, is the explanation of National Memorial, with the fudge words highlighted:

The title national memorial is *most often* used for areas that are *primarily* commemorative. They *need not be* sites or structures historically associated with their subjects. For example, the home of Abraham Lincoln in Springfield, Ill., is a national historic site, but the Lincoln Memorial in the District of Columbia is a national memorial.

If you go down the list of national memorials alphabetically, the prescience of all this hedging is justified right off the bat, because the first one you come to, Arkansas Post, doesn’t commemorate anyone or anything specific. Rather, it is emblematic of the “long struggle between France, Spain, and England for dominance of the Mississippi River Valley.”

The difference between a national park and a national monument? There is one, and it is telling (again, italics added):

Generally, a national park contains a variety of resources and encompasses large land or water areas to help provide adequate protection of the resources.

A national monument is *intended* to preserve at least one nationally significant resource. It is *usually* smaller than a national park and lacks its diversity of attractions.

Can we blame anyone who reads this official explanation and draws the conclusion that national parks, being larger and more diverse, are therefore more interesting, more attractive, more *valuable* than national monuments? I don't see how, because it is a perfectly logical conclusion. So, returning again to the example of Pinnacles, we should actually not be too critical of the writer who spoke of the "59th park."

Yet even if we are willing to take the official distinction between national park and national monument at face value, and accept that the two terms are far from airtight, when we get down to making comparisons on the ground the exceptions to the rules are so glaring that it calls into question the validity of the whole exercise. For instance, Dinosaur National Monument is large and contains a fascinating variety of resources: the world-famous fossil quarry, the canyons of the Green and Yampa rivers, and more than 1,000 native species. By contrast, Hot Springs National Park is small in extent and its natural resources are heavily influenced by the adjacent city of the same name. Should we conclude, therefore, that (a) the two are misnamed, and (b) that Dinosaur is worth more than Hot Springs?

The designation National Monument is further complicated by its association with the Antiquities Act. All areas protected by means of presidential proclamation under the act are automatically named National Monument. But Congress can also create new parks with that very same designation. What is the difference? Administratively, there is none. But in terms of public perception, there is a strong current of expectation that goes with at least some Antiquities Act-designated national monuments. Those that are large natural areas are viewed as something like national parks with training wheels: at some indefinable point in their maturity, they will be deemed worthy of "graduating" to that ultimate status.³ Black Canyon of the Gunnison, Death Valley, and Joshua Tree are three recent examples out of many. Yet Dinosaur, proclaimed by Woodrow Wilson in 1915, is, for some inscrutable reason, "stuck" (another loaded word) in national monument status.

And who, outside of insiders, can parse the difference between a national historic site and a national historical park? To the nomenclature page again we go:

National historical parks are *commonly* areas of greater physical extent and complexity than national historic sites.

So, does this mean national historical parks are up in first class with the national parks, while national historic sites and national monuments are paying \$7 for a bag of peanuts back in coach? If only William Howard Taft NHS had a bigger lawn, would it qualify as an NHP? Will the ranger at Colonial roll her eyes at me in disgust if I blunder and refer to it as a "national historic park"?

Now, I am certain none of this is what the National Park Service means to imply; indeed, it dutifully maintains that the collection of 397 park units is a system, and a system of equals. But by common acclamation—which NPS and some park advocates do little or nothing to play down—there *are* class distinctions. The lion's share of money, the *crème-de-la-crème* of field personnel, and the bulk of public attention tend to flow to the Brahmins of this *de facto* caste system, the so-called Crown Jewels: the big, old-line National Parks of the West. Yes, there are some exceptions, but here we might well paraphrase George Orwell: "All parks are

equal, but some parks are more equal than others.” And we could, if we wished, enter into a further convoluted discussion of the unique cachet accorded the centerpiece of this purported diadem: Yellowstone, the Mother Park.

Equating the designation National Park with the most valuable units of the system—or with the *only* valuable units of the system—is a practice at least as old as the National Park Service itself. Its traces include various editions of *The National Parks Portfolio*, one of NPS’s first and most effective public relations publications, in which most national parks were described and illustrated extensively while the national monuments were treated much more perfunctorily; and the proposal in the 1930s for a “national primeval park system” that would encompass only large natural areas, excluding the historic sites and recreation areas then being added to the system, which were deemed “a welter of miscellaneous reservations.”⁴

It is a practice that plays itself out over and over even today: in legislative bids like that being pushed at Pinnacles, in guidebooks, and in other popular media. Even Ken Burns and Dayton Duncan, first-class filmmakers who are fully conversant with and appreciative of the diversity and subtleties of the national park system, felt that their documentary’s story was best told by mostly leaving out the 85% of the system that is not called a National Park. Indeed, there are still NPS employees—though a dwindling number, I am told—who think in terms of first- and second-tier areas, and are convinced that a successful career must include tours of duty in the former.

Equally pointedly, there is no evidence that the national park system has been assembled at all systematically. That is hardly surprising, since the nomenclature was created by successive acts of Congress in the most ad hoc manner one can imagine: namely, by successive acts of Congress. Now, of course there is always some untidiness attendant to the legislative process in a democracy, but in their park-making lawmakers have truly been profligate in coining new designations, and for no discernible good reason. To say that Congress “created a system” of park names is to impute far too much intentionality to the process. More properly we should speak of the nomenclature having accreted, in geological fashion, over the years. Now it lies layered, like so many suffocating strata, over the bedrock commonalities of the national parks—commonalities to which we shall return at the end of this essay.

As bad as all this class-mongering is, the nomenclature mess contributes significantly to another problem, alluded to earlier, that has the potential to actually threaten the very survival of the national park system. The problem is that the American people are fundamentally confused about the purposes of our various public land management systems, including that of the national parks. And—critically—because people are not clear about the purposes of public lands, they are also not really clear about what constitutes their respective values, and how to defend those values when they come under attack.

I make these claims based on more than 20 years of having had to explain what I do for a living. In describing what the George Wright Society is, I have to tell people about George Melendez Wright and who he worked for. I have done this hundreds of times, and I can assure you that when I say “Wright was the first scientist who worked for the National Park Service” most people give me a very blank look. I am then compelled to add that “The National Park Service is the federal government agency that is in charge of national parks, like

Yellowstone.” This usually—but by no means always—produces a spark of recognition. Sure, there are plenty of parkies out there, but I am very confident saying that the average American has no clue whatsoever about who the agencies are that run the different protected area systems of our country, let alone being able to distinguish between the missions of those systems. People do not differentiate between national parks and state parks. They certainly can’t tell you the difference between a national park unit (howsoever designated), a national forest, a national wildlife refuge, or a national marine sanctuary.

The public’s lack of understanding of our national land management systems is not just a lamentable state of affairs. It’s pernicious because it creates a dangerous void in the public awareness—an empty space in which people who *do* understand the differences within and among the various systems, and who want to exploit them for their own political purposes, can freely operate.

A perfect example is the Sportsmen’s Heritage Act (HR 4089), which passed the House of Representatives this year before stalling in the Senate. The purpose of the bill is to direct federal land-managing agencies to make it easier to allow hunting and fishing at sites under their jurisdiction. Although most (but not all) national park system units ban hunting, the bill did not exclude the National Park Service from its makeover. The authors tried to make the inclusion of the national park system more palatable by crafting an “exemption” for units designated as National Parks or National Monuments, but the legislation would have applied to the other 264 units not so designated.⁵ It is a classic divide-and-conquer strategy that counts on being able to use the complexities of NPS nomenclature to chip away at protections that largely apply to the system as a whole. Luckily, watchdog groups raised the alarm and blocked the bill in the Senate (at least so far).

So much for the problem. What, then, is the solution? The answer was given us many years ago by Henry David Thoreau: Simplify, simplify.

I am certainly not the first to call for streamlining the US national park nomenclature. Just a few years ago, when the National Parks Second Century Commission report was being prepared, one of its preparatory committees explicitly recognized that the designations, for the most part, “do not define any functional difference” and that “this multiplicity complicates public understanding of the defining purpose of national parks as described in law. It should be possible to greatly simplify the terminology and enhance public awareness of the unity of the system.” They recommended cutting the number of designations to no more than five.⁶

That, in my opinion, is four too many. The National Park Service and its allies should draft, and then press Congress to pass, a National Park System Unity Act that redesignates all 397 units as National Parks. It would require that all future additions to the system be designated as National Parks, including those areas added through proclamations made under the Antiquities Act.⁷ Finally, expanding upon Congress’ declaration in the General Authorities Act of 1970 that the various park units, “though distinct in character, are united through their interrelated purposes and resources into one national park system as cumulative expressions of a single national heritage,”⁸ the National Park System Unity Act would direct NPS to actively interpret to the public each park’s place within the larger national park system, the relationship of that system to its counterparts at the federal and other governmental

levels, and the relationship of all American public lands to those of other countries with whom we share this planet.

Would passing a National Park System Unity Act resolve the public's confusion about land management objectives and purposes? By itself, no, it wouldn't. But it would give us a good start down the road toward a larger national civics lesson about the value of public lands in general.

Nor would reforming the nomenclature, alone, solve the caste problem. Presented with a large, diverse set of entities, people will always make qualitative rankings among them—even if they are all called “National Park.” We should not shy away from this, nor should we allow our exploration of the implications to be hamstrung by fears of being politically incorrect. Does the thought of setting an “Amistad National Park” or a “Maggie L. Walker National Park” alongside “Grand Canyon National Park” give you pause? Then: speak up! By all means let us open a robust conversation about what constitutes “national significance,” for that is actually what the caste problem is all about.⁹ But: let the conversation be informed by a conception of national significance that is not presumed to be unitary, static, and self-evident.

As well, let us candidly recognize that while a place like (say) Independence can, in some sense, be considered ultimately more important than a place like (say) Capulin Volcano, both of them are consequential in their own right, both are assets to our natural and cultural heritage, and both are, in different but complementary ways, significant to our nation.

Because that is what it means to be a part of a *national park system*. The “bedrock commonalities” I spoke of above are these: national significance, and unity of care. Once a place is deemed significant enough to be admitted to the national park system, it truly becomes a National Park and should be called by that name and that name only. And, once deemed a National Park, it is worthy of the exact same high level of care and respect as any other National Park. These two commonalities are what put the Independences and Capulins of the world on a par with one another and allow them to be treated as administrative equals within a single system, even though, as Congress has recognized, they are “distinct in character.”

There is a saying, usually identified as being a Chinese proverb, that “the beginning of wisdom is to call things by their right names.” I submit that the wisest course of action is to begin calling every American national park by its right name. It is high time that we go beyond debating which unit should be the “59th park” and extend clarity and unity of naming to all 397. Let us then, in celebration of the Park Service's centennial, finally have a national park system made up exclusively of National Parks.

Endnotes

1. Anonymous, “Effort to name Pinnacles a national park sent to House,” *Gilroy* (California) *Dispatch*, July 11, 2012. Online at www.gilroydispatch.com/articles_from_holliester/effort-to-name-pinnacles-a-national-park-sent-to-house/article_53bc49e4-784d-58d4-994e-d11ba10805cd.html. A *Los Angeles Times* article later in the month repeated essentially the same thing. As this essay goes to press, the bill had passed the House and the Senate nearly passed an identical bill just before its August recess. The issue may be taken up again when Congress reconvenes in September.

2. National Park Service, "Nomenclature of park system areas," undated. Online at www.nps.gov/history/history/hisnps/NPSHistory/nomenclature.html.
3. I am speaking here only of proclaimed monuments assigned to the National Park Service. Numerous national monuments have been proclaimed through the Antiquities Act and placed under the jurisdiction of other agencies.
4. There were many editions of the *Portfolio*, which was authored by Robert Sterling Yard, starting with two published in 1916 just before, and then after, NPS was created. My assessment of the unbalanced treatment is based on the table of contents of the third edition (Washington, DC: Government Printing Office, 1921), 7. For the national primeval park system proposal, see Harlan D. Unrau and G. Frank Williss, *Administrative History: Expansion of the National Park Service in the 1930s* (Denver: Denver Service Center, National Park Service, 1983), chap. 6; Richard West Sellars, *Preserving Nature in the National Parks: A History* (New Haven, CT: Yale University Press, 1997), 142–145. Quotation is from William P. Wharton, "The national primeval parks," *National Parks Bulletin* 13 (December 1937), cited in Sellars, *Preserving Nature*, 143. Incidentally, in a speech delivered shortly before his untimely death, George Wright expressed opposition to the primeval parks proposal; see Sellars, *Preserving Nature*, 144.
5. Arnold & Porter LLP, "The impact of HR 4089, The 'Recreational Fishing and Hunting Heritage and Opportunities Act,' on the national park system," unpublished report (Washington, DC: Arnold & Porter LLP, 2012). This legal analysis, commissioned by the National Parks Conservation Association, found that the "exemption" offered for national parks and national monuments was subtly worded in such a way that would actually have permitted hunting in those areas, and in fact might have required NPS to go to great lengths to justify *not* allowing hunting. The analysis concluded that the legislation would overturn fundamental NPS wildlife management tenets that have been in place for decades.
6. National Parks Second Century Commission, "Future Shape of the National Park System Committee Report: A system that works for all," in *Advancing the National Park Idea: National Parks Second Century Commission Committee Reports* (Washington, DC: National Parks Conservation Association, 2009), unpaginated.
7. Some people oppose changes to the nomenclature in general because they are concerned that any change to the designation National Monument might open the door to unwelcome alterations to Antiquities Act. There is some validity to this, but I think a National Park System Unity Act could be carefully written so as to maintain the essential presidential proclamation powers of the Antiquities Act. See also note 3, above.
8. Lary M. Dilsaver, ed., "An Act to Improve the Administration of the National Park System by the Secretary of the Interior, and to Clarify the Authorities Applicable to the System, and for Other Purposes, 1970 (84 Stat. 425)" [i.e., the General Authorities Act], in *America's National Park System: The Critical Documents* (Lanham, MD: Rowman & Littlefield, 1994), 374.
9. Re-open, actually: the concept has been debated sporadically over the years. For instance, during his time as NPS director (1989–1993), James Ridenour voiced concerns about "the thinning of the blood," a view he summarized in *The National Parks Com -*

promised: Pork Barrel Politics and America's Treasures (Merrillville, IN: ICS, 1994). For a response, see Frank Buono, "Thinning the blood—another myth," *The George Wright Forum* 10:4 (1993), 39–44.

Dave Harmon is the George Wright Society's executive director. He is writing here in his personal capacity, and the viewpoints in this essay should not be taken to reflect official positions of the GWS.

☞ The Heart of the Matter

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

Rambunctious Garden: Saving Nature in a Post-Wild World, by Emma Marris. Bloomsbury. \$25.00 (hardcover). 210 pp.; ill.; index. ISBN: 978-1-60819-032-4. 2011.

Reviewed by David M. Graber

THOSE OF US CONCERNED WITH MANAGING NATURE IN AMERICA'S NATIONAL PARKS had it pretty well figured out 30 years ago. We would remove the past artifacts of human settlement and protect parks from future anthropogenic influences; nature would do the right thing and we would all celebrate the consequences. During the course of the 1980s, the ecological paradigm of homeostasis, and thus natural stability, finally crumbled in the halls of academe. The Leopold Report's 1963 clarion call to maintain, or where necessary recreate, "as nearly as possible the condition that prevailed when the area was first visited by the white man" began to look increasingly antiquated. Paleoecologists were reporting that "primeval" ecosystems frequently dated back only centuries to a few millennia—when climate had made a hard turn. We park managers subtly moved on, leaving native ecosystem species and processes to express themselves as they would on the land without our presuming the outcome. We would remove what didn't belong, such as tractable non-native species and water diversions, and restore what had gone missing through human actions, such as extirpated species and fire. Establishing Redwood National Park had fired up a passion for restoring anthropogenically altered ecosystems, and we advanced from mitigating erosion in logged Northwest coastal creeks to tackling the jungles of strawberry guava and pig in Hawaii. We were managing *for Nature*: It felt rather grand, and for the most part the results looked pretty good as well ... although they sometimes came at great cost, and required chronic maintenance.

Our era of optimistic confidence was short lived. Climate change eased into our consciousness slowly, from the initial findings of the climatologists and, eventually, the first uneasy forecasts by the ecologists: The world will look quite different. Temperature, precipitation, and substrate packets that have nurtured ecosystems will move elsewhere, or disappear entirely to be replaced by unprecedented new habitats. Plants and animals that can, will have to move. Biotic communities that have seemed organic in their integration will disassemble and novel combinations will arise. In these circumstances, what is a native species, or a native process? Nonetheless, conservation biologists surmise that in the face of changing climate, relatively intact ecosystems, especially large ones and ones connected to other ones, stand the best chance of persisting and minimizing extinction. Restoring damaged or

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compromised ecosystems is still worthwhile ... well, maybe not at coastal sea level, maybe not in arctic habitat rapidly melting and foresting. But what do *native* and *alien* mean in a moving playing field? What does *natural* mean? Efforts at conserving nature are taking place not only in the face of a warming planet, but also one in which the human population of the earth has just turned the corner on another billion who continue to convert wildlands to farms and towns while appropriating resources and energy from what's left.

In the midst of these challenges comes proclamation from several intellectual quarters that the earth has entered the "Anthropocene" epoch in which earth's very flux of energy and physical constituents are now so dominated by the actions of humankind that traditional nature conservation is inane, and oft-times morally wrong. Peter Kareiva, the outspoken chief scientist of The Nature Conservancy, proclaims: "... the global scale of this transformation has reinforced conservation's intense nostalgia for wilderness and a past of pristine nature. But conservation's continuing focus upon reserving islands of Holocene ecosystems in the age of the Anthropocene is both anachronistic and counterproductive."¹ Kareiva and his fellow travelers particularly—and fairly—condemn conservation efforts in the developing world for ejecting people from their lands and denying them access to subsistence resources. Another revisionist thread is represented by the writing of Matthew Chew at Arizona State University, who attacked the conservation movement's reverence for nativeness while he celebrates the virtues of the much-despised tamarisk.

We now have a book devoted to rethinking nature conservation, and one that promises to reach a much broader audience. The author of *Rambunctious Garden*, Emma Marris, has written on ecology and conservation biology for *Nature*, and more recently *High Country News*. She is a facile and entertaining story-teller who traveled extensively collecting the material for this book. Like Kareiva, her premise is that wild nature is finished: we should learn to appreciate and enjoy the novel amalgamations of plants and animals that human domination of the planet has yielded, and abandon our quest for biocentric landscapes. Marris starts out by gently mocking folks attempting to restore seriously altered ecosystems—such as those in the Hawaiian Islands—by weeding out the introduced species. Indeed, large-scale efforts at restoring pure Hawaiian assemblages are probably doomed to failure, but local and less catholic projects such as the kipukas of Hawaii Volcanoes National Park have produced some gratifying successes, providing visitor and native Hawaiian alike the chance to experience what pre-conquest—not pre-human—Hawaii feels like. In a second case study, ridding a small section of Australia of its introduced cats, foxes, and rabbits in two 15-mile-square fenced exclosures to restore a suite of severely threatened marsupials has taken massive expense and Herculean effort. Marris is careful not to call it silly, but she observes that "pristine" Australian nature has been recreated through intense management, and only in a tiny sliver of the country.

Marris selects Yellowstone National Park for her lesson that ecosystems are not stable for very long, and the "balance of nature" is not so much. She converses with Ken Aho, a university scientist who is studying the ecology of introduced mountain goats. They're native 200 miles distant; they don't appear to be having much effect on their adopted habitat, and that habitat is likely to disappear this century with a warming climate. Aho tells Marris he is okay with change, but not anthropogenic change. Marris responds: "But the search for the

untouched is as vain as the search for the unchanging. Science tells us that ecosystems never hold still. History tells us that they are never pristine. We humans have changed every centimeter of the globe.”

In Europe, Marris visits a few efforts at rewilding long-domestic landscapes. Białowieża Primeval Forest bills itself as “pristine”—and does indeed contain 18 square miles that apparently have never been logged—but in fact has lost its large predators to extirpation, and suffered introductions of alien mammal species. It lost its bison, or wisent, to overhunting, and then restored them from zoo stock. The preserve is intensely managed. It has, as Marris readily acknowledges, a mystical, untouched quality almost nonexistent in Europe ... but it’s pretend primeval. Another of her rewilding case studies is the Oostvaardersplassen nature reserve in the Netherlands. The below-sea-level 23-mile-square reserve was designed by an ecologist to recreate to the extent possible surmised savanna conditions at the end of the Pleistocene. Red deer have been returned. A primitive breed of horses called Konik stands in for the extinct equid tarpans that once occupied northern Europe. Similarly, although aurochs, the original wild cattle of the region, are extinct, Heck cattle have been bred to resemble aurochs. There are no predators larger than a fox; wolves are not yet politically acceptable so humans do the culling. Whether this part of Europe was indeed savanna, or forest, or some mix of the two is a matter of some contention. Marris asks the question: What exactly *is* Oostvaardersplassen? A number of conservation scientists, including Michael Soulé and Reed Noss, have proposed “Pleistocene Rewilding” in a big chunk of North America. The pre-human landscape would be recreated with a full suite of large grazers and predators, using African proxies such as elephants and lions to stand in for analogous species presumed lost to early human predation. Marris is clearly intrigued by these efforts, but observes there is a great deal of artifice and romance in these projects, as well as the arbitrariness of any particular baseline.

In a key chapter entitled “Learning to Love Exotic Species,” Marris regales the reader with examples where non-native introductions—intentional and inadvertent—have benefited ecosystems. She also has fun with the conundrums conservation biologists face, such as when two introduced tamarisk species hybridize into a new species that does not exist elsewhere (Is it native?), or when European white ducks hybridize with closely-related introduced ruddy ducks and the UK government spends a fortune eradicating the hybrids. Marris argues that many, if not most, introduced species are not a menace to ecosystems, and they enhance species richness and thus biodiversity. She concedes—in passing—that as cosmopolitan weedy species are introduced far and wide, the distinctiveness of ecosystems in different places is eroded; beta diversity is lost.

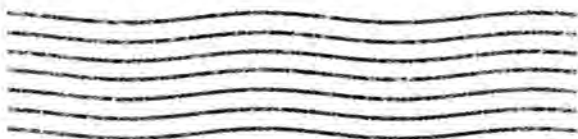
Marris concludes that once one acknowledges a landscape cannot be restored to “pristine wilderness,” a menu of conservation goals presents itself. Among them, she proposes *Protect the Rights of Other Species*, which is inspired by Aldo Leopold’s land ethic and the concept of biocentrism. *Protect Charismatic Megafauna* places species like tiger, gorilla, elephant, and panda at the center of the conservation effort. Some ecologists have argued that the large charismatics are umbrella species, and by providing for them brings along many other species. This is not, however, universally true. *Slow the Rate of Extinctions* can include artificially modifying habitats and controlling competitors or predators to avoid extinctions;

it can also include zoos and gene banks. *Protect Genetic Diversity* in Marris' thinking includes identifying the most genetically distinctive organisms and worrying less about all variants of a taxon. *Define and Defend Biodiversity* comes closest to the contemporary management of most national parks and protected areas. *Maximize Ecosystem Services* is an economic self-interest strategy championed by Kareiva and most eloquently refuted by Aldo Leopold in *A Sand County Almanac*. Lastly, Marris offers *Protect the Spiritual and Aesthetic Experience of Nature*, which reflects, among other things, the intimate ties that human cultures often have with particular species or landscapes, and the transcendent experiences many of us enjoy in nature.

These are not bad goals to consider, and they are not all mutually exclusive. In fact, Emma Marris' bark is much worse than her bite. She says in closing: "Perhaps there is one solution that applies to all these different goals: preserve open land. Don't ignore green, growing land just because it isn't your ideal native landscape. Protect it from development, even if it is just a 'trash ecosystem.' Build your cities in tight and up high, and let the scenery take over the suburbs." These are fine words, and they reflect Marris' appreciation of the out-of-doors, which ranges for her from the neighborhood park or empty lot to the grandeur of Wrangell-St. Elias. Her gross folly is to accuse conservationists as a group that they are in a deluded quest for the pristine ecosystem, or the pure wilderness. Conservation scientists and others working in the trenches are well aware of the limits to what they can achieve. The danger of the intemperate words from Peter Kareiva or mocking ones from Emma Marris is that the lay public may conclude that there is nothing worth saving, or that it's a hopeless enterprise, or at best that we can slice and dice nature as it suits our convenience. Some of us believe that humanity needs to respect the remaining sweep of nature for its own salvation as a species.

Endnote

1. Marvier, Michelle, Peter Kareiva, and Robert Lalasz. 2012. Conservation in the Anthropocene. *Breakthrough Journal*. Online at http://breakthroughjournal.org/content/2012/02/conservation_in_the_anthropocene-print.html.



Letter from Woodstock

Rolf Diamant

Keeping on the Path

THIS ISSUE OF THE GEORGE WRIGHT FORUM FEATURES A CONVERSATION with the authors of the Organization of American Historians (OAH) report *Imperiled Promise: The State of History in the National Park Service*. I have chosen to make this conversation the subject of this second *Letter from Woodstock*. While the report is focused on the practice of history, its findings and recommendations are relevant to most people involved in national parks and protected areas work. I've recently spoken with several park superintendents and a senior National Park Service (NPS) leader who had not seen the OAH report, which was released in late 2011. Perhaps not so surprising given this geographically dispersed agency's difficulties with sharing ideas, information, and innovation—a problem cited prominently in the report.

First of all—please take a look at the report. (*Imperiled Promise's* executive summary, available in this issue, and the full study online at www.oah.org/programs/nps/imperiled_promise.html). The authors—Anne Whisnant, Marla Miller, Gary Nash, and David Thelen—cover a lot of ground but I'm going to first focus on what they refer to as a “great divide”: the organizational and cultural distance between park subject-matter professionals and interpretive staff. According to the report authors, this divide is exacerbated in part by the agency's “weak support for its history workforce” and “structures that confine history in isolated silos.” In certain parks this situation has the unintended consequence of making their interpretive programs more insular and disposed to settling into safe, familiar, and comfortable narratives—stories that, once established, are rarely diverged from. In these unfortunate instances, park interpretation can become “narrow,” “static,” and “timid,” and “less the product of training and expertise and more the expression of conventional wisdom.”

As a counterpoint, the authors highlight a growing number of exemplary park history and interpretive programs that have been enriched by a mix of inquisitiveness, creativity, and

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public engagement—setting a higher standard more in line with the objectives of the Second Century Commission, the National Park System Advisory Board, and Director Jon Jarvis’s *Call to Action*. Among other things, these vanguard parks are collaborating with historians in colleges and universities, creating interdisciplinary partnerships, using new media for broader public engagement, and becoming aware of the importance of their own conservation histories. They also seem to share one or more of these desirable attributes: continuing use of current research and scholarship, openness to new or changing contexts, respect for local knowledge, and strong community relationships.

The OAH report refers to these exemplar parks as “lamps along the path” and makes a series of recommendations on how the agency can better share lessons learned from these experiences and effect change from within. As public historians, the authors also step back and look contextually at the NPS’s last decade, tracing the evolution of these “lamps along the path” and the “path” itself—starting from the foundational vision laid out by John Hope Franklin and his colleagues on the National Park System Advisory Board, in their landmark *Rethinking the National Parks for the 21st Century* (2001), to Director Jarvis’s pragmatic reforms advanced in his *A Call to Action: Preparing for a Second Century of Stewardship and Engagement* (2011). Along the way this vision has been powerfully reinforced and expanded by initiatives such as the *Rally on the High Ground* (2001)—a reinterpretation of slavery’s role as the primary cause of the Civil War that was championed by Civil War park superintendents and former Chief Historian Dwight Pitcaithley; the *Scholars Forum: The National Park Service and Civic Reflection* (2006); the *Interpretation and Education Renaissance Action Plan* (2006); and more recently by the National Park Second Century Commission’s *Advancing the National Park Idea* (2009) and the extensive follow-up work by the present-day National Park System Advisory Board.

The report makes it clear, however, that much remains to be accomplished and acknowledges that the obstacles still to be overcome are mounting every day. These obstacles include current and additional anticipated reductions in funding, the continuing attrition of park historian positions, the growing inflexibility of bureaucracy, the challenge of maintaining leadership’s focus among constantly shifting priorities and political pressures, and the intimidating fear of controversy.

And potential controversy is always close at hand. For example, legislation is moving through Congress, as this letter is being written, that would establish a Manhattan Project National Historical Park. The proposed park, with units in Oak Ridge, Tennessee, Los Alamos, New Mexico, and Hanford, Washington, would preserve and interpret various historic structures associated with the World War II Manhattan Project and interpret the atomic bomb’s development and legacy. The park would be administered by NPS through an agreement with the Department of Energy, which would remain responsible for protecting public safety, national security, hazard remediation, and continuity of operations at various nuclear facilities.

The bill has sparked a public discussion ironically mirroring some of some of the same issues and concerns raised in the OAH report. The debate, played out in the press and on the Internet, has in large part revolved around the question of whether NPS will be up to the task of interpreting such a potentially controversial subject. In his June 15, 2012, article

“Manhattan Project sites expected to become new national park,” *Los Angeles Times* reporter Richard Simon described very different assessments:

... one anti-nuclear activist expressed concern that ‘such a park, if done in a historically inaccurate and biased way, could end up presenting a false picture of the development of nuclear weapons and the monumental costs and ongoing environmental impacts of the Cold War.’ ‘Given their political influence, those that have profited off nuclear weapons would likely have a disproportionate say in the park’s development and could turn it into some kind of nuclear Disneyland,’ said Tom Clements, nonproliferation policy director of the Alliance for Nuclear Accountability. Scott Miller, senior counsel at the Senate Energy and Natural Resources Committee, responded: ‘Anyone who has visited Little Bighorn, Manzanar, Andersonville or Little Rock Central High School, for example, understands that these National Park Service sites aren’t about cotton candy and thrill rides.

‘The National Park Service’s mission there is to preserve and objectively interpret what is often complex and contentious history, so current and future Americans have a real opportunity for a deeper understanding of these important events,’ he added.

Dr. Stephen Andersen, author of *Protecting the Ozone Layer: The United Nations History* (2002), played a key role in the implementation and historical documentation of the ozone-protecting global treaty known as the Montreal Protocol. I recently asked him what he thought of the idea of a Manhattan Project national park and whether he thought NPS could do a credible job of interpretation given the highly charged emotional and ideological environment. “This particular opportunity for a national park shouldn’t be passed up,” he answered after some thought, “as it may never come around again. As you’ve done with other park projects, start it slowly and build trust. You guys eventually seem to get it right, you care enough, know how to make use of good people and ultimately time will be on your side.”

Nice compliment and thoughtful advice, but no organization can live off its reputation for “getting it right”—or at least, not for long. If NPS is to continue to successfully tackle “complex and contentious” subjects—as it should—then the recommendations made in *Imperiled Promise* need to receive focused attention, and most importantly, they need to be acted upon.

A handwritten signature in black ink, appearing to read "Ray Danner". The signature is fluid and cursive, with a large initial "R" and a stylized "D".

Economic Significance Analysis of Visitation to Remote Alaska Public Lands: A Case Study of Katmai National Park and Preserve

Ginny Fay and Neal Christensen

Introduction

MOST OF THE NATIONAL PARKS IN ALASKA PRESENT UNIQUE CHALLENGES to estimating visitor economic impacts because their remoteness significantly alters visitor access and behavior as compared with the norm in most national park regions. Rather than having a kiosk where rangers collect fees and count people as they enter through major portals, most Alaska national parks have an almost infinite number of entry points to which people fly, boat, drive a snow machine, and hike, arriving at remote coastlines, lakes, and rivers. In addition to viewing exceptional scenery and participating in adventure sports, many visitor activities tend to follow seasonal patterns and migrations of fauna and flora; these may include viewing wildlife, fishing, and subsistence gathering. The unique characteristics of visitor behavior and the difficulty of access to public lands in Alaska make the National Park Service's customary visitor use estimation, sampling, and surveying methods statistically unreliable.

The purpose of this paper is to review and suggest improvements to visitor economic impact assessment procedures for remote public lands located within relatively isolated economies. This paper describes how the authors adapted the best available data on visitor numbers, patterns, and expenditures to improve estimates of the economic significance of visitation to a remote national park in Alaska. We describe this adaptable approach through its application in a case study of visitation to Alaska's Katmai National Park and Preserve (hereafter Katmai NPP), but the implications can inform the application of economic impact analysis in other remote public lands as well. The case study evaluates three aspects of current visitor economic impact assessment in Katmai NPP: (1) visitor travel behavior data, (2) visitor use estimation, and (3) economic impact modeling. It also describes a process of adjusting the data and the impact model to address concerns raised by the case study evaluation.

Katmai NPP is becoming best known for its brown bears, which congregate at Brooks Falls for salmon runs as well as in the coastal meadows to feed on rich plant life in the spring.

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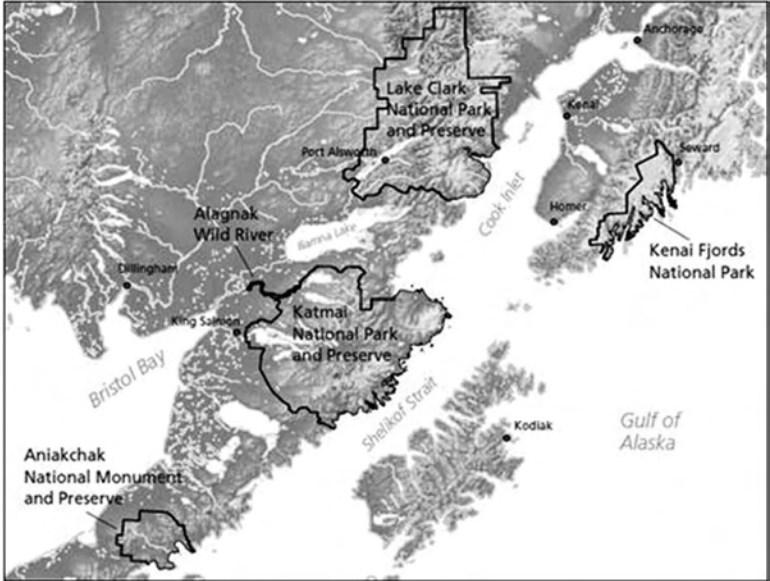
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Sport fishing is also a major draw at Katmai NPP, where trophy rainbow trout are found in many lakes and streams, as well as grayling, Dolly Varden, and sockeye (red) and coho (silver) salmon. Two wild rivers, the Alagnak and the Nonvianuk, provide floating and other recreational opportunities. Other activities in the park and preserve include hiking, kayaking, photography, backpacking, and hunting. Katmai NPP is located on the Alaska Peninsula, west of Kodiak Island. Park headquarters is in King Salmon, about 290 air miles southwest of Anchorage (Figure 1).

King Salmon is the gateway for trips into the western portion of the park, including Brooks Camp and the Valley of Ten Thousand Smokes. Several commercial airlines provide daily flights into King Salmon but there is no road access. Brooks Camp and other locations along the Naknek River drainage can be reached by power boat and float plane from the villages of Naknek and King Salmon. The Valley of Ten Thousand Smokes is accessed by bus from Brooks Camp. The Katmai NPP coast and interior are accessed by float planes, wheeled planes, and boats originating from Kodiak Island, Homer, Kenai, and other distant communities. This accounts for the widely dispersed visitation patterns despite the lack of road access. Given the range of mountains running between the interior of the park and the coast and the often inclement weather, visiting Brooks Camp and the park interior from the west and the coastal area from the east would normally be on two separate trips to the park.

As a result of the logistical complexities, many day and overnight visitors purchase inclusive travel packages from commercial services. Many visitors use guide services both for the guides' local knowledge of fishing and bear viewing locations and because of safety considerations due to the dense population of brown bears.

Figure 1. Katmai National Park and Preserve and environs. Source: NPS Southwest Alaska Area Network.



The 2006 Katmai National Park and Preserve visitor study

Katmai NPP visitor characteristics were most recently estimated in 2006 from data collected using a nationally standardized visitor survey conducted for the National Park Service Visitor Services Program. The Park Studies Unit of the University of Idaho's Department of Conservation Social Sciences conducted the visitor survey (Littlejohn and Hollenhorst 2007; hereafter referred to as the U of I visitor survey). To account for major temporal differences in Katmai NPP visitation patterns, the visitor survey procedure used in most national parks was modified to include three sampling periods instead of the one-week standard approach. The 2006 Katmai NPP visitor survey was administered for one week each during June, July, and August, with attempts to sample from the population of visitors in several different locations within the park and preserve. The U of I visitor survey obtained 507 mailback responses from onsite contact information collected during the three sampling periods (representing a 74% response rate).

Visitor survey analysis methods

The U of I visitor survey data were used to develop estimates of the following visit characteristics:

- Size of travel group reporting expenditures together;
- Length of stay in Katmai NPP;
- Expenditures by category inside Katmai NPP;
- Expenditures by category outside Katmai NPP but in Alaska; and
- Relative role of Katmai NPP in overall Alaska travel plans.

The final set of data used in this case study analysis included a subset of 441 of the total of 507 responses to the U of I visitor survey that were sufficiently complete across the five questions about visit characteristics described above. Recognizing that visitor behavior is highly variable, and following standard visitor and economic impact estimation protocols used throughout the national park system, the U of I visitor survey data were analyzed by group type to improve the overall accuracy of the results. The sample size of the survey limited meaningful segmentation to three group types: (1) independent day visitors (sample size = 152); (2) day visitors reporting package expenditures (sample size = 160); and (3) combined package and independent overnight visitors (sample size = 129).

Visitor use estimation

The first challenge of economic significance analysis of Alaska's remote national parks is to obtain accurate visitor use estimates. Given the dispersed nature of entry and the vast size of Alaska's park units, annual reported visitor counts tend to be unreliable. The primary indicator of visitor use at Katmai NPP in this study was the commercial use authorization (CUA) permit system and database that are used by park managers. CUA permits are required for all commercial guiding and transportation businesses working within park boundaries. This system has been in place for a number of years and provides a reliable basis for use estimation when supplemented with additional visitor characteristic estimates. The permit system

collects data on a visitor–day basis; a visitor–day is reported for each day (either a full 24-hour period or part thereof) that a visitor uses a commercial guiding or transportation service (Fay and Colt 2007).

Katmai NPP visitor use estimates were developed from the CUA data by applying parameter estimates obtained from the U of I visitor survey data for average group size and average length of stay in the park. The estimates were also adjusted to account for visitors to Katmai NPP that were not required to be reported for all or part of their stay in the park. Use estimates for each of the three types of visitors identified in the U of I visitor survey data were developed from a combination of survey data, CUA data, and ranger observations. The visitor use and behavior estimates developed for the Katmai case study are summarized in Table 1.

Visitor expenditure estimation

Economic impact modeling requires knowledge of the amount of money spent and the types of expenditures that visitors make while in a region of interest. Typically, the economic significance of national parks is estimated based on trip-related spending at multiple geographic scales, which may include: inside the park, within the local park region, and statewide. The U of I visitor survey asked respondents to distinguish between expenditures made inside the park and those made on the trip elsewhere in Alaska.

Expenditure estimates reduced by weighting. The U of I visitor survey’s expenditure section was vague in its instructions about recording Katmai NPP trip-related expenditures to the point of causing concern about over-stating the park’s influence on the local economy. To address this concern, two sets of estimates were developed for the expenditures occurring outside of Katmai NPP. The first used all of the reported expenditures made in Alaska and outside of Katmai NPP, while the second, more conservative set of estimates was weighted according to survey responses about the relative role of Katmai NPP in overall Alaska trip plans.

Ideally, the U of I visitor survey would have provided data on the total length of the visitors’ trip to Alaska, the number of days spent in the Katmai NPP area, and the number of days spent inside the park. However, similar to other questions that referenced the survey map, respondents appeared confused by length-of-stay questions and they tended to give

Table 1. Visitor use estimation, Katmai NPP, 2007.

Visitor Use Estimation - 2007	Total	Day Trip n=152	Day Package n=160	Overnight in Katmai NPP n=129
Visits in 2007	22,792	8,449	7,666	6,677
Visitor-Days in 2007	40,908	8,449	7,666	24,793
Expenditure Group Size		2.9	2.5	2.6
LOS - days in park		1.0	1.0	3.7
Reported visitors	14,300	5,360	4,863	4,078
Reported visitor-days	25,310	5,360	4,863	15,087
Total rate of unreported visitor-days		18%	17%	54%

inconsistent responses. Useful data from these questions would have allowed more accurate allocation of the portion of expenditures to the park, local park region, and statewide.

An alternative method for attributing expenditures to the appropriate economy was developed because of confusion over travel length-of-stay questions in the U of I visitor survey. The survey included a question that asked about how the visit to Katmai NPP fit into overall travel plans, with visitors having three categorical response choices: “Katmai NP & Preserve was the primary destination,” “Katmai NP & Preserve was one of several destinations,” or “Katmai NP & Preserve was not a planned destination.” Weights of 1.00, 0.50, and 0.25, respectively, were arbitrarily applied to expenditures recorded outside of the park according to these travel plan responses. The weighted expenditure data were used to develop a set of more conservative economic impact estimates. The purpose of the weighting was to more accurately “credit” Katmai NPP visitor expenditures made outside Katmai NPP but during their trip to Alaska. If a visitor came to Alaska primarily to visit Katmai NPP, then all their Alaska expenditures were credited to Katmai NPP. On the other end of the spectrum, if their trip to Katmai NPP was unplanned, only a quarter of the visitor’s expenditures outside the park were attributed to the park. The more conservative spending profiles were later used to model economic impacts in the local area around Katmai NPP, while the full outside spending profiles were used to calculate statewide economic impacts.

Economic significance modeling

The economic modeling in this case study was used to estimate the overall contribution of tourism activity to the economy of the Katmai NPP region. Economic impact modeling traces the flow of spending associated with tourism activity in a region to identify associated changes in sales, tax revenues, income, and jobs. The principal tools utilized are visitor spending surveys, analysis of secondary data from government economic statistics, economic base models, input–output models, and multipliers (Frechtling 1994). An economic significance analysis estimates the importance or significance of an industry or activity to a region, and usually includes spending by both local residents and visitors from outside the region. The analysis conducted for the Katmai NPP case study is more accurately an economic significance rather than an economic impact analysis because we do not include tax revenues and do not segregate local visitors from those originating outside the region.

An economic significance analysis does not measure or estimate economic value, such as the value both visitors and non-visitors place on the preservation of fish, wildlife, and wilderness within Katmai NPP. Economic impact and significance models are derived with the assistance of modeling software, such as IMPLAN or the Money Generation Model (MGM).¹ MGM, primarily developed by Daniel Stynes at Michigan State University, is used nationwide to model economic impacts of units of the national park system. MGM is an input–output economic model derived from an IMPLAN base model and used to calculate industry multipliers in the local economy. The Katmai NPP economic impact model described here uses the base IMPLAN software directly. We chose this software, rather than the more standardized and user-friendly MGM interface, for its flexibility to adapt to the unique conditions of national park visitation in Alaska.

The economic significance of Katmai NPP visitation was modeled at two geographic scales. First, an overall model was constructed that represented spending and impacts statewide in Alaska resulting from visitors to Katmai NPP. Second, a more localized model was constructed that used the weighted set of expenditures and assessed significance within the five boroughs that encompass Katmai NPP. The local boroughs include the municipality of Anchorage, Bristol Bay, Kodiak Island, Lake and Peninsula, and Kenai Peninsula.²

Aggregating expenditure data. The first step in the economic modeling process was to aggregate the spending and visitor estimates into total annual spending profiles. The estimated total number of visitors was divided by the average group size for the corresponding group type and then multiplied by the average per-group-per-trip spending profiles to determine total annual spending. The process was repeated for package day visitors, independent day visitors, and overnight visitors. All three estimates were combined for the aggregated spending estimate used in the economic significance model.

Bridging and margining expenditure data. Following aggregation, the total spending profile was matched to appropriate IMPLAN economic sectors. This two-step process required bridging the spending categories to IMPLAN sectors and then margining the consumer dollar estimates to reflect the producer dollars required for economic impact modeling. The bridging and margining process allocated each of the U of I visitor survey consumer spending categories to IMPLAN economic production sectors. The IMPLAN software constructed the margins from the producer sectors to reflect the local retail economy. Sectors were then reviewed and adjusted where necessary to reflect Alaska rather than national production functions. Each of the 16 IMPLAN sectors that were allocated expenditures during the bridging/margining step is shown in Table 2.³

Economic impact modeling. The results of the bridging and margining process were used as input to model the economic significance of Katmai NPP annual visitation activity on the regional and statewide economies. Each of the total annual expenditure amounts listed in Table 2 were added to an IMPLAN economic estimation model as an economic “event,” with the aggregate of the 16 events in the table representing total annual Katmai NPP visitation activity. The dollar amounts for each event were entered into the model in their original 2006 dollar form. The IMPLAN modeling software adjusted the expenditures to model-year 2007 dollars using sector-specific deflators.

Economic impact estimates. The input-output model produced estimates of industrial output, employment, labor income, and value added using social accounting matrix (SAM)-type multipliers. Values for the two impact models are reported in Table 3. The first and larger of the two sets of estimates is for the impact on the entire state of Alaska resulting from the money spent in-state by visitors to Katmai NPP in one year. The second set used a smaller estimate of expenditures and considered impacts only to the boroughs of Bristol Bay, Kodiak Island, Lake and Peninsula, and Kenai Peninsula, and the municipality of Anchorage, resulting from annual spending by visitors to Katmai NPP.

Table 3 shows Katmai NPP visitor spending of nearly \$50 million in Alaska, in 2007. Almost one-quarter of that amount was spent inside Katmai NPP. Katmai visitor expenditures generated \$73 million in industrial output, supported 647 jobs (average annual jobs,

IMPLAN sector name	2007 IMPLAN sector number	Basis	Margin	Allocation from survey category	Total annual expenditures while in Alaska by visitors to Katmai NPP*	Total annual expenditures in the local five- borough region by visitors to Katmai NPP*
Petroleum refining	115	Commodity	household	98%	\$2,714,312	\$1,399,023
Lubricating Oils and Greases	118	Commodity	household	2%	\$63,444	\$32,701
Food and bev stores	324	Commodity	household		\$1,594,295	\$885,027
Clothing retail	327	Commodity	household	20%	\$524,511	\$301,711
Sporting goods retail	328	Commodity	household	20%	\$524,511	\$301,711
General merchandise retail	329	Commodity	household	60%	\$1,573,532	\$905,134
Air transport	332	Industry		85%	\$13,397,817	\$9,468,506
Water transport	334	Industry		10%	\$1,576,214	\$1,113,942
Passenger ground transport	336	Industry		5%	\$788,107	\$556,971
Scenic and sight seeing	338	Industry			\$3,789,926	\$2,434,585
Amusement, gambling, rec	409	Industry			\$1,767,125	\$1,104,530
Hotels	411	Industry			\$13,724,382	\$7,352,320
Other accom	412	Industry			\$760,941	\$472,736
Food services	413	Industry			\$5,425,452	\$3,142,935
Donations - advocacy	424	Industry		70%	\$104,658	\$67,156
Donations - organizations	425	Industry		30%	\$44,853	\$28,781
					\$48,374,080	\$29,567,771

* This is an intermediate modeling table with survey-year 2006 dollars and model-year 2007 visitation levels

Table 2. Expenditure margining for IMPLAN analysis of 2007 visitation to Katmai NPP.

not full-time equivalents), generated \$23 million in labor income, and added a total of \$37 million to the statewide Alaska economy. The model estimated that Katmai NPP visitors spent \$31 million in the five-borough region, with more than a third of that spent inside Katmai NPP. The localized visitor expenditures generated \$46 million in total output, supported 390 jobs, generated \$15 million in labor income, and added \$23 million to the regional economy. This represents nearly two-thirds of the value added to all of the Alaska economy by visitors to Katmai NPP in 2007.

Conclusions

MGM modeling informed by U of I visitor surveys is the standard approach to estimating national park economic impacts in the US. The MGM approach uses IMPLAN-generated multipliers along with an estimation model developed specifically to capture national park recreation visitor behavior. The MGM model offers the advantages of free public domain software, a user-friendly interface, and a standardized approach that produces comparable results across national park units. The U of I survey method offers similar advantages of reduced sampling effort (and therefore cost), a novice-friendly predesigned survey instrument, and standardization across national park units. However, this paper presents evidence to argue that the conventional approach has a number of disadvantages when applied in remote places such as Katmai NPP in Alaska.

IMPLAN Model *	Statewide	Five-Borough
Expenditures in Katmai NPP	\$12 mil.	\$12 mil.
Expenditures outside of Katmai NPP	<u>\$38 mil.</u>	<u>\$19 mil.</u>
Total Expenditures	\$50 mil.	\$31 mil.
Total Industrial Output	\$73 mil.	\$46 mil.
Employment (jobs)	647	390
Labor Income	\$23 mil.	\$15 mil.
Value Added	\$37 mil.	\$23 mil.

* *Annual Visitation to Katmai NPP, AK; 2007 model year; SAM multipliers*

Table 3. Input-output economic significance model of expenditures in Alaska by visitors to Katmai NPP in 2007, statewide and regional estimates.

Experience from the Katmai NPP case study offers insight for improvement in this type of application. Concerns about the conventional approach to national park economic impact assessment identified in this case study can be categorized into three groups: (1) a survey instrument that is not suitable, (2) a sampling framework that is inadequate, and (3) economic impact assessment computer software that cannot easily be customized to unique local economies.

Visitor survey instrument. The unique qualities of the remote park and the local economy surrounding it contributed to problems with the survey methodology to estimate visitor expenditures. A number of survey design issues likely contributed to faulty Katmai NPP visitation data. First, standardized wording on expenditure questions confused respondents about how to appropriately attribute park-related expenditures to the location where they occurred. Respondents often reported expenditures within the park on goods and services that were more likely purchased outside the park. In fact, because Katmai NPP receives a high percentage of day visits originating far from the local area, related expenditures often occur in the larger economies of Anchorage or other distant locations. The survey failed to instruct respondents on how to appropriately report these distant trip-related expenditures.

The survey's generic directions to respondents also created confusion in reporting travel expenditures and other characteristics unique to Alaska rural tourism. For example, respondents were told to include airfare in "other transportation costs," but failed to specify that local in-state airfare to get to Katmai NPP should be reported separately from airfare spent at the visitor's place of residence to travel to Alaska. Respondents' confusion about the generic survey instructions is further indicated by their reported lengths of stay in the park, the local area, and greater Alaska not corresponding well with their reported expenditures in these locations.

The survey instrument included a map that respondents could refer to when listing expenditure locations. However, the map did not include some of the major trip origin locations such as Kodiak Island or the Kenai Peninsula towns of Homer, Soldotna, and Kenai. The map was primarily designed for the purpose of enabling visitors to identify locations

within the park that they visited. It proved to be poorly suited as a reference for survey takers to identify the location of trip expenditures and activities in the greater national park area. These examples demonstrate the survey's limited ability to attribute expenditure data to appropriate locations—a vital step in accurately determining overall economic impacts.

The economic modeling process was compromised because of the generic U of I visitor survey instrument expenditure categories. The most general of these categories (package tours) accounted for the largest amount of spending recorded under any category. While being very general, these reported package expenditures also appear inflated. This may be because some of the components of packages that were reported as purchased inside the park or inside Alaska were actually consumed somewhere else (this could include both goods and services purchased as part of a tour package). Packages could also have been reported as being purchased in the park or area when they were actually purchased outside of that economic region prior to arrival. In addition to location-attribute concerns, collecting a wide variety of expenditure data within the category of “package” creates problems in economic impact analysis, as this category is too general to allocate expenditures to appropriate sectors of the economy. And, like the portrayal of expenditure locations, industrial sector expenditure allocation is a critical step in accurately determining economic impacts within a region.⁴

Visitor sampling framework. In addition to suggested questionnaire design changes, it is recommended that a revised sampling schedule be employed to better account for the extreme variability in conditions of remote national park environments. Following the U of I visitor survey protocol, a one-week sample of visitor activity is typically collected at most park units nationwide. However, the extreme temporal and spatial variation in visitation patterns found across remote national parks requires a more extensive sampling effort to produce reliable estimates of annual economic activity. This is especially true at Katmai NPP where visitation for bear viewing and sport fishing follows the seasonal movements of bears and availability of fish. In addition, given the predominance of air access to national parks in Alaska, entry points are almost infinite. Because of the reliance on access by air, Alaska weather can interrupt visitation for days or weeks at a time, making a one-week sample unreliable for determining visitor profiles and expenditures. Unlike remote Alaska national parks, other units of the US national park system have well-established time-series data on visitation and visitor profiles that have been developed from ranger patrol reports, entrance kiosk counts, and admission receipts. This type of information is typically used to adjust sparse visitor survey data. However, visitor information from these types of secondary sources is rarely collected in Alaska's remote national parks.

Accurate and complete survey data are difficult to collect in any study. The use of three sampling periods, though intended to obtain a more representative sample of the population than the usual one-week sampling effort, was still limited in several ways by the logistics of working in this remote, northern, and mountainous setting. Therefore, while the 2006 U of I visitor survey obtained the best available data for understanding characteristics of current visitors to Katmai NPP, its representativeness of the population of Katmai NPP visitors is limited both temporally and spatially. To determine whether our concerns related to MGM economic impact modeling and the U of I visitor survey were confined to remote wilderness

parks as opposed to road-accessible parks, we reviewed the results of the 2006 Denali National Park and Preserve U of I visitor survey and its applicability to MGM or IMPLAN economic impact modeling. We found that the survey sample produced significantly different estimates of visitor characteristics than those derived from other existing sources of data on Denali NPP visitors (Brigham, Fay, and Sharfarz 2006; Brigham et al. 2009).

Because of the variability in visitation patterns and the lack of secondary data about visitor population parameters, we recommend that the standard one-week sampling schedule be significantly increased in future visitor studies in Alaska's national parks. Nonetheless, the use of three sampling periods in the U of I visitor survey of Katmai NPP was still limited in several ways by the logistics of working in this remote, northern, and mountainous setting. We conclude that the modified sampling schedule of three weeks was still inadequate to accurately assess the park's visitation characteristics.

Customized economic impact assessment. The research presented in this paper used a custom national park economic impact model that derived estimates directly from IMPLAN software rather than through the standard MGM-assisted process. While this more direct method has the disadvantages of increased software cost and a more complex analysis process, we feel that these tradeoffs are worthwhile to more accurately account for the unique Alaska remote rural economy.

A modified approach. The authors identified a number of insights in this case study application that center on adapting the survey data and impact model to the unique situation found in isolated economies. The measure of "visitor-nights"—defined as "nights spent in the local area" in the MGM modeling software interface—was a problem for the Katmai NPP model. Visitors to this park often spend only one day inside the park and do not typically return after leaving. Most access is by airplane and the night before or after the visit can be spent a substantial distance from the park. MGM software develops estimates based on visitor-nights in the area; thus accounting for multiple excursions into the park on the same overall visit. The modeling approach at Katmai NPP taken in this case study used a "visitor trip" accounting system to more accurately portray visitor flow and expenditures. The length of stay in the local area related to the Katmai NPP trip was difficult to determine from the survey data. Working directly within IMPLAN allowed the authors to easily adjust the data to units that made sense for that park, rather than forcing the data into the MGM standard visitor-night units that fit poorly with the actual situation.

The U of I visitor survey included spending categories of "package," "guide services," and "donations" that are not usually measured on standard national park U of I visitor surveys. These are not standard MGM spending categories and the MGM software did not provide the ability to add them to the model, whereas they could be more easily bridged and margined to economic sectors with the IMPLAN software. It is recommended that attempts be made to further refine the national park visitor survey process to better account for the unique rural economies of Alaska. In this effort, it may be necessary to adapt the visitor survey spending categories, as well as the bridging and margining methods used in modeling. We believe that unless this type of custom modeling is available to users of MGM software, it would be advantageous to continue to develop the IMPLAN modeling approach for the relatively isolated national parks in Alaska.

In an attempt to develop workaround solutions to pervasive economic impact assessment weaknesses for rural public lands in Alaska, we have identified the types of existing problems and have presented our case study in sufficient detail so as to allow others to follow our approach. As the results presented in Table 3 demonstrate, these are not trivial concerns. A number of assumptions are necessary to wade through the inadequacies of currently available national park visitor behavior data in Alaska. As the table shows, utilizing the current data to their full extent produces estimates of economic impacts much larger than estimates derived from a more conservative set of assumptions about unknown parameters. The estimated total number of jobs supported by Katmai NPP visitors, for example, is 65% higher under the more liberal set of assumptions presented in Table 3. Unfortunately, both of these estimates are well within a statistical margin of error, given the uncertainties surrounding the model parameters. The only real long-term solution is to improve the rigor of the science behind the models.

Endnotes

1. Information about IMPLAN software, terminology, and applications is at <http://implan.com/>. The MGM website is <http://web4.msue.msu.edu/mgm2/default.htm>.
2. The municipality of Anchorage functions similarly to a borough, which are similar to counties in other states.
3. Detailed documentation of the bridging and margining can be found in the full report of the economic significance of visitation to Katmai NPP located on the website of the Institute of Social and Economic Research, University of Alaska–Anchorage: <http://iser.uaa.alaska.edu>.
4. The authors' specific recommendations for questionnaire revisions can be found at <http://iser.uaa.alaska.edu/tmp/KatmaiAlaska-ginny.pdf>.

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Using Integrated Research and Interdisciplinary Science: Potential Benefits and Challenges to Managers of Parks and Protected Areas

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Introduction

OUR PURPOSE IN THIS PAPER IS TO BUILD A CASE FOR UTILIZING INTERDISCIPLINARY SCIENCE TO enhance the management of parks and protected areas. We suggest that interdisciplinary science is necessary for dealing with the complex issues of contemporary resource management, and that using the best available integrated scientific information be embraced and supported at all levels of agencies that manage parks and protected areas. It will take the commitment of park managers, scientists, and agency leaders to achieve the goal of implementing the results of interdisciplinary science into park management.

Although such calls go back at least several decades, today interdisciplinary science is sporadically being promoted as necessary for supporting effective protected area management (e.g., Machlis et al. 1981; Kelleher and Kenchington 1991). Despite this history, rarely has “interdisciplinary science” been defined, its importance explained, or guidance provided on how to translate and then implement the associated research results into management actions (Tress et al. 2006; Margles et al. 2010). With the extremely complex issues that now confront protected areas (e.g., climate change influences, extinctions and loss of biodiversity, human and wildlife demographic changes, and unprecedented human population growth) information from more than one scientific discipline will need to be brought to bear in order to achieve sustained management solutions that resonate with stakeholders (Ostrom 2009). Although interdisciplinary science is not the solution to all problems, we argue that interdisciplinary research is an evolving and widely supported best practice. In the case of park and protected area management, interdisciplinary science is being driven by the increasing recognition of the complexity and interconnectedness of human and natural systems, and the notion that addressing many problems can be more rapidly advanced through interdisciplinary study and analysis.

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Protected area managers have experienced a recent move toward interdisciplinary science, both from within and outside their organizations (e.g., Myers et al. 2007), and with considerable encouragement from the scientific community (e.g., NAS 2004). Also, a proper implementation of the International Union for the Conservation of Nature's protected area categories (Dudley 2008) requires integrated approaches. Whereas parks and protected areas worldwide have traditionally been largely managed from a natural resource-based perspective, the recognition of socioeconomic connections between parks and people, or the questions of governance and management effectiveness, require more complex interdisciplinary scientific research. Managers recognize that such studies are cumbersome to oversee, the results are often difficult to translate into on-the-ground actions, and both conceptually and financially can be impeded by a lack of support. Recognizing these challenges, in this paper we further define interdisciplinary science, discuss its application to park and protected area management, and then examine potential barriers to success. We then close by offering ways of organizing, implementing, and strengthening interdisciplinary science to confront the important issues facing parks and protected areas in the 21st century.

Defining interdisciplinary science

Interdisciplinary science is founded upon the expectation that much of the most important scientific findings of the future will come from research that spans two or more disciplines. To understand what is meant by interdisciplinary science and why it is so important to parks and protected area management, we will first provide definitions, and then the context in which interdisciplinary science is best practiced. Following are definitions from a 1998 joint meeting of the US Geological Survey and Ecological Society of America that explored integrated science (see http://www.esa.org/science_resources/programs/past_projects.php).

- **Disciplinary science** may be characterized by singular efforts within a well-defined specialization. The goal of disciplinary science is a deep understanding of a single problem or a single aspect of a problem. Although a disciplinary effort may involve many scientists, and the scope of the analysis may be broad, it will still employ the methods and theories of a single discipline.
- **Multidisciplinary science** is an additive approach that combines the efforts of more than one discipline. Multidisciplinary efforts seek to combine the results of specialized, disciplinary approaches for a broader understanding of a problem or question. Cooperation among contributors is necessary.
- **Interdisciplinary science** is an integrated approach that synthesizes the perspectives of multiple individual disciplines during all phases of the research to investigate and answer a question, or solve a problem. It differs from multidisciplinary science in that integration is required from its genesis. Because of the complexity of the issues that interdisciplinary research seeks to solve, often new questions emerge as the problem is further defined and approaches adapted to changing conditions and by systematic trial and error. Consequently, the results of interdisciplinary efforts may be emergent as well. Ultimately true collaboration, beyond mere cooperation, is essential for successful interdisciplinary science.

The distinction between multidisciplinary and interdisciplinary science can be further refined by stressing the fact that a multidisciplinary approach focuses on breaking down a problem into unidisciplinary segments, which are solved individually. Interdisciplinary approaches on the other hand, refrain from making this breakdown but rather stress the above-mentioned cooperative approach (Kelleher and Kenchington 1991: 28). Others, such as Tress et al. (2006) and Gray (2008), suggest defining the transfer of research to managers as “transdisciplinary,” but in this paper we choose to utilize the term “interdisciplinary.” We believe that interdisciplinary research should also include the transfer of scientific knowledge into management practice of parks and protected areas. Table 1 provides a description of many of the characteristics of interdisciplinary approaches to research.

Application of interdisciplinary science for parks and protected areas

Today, the health and functioning of protected areas and surrounding landscapes are threatened by a range of human activities (threats and drivers of change) and resulting impacts such as deforestation, habitat fragmentation, overfishing, a growing disparity in human wealth, and civil unrest (Daily and Ehrlich 1999; Hassan et al. 2005). Many of these changes span terrestrial and aquatic systems as well as local, regional, and transboundary spatial scales, although the actual impact of the threats might vary by geographical region. Successful application of interdisciplinary science maintains flexibility for adaptive changes at multiple scales, while still embracing the complexities of human–environment interactions (Gunderson and Holling 2001). Understanding and addressing these global trends will not fall within the exclusive domain of one scientific discipline. As noted by Steffen et al. (2005), the impact of humankind has emerged as a globally important force that is capable of reshaping the face of the planet:

- Humans have already transformed 40–50% of the ice-free land surface on earth.
- Humans now use 54% of the readily available fresh water on the globe.
- Humans are now an order of magnitude more important at moving sediment than the sum of all other natural processes operating on the surface of the planet.
- Humans now fix more atmospheric nitrogen than all terrestrial sources combined.

Table 1. Characteristics of interdisciplinary approaches to research.

<ul style="list-style-type: none"> • Recognize the interdependence of science and societal concerns • Value all disciplines (social and natural) and honor the validity of each other’s work • Use approaches to understand the complexity of interlinked natural and social systems • Illuminate the complexity and interdependence of our biosphere as a coupled natural and social system • Develop rigor and breadth from the strengths of the participating disciplines • Provide an adaptable approach in which teams are organized explicitly to address scientific questions and/or societal concerns, and which allows members to feel free to move on and off teams when appropriate • Share common vision, authority, responsibility, accountability, trust, and ownership of the endeavor • Communicate knowledge and understanding to society in a relevant, timely, and readily accessible manner (translational)

The complexity of our earth system demands new and innovative problem-solving approaches. E.O. Wilson, one of the world's most prominent biologists, summarized the situation in this way: "We are drowning in information, while starving for wisdom. The world will henceforth be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely" (Wilson 1998: v). In conclusion, interdisciplinary science is important because there are many crucial links among research disciplines that can more effectively meld the wide array of scientific knowledge that is needed to effectively address complex park management issues. For interdisciplinary science to prosper in the future, it will need to be clearly demonstrated how science can address protected area priorities using tools and integrated approaches that provide answers for decision-makers to answer highly complex, coupled natural and social problems.

Barriers to interdisciplinary science in parks and protected areas

The problems faced by managers of parks and protected areas (from wildlife management issues through visitor use patterns, to potential impacts of outside development) typically require the integration of information from many disciplines. Yet there is a strongly held perception that significant barriers exist in conducting interdisciplinary science, what Machlis et al. (in press) describe as the "standard litany of difficulty." Many of these perceived barriers are relevant to interdisciplinary science in parks and protected areas, and we will discuss them in turn.

First, there are *disciplinary* barriers, which include the challenge of competing and conflicting use of scientific terms and merging scientific paradigms (e.g., biological and social evolution). Underlying this difference are powerfully held assumptions about natural and human systems; this lack of mutual understanding can often lead to a lack of mutual respect among scientists and thus impede a commitment to interdisciplinary practice. The potential for "disciplinary distrust" (often phrased as "soft versus hard science") interfering with interpersonal communications within interdisciplinary research teams is too often realized (e.g., Naimen 1999; Wear 1999; Bracken and Oughten 2006).

Second, there are *institutional* difficulties of organization and logistics. These include the effort required to assemble an interdisciplinary program or project team, the time demands for learning the rudiments of partner disciplines, and the commitment required to develop collective understanding and willingness to synthesize new ideas, concepts, theories, methods, data, and conclusions (e.g., Campbell 2005). Within the academic community, the doctoral system at research universities encourages specialization in "disciplinary stovepipes" (e.g., Golde and Gallagher 1999); even the spatial separation of potential collaborators within the same university, college, or office building can act as a barrier to good interdisciplinary practice. In park management organizations (such as the US National Park Service), the institutional separation of biophysical, social, and cultural sciences, and scientific staff and managers varies widely and can (if not managed well) act as an impediment to effective practice. Funding for interdisciplinary research is also a challenge because the research is often expensive, risky, and may require a long-time horizon.

A third barrier is the perception that interdisciplinary research is "*methodologically* challenged." In particular, the lack of existing (and robust) conceptual frameworks means

that theorizing and hypothesis-making is often separated from a clear and articulate interdisciplinary framework (e.g., Kinzig 2001). Similarly, the lack of a common set of protocols, procedures, and research techniques makes methodologically rigorous interdisciplinary work even more difficult.

Finally, the challenge can impact *individual* scientists. The high personal investment needed to master interdisciplinary science, the long time horizon of many interdisciplinary projects, the difficulty of acquiring funding, and the career recognition system (skewed to publishing research results within disciplinary journals) all conspire to add to the litany of difficulty.

Overcoming barriers to interdisciplinary research

Many of the *disciplinary* and *institutional* barriers that we have presented are presently being overcome through increased recognition regarding the value of interdisciplinary research, coupled with improved science training and education (Fitzgerald and Stronza 2009). US research organizations such as the National Science Foundation (NSF) and private foundations such as Templeton, Heinz, and Doris Duke have developed programs that are focused on funding interdisciplinary research and developing new models for graduate research (NSF 2011). To facilitate interdisciplinary research, universities are developing new departments, graduate programs, and institutes organized around grand challenges, such as the School of Sustainability at Arizona State University (see Crow 2010), Integrative Graduate Education and Research Traineeship (IGERT) programs, the Institute for Parks at Clemson University (www.clemson.edu/hehd/departments/prtm/centers-institutes/institute_for_parks.html/), and, within the US government, with the US Geological Survey's John Wesley Powell Center for Analysis and Synthesis (<http://powellcenter.usgs.gov/>), and many others. These activities facilitate the formation of interdisciplinary teams that are ready to work together to address emerging issues. By increasing the support and training in interdisciplinary research, individuals are emerging from graduate school more prepared to collaborate on interdisciplinary research (e.g., Kinzig 2001). Similarly, many national parks and protected areas have onsite research scientists who can serve as the catalyst for interdisciplinary science by identifying information needs, organizing interdisciplinary teams, and providing critical logistical support. Federal science agencies, such as the US Geological Survey, can also foster interdisciplinary science because of the large number of discipline specialists available to form collaborative groups.

Financial resources will continue to be a challenge. If park and protected area managers are going to use the best available science to inform management decisions, then partnerships and collaborative funding opportunities must be pursued. Increasingly, US federal agencies are partnering with university researchers to pursue external funds, such as through NSF, to support important interdisciplinary research. An example is NSF's Coupled Human/Natural Systems research competition (NSF 2010). Periodically, emerging national issues garner the attention of lawmakers and significant funding and new programs are created to address those needs. In some cases, this expansion of opportunity for interdisciplinary science extends to parks and protected areas. For example, in 1998 Congress enacted the National Parks Omnibus Management Act. This increased funding to the US National

Park Service budget, and the appropriations bill in Section 202 set forth a research mandate for the secretary of the interior to provide for the highest-quality science and its use in decision-making. Other examples include responses to natural and industrial hazards, risk communication, and most recently, climate change. In 2010, many of the US Department of the Interior land management agencies received significant funding increases for global climate change activities. In Europe, the European Union (EU) took action to support more integrated, interdisciplinary science approaches as early as 1998, when the 5th Framework Programme, the main EU science-funding scheme for the 1998 to 2004 period, was launched. Although evaluations showed that in the end, only a minority of funded projects were truly interdisciplinary, this prepared scientists for future interdisciplinary research (Bruce et al. 2004). Although not exclusively addressing park and protected area issues, the German federal government implemented in 1999 a special funding scheme called “socio-ecological research,” through which interdisciplinary research groups are encouraged to work on global challenges such as climate change and biodiversity loss. Still, too few of such research programs exist to satisfy the increasing demand for integrated research approaches.

At the *individual* level, researchers are ignoring or overcoming the disincentives in conducting interdisciplinary research, largely through their passion and motivation to solve problems and protect our natural and cultural resources. This is coupled with institutional, organizational, and structural changes, which are now promoting and rewarding interdisciplinary research. An example is the emergence of several important and prestigious journals (e.g., *AMBIO*, *Conservation Biology*, *Environmental Conservation*, *BioScience*, etc.) to recognize and publish interdisciplinary research.

At the *methodological* level, many of the barriers have been eliminated or minimized through the development of a range of theoretical frameworks such as the human-ecosystem model (e.g., Machlis et al. 1997), resilience and sustainability (e.g., Folke et al. 2002), and other systems-type approaches coupled with computational and software advances. Examples of the latter are the increased sophistication of geographical information systems (GIS) software and statistical packages. The upshot of these changes is that we are seeing increasingly successful and more sophisticated interdisciplinary research that is seeking to find solutions to ever-more complex issues facing humankind.

Examples of interdisciplinary research in parks and protected areas

One example of interdisciplinary research in parks and protected areas was a project that drew on conceptual frameworks from the social and natural sciences and was carried out in the northeastern US. (Monz et al. 2010; van Riper et al. 2011). This research determined the tradeoffs that park visitors were willing to make among environmental conditions, recreation use levels, and development at three mountain summits that each had varying biophysical conditions and a range of recreational opportunities. The findings suggested that visitors held different preferences for resource impacts, the number of encounters with other visitors, and intensity of management.

Another example is an interdisciplinary project that predicted river flows in Yosemite National Park, and involved scientists with expertise in biology, sociology, geology, hydrology, climatology, and geography. The onsite biologist had extensive knowledge about the veg-

etation, fire history, and visitation of the park, hydrologists contributed detailed synthesis of stream flow data, geographers provided digital topographic data, geologists had information of surface and subsurface geologic formations, and climatologists integrated climate data with all of the other information to develop a predictive model of watershed dynamics. The model that resulted from the interdisciplinary project will enable park managers to anticipate annual river flows as well as flood events, and their social and ecological implications.

A third example of interdisciplinary research is an effort along the Mexico–US border that examined environmental health within the Santa Cruz watershed (Norman et al. 2010; 2011). Given the scarcity of water resources in the desert Southwest, scientists identified risks to surface water, and the potential consequences to riparian ecosystems and, ultimately, human health. Using an interdisciplinary and integrative approach, social scientists, geographers, hydrologists, biologists, and geologists worked together to track organic and inorganic contaminants and sediment transport. Samples were taken at five protected areas in Mexico and the US, in an effort to identify contaminant levels in stream sediment, aquatic macroinvertebrates, aquatic plants (macrophytes), algae, riparian grasses, fish, and birds. The study identified contributing areas, sources, and transport modes of contaminants and tracked contaminant movement in surface waters, providing an improved understanding of the effects of human activities on aquifer dynamics and contaminant transport, and enabled the development of a model to identify where implementing management practices to abate pollution could be most effective.

The above examples are only a few of the many interdisciplinary projects now being conducted in parks and protected areas throughout the world. We use these three projects only as examples of those that combine various science disciplines such as social, biological, and physical science to ask what consequence management has for visitor experiences and perceptions, and on traditional ecological knowledge. These examples also demonstrate how research can successfully span across disciplinary divides to provide more comprehensive recommendations for managers of parks and protected areas.

Ways forward: Increasing use of interdisciplinary science

In an effort to further advance the use of interdisciplinary science and to improve park and protected area management, we are suggesting the following:

Develop and integrate research teams that can address complex, interdisciplinary societal priorities pertaining to parks and protected areas. The nature of societal issues, such as those identified by Myers et al. (2007), is such that multidisciplinary information—economic, technological, social, political, and ecological, and their interdisciplinary synthesis—will be needed by decision-makers as they seek effective solutions. The broad array of scientific expertise within universities, the US Geological Survey, and other science organizations, coupled with the strong resources management and field-based scientific expertise within the US National Park Service, US Bureau of Land Management, US Fish and Wildlife Service, and other land management agencies, makes for an ideal situation to provide the scientific information needed to inform future management actions. While each agency has disciplinary strengths, the future requires that these public institutions find ways to integrate

them. Together, as a whole, we can provide a service to park management that is greater than the sum of our parts.

Demonstrate the ability to conduct successful large-scale interdisciplinary science efforts that address priority issues facing parks. Protected area managers, policy-makers, and legislators need to be convinced of the benefits of large-scale, complex, interdisciplinary research, along with the challenges that type of endeavor entails. It is only after having demonstrated an ability to provide a foundation of strong disciplinary science within a large-scale (e.g., national or regional) multidisciplinary framework, can this effort move forward. Moreover, projects will require strong execution, tangible outcomes, and timely integrated information that support decision-making. With these demonstrated successes, interdisciplinary science will be more likely embraced by managers of parks and protected areas, and society.

Inform and educate decision-makers, policy-makers, and park and protected area managers about the benefits of interdisciplinary science. Ongoing communication among park and protected area managers, scientists, and decision-makers about the complexity of threats, and the utility of interdisciplinary science to identify potential causes and solutions, can provide new and useful scientific products and services to managers and decision-makers to meet those threats. Likewise, broadening a partner base that focuses on interdisciplinary science and that also seeks every opportunity to make the public more aware of the benefits of this approach for answering complex scientific questions may also result in similar outcomes. Finally, improving scientific literacy, and explaining the utility and importance of interdisciplinary research as a part of leadership training programs, may ensure that future resource managers and decision-makers consider this approach when facing resource threats and determining how to manage them.

Conclusion

Interdisciplinary and integrated information coming from economic, technological, social, political, and ecological arenas will be needed by all park and protected area managers as they seek effective solutions to today's complex issues. As issues such as global climate change and sustainable energy struggle to capture the attention of legislators, park and protected area managers working in concert with scientists need to be prepared with a clear and compelling multi-year research agenda for interdisciplinary science. This must include a demonstrated track record of performance, as well as a clearly identified team of scientists and managers that has the ability to work across disciplines and to quickly respond to emerging threats and issues. Otherwise, new programs and increases in funding will likely not go toward solving emergent problems in parks and protected areas.

Park managers need to address topics such as resource adaptation to climate change over a large protected landscape, pinpointing linkages between the environment and human use patterns while also clarifying the meaning of ecosystem health and restoration. To address these issues within the core research capabilities of a diverse cross-section of private, state, and federal research communities, scientists will be communicating with park and protected area managers that oversee lands that can be used as benchmarks and controls from which to assess human-induced changes to the environment. For many of these important

societal priorities, “the train has already left the station.” For example, while the global community is struggling to develop meaningful policies that will help mitigate and adapt to climate change, it must also come to terms with:

- The 2011 unrest in the Middle East,
- The rising cost of crude oil, which is moving back over \$100 per barrel, forcing and gasoline prices upward,
- Continued increase of the human population and changing demographics,
- Further changes in land use practices; and
- Instability in the price of key commodities, such as the recent price spike for corn under expectations of future increases in ethanol production to fulfill sustainable energy goals.

All this is taking place while little is known about the impacts on water availability, ecosystems, and species.

Only by recognizing that we are in a rapidly changing environment, and embracing and encouraging interdisciplinary science, can park and protected area managers receive the information necessary to best manage the world’s most valuable natural resources. The future requires that we find ways to better integrate the findings of interdisciplinary research into park management. Together, scientists and land managers can provide a service that is greater than the sum of the parts, and create an identity of leadership and program growth that addresses large-scale societal needs within parks and protected areas of the world.

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Communicating about Wildlife-associated Disease Risks in National Parks

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Introduction

OUR WORLD IS FILLED WITH RISKS. The spate of natural and human-made disasters occurring across the globe that has captured our attention over the last decade has brought this point home for even those least affected. The way people perceive and come to understand risks of many kinds is having consequences at multiple levels, some of which are relevant to US national parks.

Political theorists, sociologists, and anthropologists have argued that people are increasingly focusing on risks and hazards when they make decisions and contemplate governmental and societal actions (Giddens 1990; Douglas 1992; Beck 1999). One type of risk in the public and scientific consciousness that many parks need to pay more attention to is that posed by wildlife-associated diseases (Gortázar et al. 2007). Informing people about avoiding or minimizing exposure to these and other risks associated with park visits may become an imperative for park managers intent on keeping outdoor experiences attractive for citizens.

Concern about wildlife disease is increasing because outbreaks are occurring more often than ever before in modern times (Jones et al. 2008; Keesing et al. 2010). A growing human population, global movement of people and exotic animals, and encroachment on wildlife habitat for agricultural and urban development are drivers in the expansion of wildlife-associated diseases (Baretto 2003; Wobeser 2006). Additionally, scientists expect global climate change to aggravate the spread of wildlife-associated disease by increasing vulnerability of potential host populations to infection through intensifying environmental stress, lengthening the pathogen transmission season, reducing biodiversity, and expanding the geographic ranges of pathogens and vectors (IAFWA 2005; Keesing et al. 2010; Kutz et al. 2008). The bottom line: we can expect an increase in the incidence and prevalence of wildlife-associated disease.

Wildlife-associated diseases may be potential hazards of management importance in any park, but this is especially true for those parks where visitors and wildlife interact regularly. Knowledge of how people perceive and react to such hazards can help managers develop effective responses, including tailoring risk communication messages to specific audiences

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(visitors, neighbors, concession staff, etc.). Identifying people's perceptions of risks can also alert park managers to actions that the public views as important for risk management. In this article, we highlight three lessons for effective risk communication drawn from a study of risk perceptions and reactions to wildlife-associated diseases in National Park Service (NPS) units.

The study

In collaboration with wildlife health professionals from the NPS Biological Resources Management Division, we used a multi-case approach to study risk perceptions and reactions with respect to wildlife-associated diseases (Stake 2006). We interviewed people living and working in and around four NPS units that have experienced wildlife-associated disease issues; three of these sites are discussed in this paper: (a) Sleeping Bear Dunes National Lakeshore, MI, (b) Fire Island National Seashore, NY, and (c) Golden Gate National Recreation Area, CA. We first created profiles of the case areas, which included (a) demographic data about the population surrounding the NPS unit, (b) analysis of local newspaper articles on diseases of interest, and (c) information about the activities of organizations and agencies involved in managing the risks associated with the disease. We conducted semi-structured interviews and oral history interviews with NPS employees and community members, respectively, during two-week visits at each site between April and September 2009. We collected 106 interviews (60 with NPS employees and 46 with community members) that described how the public experienced, perceived, and responded to a disease of local concern. We interviewed NPS park administrators, natural resource managers, law enforcement rangers, maintenance workers, interpretative rangers, visitor use assistants, cultural resource managers, safety officers, and public affairs specialists. Interviews with community members included conversations with local residents, journalists, nongovernmental organization (NGO) members, NPS volunteers, and officials in other governmental agencies.

Lesson #1: Know the context

Context played a powerful role in conditioning risk perceptions and responses to the diseases. At each study site, four dimensions of context (epidemiological, environmental/geographic, social, and cultural) were important influences on how people characterized the types and magnitude of their concerns. If people perceive and respond to the same disease differently across NPS units due to variations in context, it is questionable whether risk communication messages and modes considered successful at one park are directly transferable to another location without verification (e.g., a pilot program). Perceptions of and reactions to Lyme disease at Fire Island National Seashore (FINS) and Golden Gate National Recreation Area (GGNRA) exemplify this point.

At GGNRA, the public was minimally concerned about Lyme disease. To the extent that some local residents were concerned, they attributed risks primarily to the inability of the medical establishment to diagnose and treat the disease. A local resident reflected this perspective:

I don't think that I can blame the Park Service if I get bit by a tick in the park. In that movie [by a local filmmaker] I told you about, 'Under Our Skin', it is really against the medical estab-

lishment. . . . A lot of people have [Lyme disease] and are not diagnosed, are not diagnosed correctly, or are not treated.

Local newspapers provided abundant efficacy information, advising readers of actions they could take to limit exposure to ticks and Lyme disease. While people could be bitten by ticks on NPS lands, GGNRA is surrounded by many other public open space lands that also serve as tick habitat, so one's exposure to ticks is not limited to visiting the park. Trust in the NPS is high in communities adjacent to GGNRA and no interviewee indicated personal or community blame toward the NPS for the presence of Lyme disease locally.

At FINS, several local residents were very concerned about Lyme disease and angry that the national seashore would not do more to manage ticks. The incidence of Lyme disease from 2005 to 2009 was 96 times greater in New York compared with California (CDC 2010). The higher presence of ticks and incidence of Lyme disease at FINS compared with GGNRA certainly fostered differences in risk perceptions and reactions to the hazard, but it was not the only factor.

Local residents at FINS live within the national seashore; thus, many people tend to identify ticks they pick up in their own backyards as having "come from" FINS. Similar to the situation in or around many other parks, there is a history of tensions between local residents and FINS that fosters mistrust among some residents which may or may not relate to the issue being discussed (i.e., disease). An official from a community within FINS reflected:

There is a perception amongst residents that the Seashore does not prioritize the health of human residents on the Island as they should. . . . This sentiment is strong in some segments of the community; it is reflected in the response to the mosquito and tick control policies of the Seashore. There is definitely a lack of trust.

While several permanent residents were angered by what they perceived as a long-standing unwillingness of FINS to manage ticks, some seasonal residents viewed Lyme disease as a problem because it simply did not fit with their idea of what Fire Island should be—a place for care-free outdoor recreation. A community leader reflected:

People here come from Manhattan, or wherever, and they just think about it as coming to their beach house on Fire Island. It is a place to sun, surf, and enjoy the summers.

Compare this sentiment with the GGNRA interviewees' contention that most people exposed to Lyme disease at GGNRA were local residents engaging in various outdoor activities. Multiple interviewees told us that these California residents viewed Lyme disease as a "natural" component of the ecosystem.

The differences in prevailing perceptions of Lyme disease at FINS and GGNRA demonstrate the relevance of four types of context in affecting risk perceptions and reactions to the hazard: cultural/historical (trust, blame, "naturalness" of Lyme disease), social (media coverage, efficacy information), epidemiological (incidence rates, vector prevalence), and

environmental/geographic (living inside vs. outside the park, presence of other public lands that present similar risk exposure). When evaluating whether to transfer a risk communication tactic about a wildlife-associated disease that worked well in one park to another park, differences that might exist in each of these contexts should be considered. A disease may have similar epidemiological characteristics at both sites, and the environment and geography may even be comparable, but variations in just one dimension of context could substantially alter the magnitude or types of public risk perceptions. Tailoring risk communication to the specifics of the context can help your audience to understand the hazard.

Lesson #2: People's risk focus can shift over time

Many social and cultural influences can cause concern about risks to grow or shrink (Kasperson et al. 2003). Consequently, risk perceptions and reactions to hazards can change over time. We found not only that magnitude of risk perceptions can change with time exposed to a hazard, but the types of perceived risks also can shift substantially. The possibility of influencing audience segments to shift risk perceptions can be important in some situations. An example from Sleeping Bear Dunes National Lakeshore (SBDNL) illustrates how progression from one type of concern to another can occur.

SBDNL and the surrounding communities in the northwest corner of Michigan's Lower Peninsula experienced an outbreak of type E botulism in autumn 2006. While this disease had been present in Lake Michigan and in other Great Lakes for decades, SBDNL had never experienced the scale of impact experienced in 2006, when 2,900 dead birds (including gulls, cormorants, horned grebes, and common loons) washed up along 14 miles of its shoreline. When NPS employees discovered the dead birds, they immediately sent specimens to state laboratories for testing. Meanwhile, local residents started asking questions. What's killing the birds? Does it pose a risk to my health or that of my kids and grandkids who swim in the lake? How about risks to the health of my dog if it picks up a dead bird on the beach? Beach walking is a popular pastime in this area of Michigan, so many people were exposed to the dead birds.

The education director at a local NGO that focuses on water issues recalled that initially local residents were concerned predominantly with human health. Many residents contacted her to ask for information about the dead birds and to express their concern:

I think a lot of landowners probably thought about the public health issue first. . . . A lot of property owners say, 'Okay, I've got three dead birds on my property; what does that mean for myself, for my dog running around, for my kids swimming in the bay?'

Eventually, the disease killing the birds was diagnosed and local scientists had a good idea of the complex chain of interactions that led to the unprecedented outbreak, extending from burgeoning algae mats and invasive quagga mussels to sick gobies and dead loons.

Starting in January 2007, a team of five scientists and environmental advocates from NPS, Michigan Sea Grant, a local college, and two environmental nonprofit organizations collaborated to give public presentations on the cause of the bird deaths and to explain actions being taken to address the problem. From these meetings and the high-quality cov-

erage of their message in two local newspapers, the public learned that the type E botulism killing the birds did not pose a risk to human health. Public concerns about human health subsided. The clear, consistent, and accessible information from trusted sources (as the scientists and newspapers in this area were) quelled erroneous fears. But risk perceptions did not simply decrease; as human health concerns ebbed, concerns about wildlife and ecosystem health grew.

In nearly all of the risk communication that local residents were exposed to, scientists explained that the integrity of the whole ecosystem and a delicate food web had been compromised by exotic additions to the native biotic community (i.e., by the quagga mussels that played a complex but important role in allowing the botulism toxin to flourish). The public reacted strongly to these messages. The NPS biologist who delivered presentations at public meetings explained:

Once people learn more about the greater issues involved, their concerns start changing. People start using their minds and reacting in different ways—they think about writing letters to Congressmen and wondering what else they can do to remedy the situation.

The transition in types of risks perceived and their relative importance was aided by a strong attachment to the natural environment among many local residents. An editor of a local newspaper reflected on his conversations with community members:

People in general in this county like their natural resources, and when something like this starts happening, where birds are dying and botulism comes, they want to find out about (a) why it's happening, and (b) is there something they can do about it.

While many local residents possessed a foundation of concern for wildlife and the environment, a majority of our interviewees mentioned that it was only after exposure to risk communication messages that a sizable portion of local residents meaningfully focused on these types of risks.

The possibility that risk perceptions can evolve substantially over time, in terms of magnitude (more or less concern) and types of perceived risks, cautions managers to regularly re-evaluate whether the context has changed in a way that may have facilitated a shift in risk perceptions, including in response to their own risk communication efforts. The issue of variation in risk perceptions over time is simply another example of the importance of context specificity, but with respect to a temporal rather than a spatial scale. In the SBDNL example, the social context changed when risk communication introduced new information and perspectives into the public consciousness. One could also imagine cases where the shift in risk perceptions comes from a change in the epidemiological context (e.g., a change in incidence rates), variation in the environmental/geographic context (e.g., introduction of a new invasive species), or an alteration in the cultural/historical context (e.g., people learn to live with a disease that has been part of normal life for several years).

The fact that types of perceived risks evolve over time presents an opportunity for managers. Often, risk communication about wildlife and vector-borne diseases attempts to: (a)

reduce concerns that experts deem as over-reactive given available technical risk assessments, or (b) increase magnitude of risk perceptions about a certain type of risk (e.g., to human health) about which the public is insufficiently concerned. Experience in SBDNL suggests that another use of risk communication could be to increase concern for a different risk (such as the well-being of wildlife or ecosystem health) that could promote behavior that supports the mission of park managers.

Lesson #3: The importance of expectations

Risk communication often is intended to help the public better understand hazards to which people or things they care about are exposed. This view of risk communication assumes that one reason for differences in magnitudes and types of risk perceived by “experts” and “lay people,” or between different segments of the public, is that one group is misinformed or under-informed. While ignorance is at work in some circumstances, our study revealed several instances where risk perceptions varied for a different reason—experience with a hazard either reflected or diverged from expectations. In situations where expectations were met for what a hazard would be like and for what risks a hazard should pose, risk perceptions were lower in magnitude, and perhaps of a different type, compared with situations in which expectations were not met.

The role of expectations in influencing risk perceptions was clear at FINS. Most FINS employees and a subset of local residents perceived minimal to moderate risk to health from Lyme disease, yet another subset of the local population perceived a high level of health risk. The people in both groups were well informed about Lyme disease and aware of the same facts about the disease, its presence, and its history in the local ecosystem and community.

Some local residents were seasonal homeowners who only lived on Fire Island during the summer season and came from urban areas in which Lyme disease is not endemic. These people were on the island to vacation, and their expectations for an enjoyable vacation did not include ticks and Lyme disease. Many of these seasonal residents knew of the presence of Lyme disease but did not believe they should have to contend with it during their recreation time.

Other local residents and NPS staff simply accepted that the ticks were on the island to stay and that they had to accept this reality and adjust their behavior accordingly. A natural resources manager at FINS commented, “You can avoid exposure to ticks and Lyme disease on Fire Island. You have to go into the tick habitat to expose yourself to ticks. Why should people be so concerned about it?”

Of course, not all permanent local residents were willing to accept being exposed to Lyme disease when in their backyards. These individuals believed that a method of controlling ticks by applying permethrin to deer, called 4-poster devices, would greatly reduce tick populations on the island and thereby reduce exposure to Lyme disease. They expected NPS to apply this control method. The NPS natural resource managers, however, had concerns about whether the devices were consistent with the NPS’s pesticide policy and the NPS mission.

Like risk perceptions, expectations can evolve. Over time, some people who were initially very concerned about the presence of Lyme disease due to surprise over its presence at

FINS came to expect that exposure to the disease was part of the local reality. A law enforcement ranger at FINS observed, “[Lyme disease] was an issue du jour back then, but then people realized that ticks are everywhere and not just on Fire Island.” Because Lyme disease and ticks existed elsewhere, some local residents adjusted expectations for what they would encounter at FINS, which contributed to lowering the magnitude of risk perceptions.

People with nearly identical knowledge about a hazard, but with different prior expectations for what they could or should encounter, can perceive different levels of risk. This highlights the importance of understanding why people develop risk perceptions, in addition to knowing the degree of risk they perceive. A park may have data that show that public perceptions of risk substantially exceed technical risk analyses, but if this elevated level of risk is due to violated expectations, providing more information about the risk would be unlikely to have much effect.

Managers seeking to communicate with the public about hazards that deviate from expectations may wish to help people reflect on the reasonableness of their expectations. It is understandable that someone on Fire Island who did not believe that she or he would be exposed to Lyme disease would, upon learning of the hazard, have elevated risk perceptions compared with someone who expected such exposure. It is also clear that expectations can change over time. A manager may be able to help people form new expectations more quickly by using risk communication that places the hazard and its associated risks in a more acceptable context (e.g., “they’re a natural part of the environment”). For example, by explaining the history of Lyme disease locally, the reason for its presence in the ecosystem, and the extent to which the hazard is present not just at the NPS unit, but also in other areas locally, may facilitate a transition to a view of Lyme disease as something one could reasonably expect to encounter in the NPS unit; that is, the park is no different than other nearby open space in this respect. It would likely be more difficult for a manager to influence expectations about wildlife-associated disease when they arise from experience-based beliefs about what one should encounter. Even in such cases, however, information about the context in which the hazard is situated may help the public think about risks differently.

Conclusion

Risk communication about wildlife-associated diseases is certain to be a growing need for park managers as real and perceived concerns about such hazards escalate. While difficult to do well, this kind of communication may serve to reinforce people’s appreciation for the deep connection between human, wildlife, and environmental health and well-being. It is conceivable that if placed in this frame, wildlife-associated disease could be the focus of powerful interpretive programs taking an “ecological” approach to the topic. Such programs could emphasize the interconnectedness of human, wildlife, and environmental health and show how health in all these domains may be at risk from climate change, land use change, global movement of humans, introduction of exotic species, etc. Wildlife and public health experts, wildlife ecologists, human dimensions specialists, and education and interpretive specialists could collaborate to design such a program and be a service to citizens visiting, working in, and living beside parks.

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Management Response to Eroding Wildland Buffers between Developed and Protected Areas through Education and Collaborative Planning Efforts

J. Keith Gilless and Rachel C. Smith

MANAGERS HAVE HISTORICALLY BENEFITED FROM A BUFFER ZONE of undeveloped wildland vegetation between human development and parks and protected areas. Development of wildland areas adjacent to parks and protected areas presents an escalating challenge for managers looking to balance liability with a need to utilize prescribed burns and manage wildfires to meet resource objectives. Such development also increases the risk of uncharacteristic fires that can damage public and private values. This situation presents three major challenges for park management: (1) escaped prescribed fires increasingly threaten people, property, and wildlands, posing costly liability issues that may limit managers' capacity to administer resources effectively; (2) uncharacteristic wildfires, due in part to human activity, pose risks to protected areas, threatening endangered species, sensitive ecosystems and other public values at risk; and (3) today's managers need public support—or at least a lack of vocal opposition—to be able to implement prescribed burns or other management activities to achieve resource objectives. The rapidly evolving policy environment for park and protected area management provides considerable support for managers looking to use community engagement to address these challenges.

Increased liability from escaped prescribed fires is a pressing issue for managers of parks and protected areas, even with attempts to provide a legal basis for appropriate exercise of professional judgment, such as Florida's 1990 Prescribed Burning Act (Brenner and Wade 1992). The risk posed by escaped prescribed fires is well illustrated by the 2000 Cerro Grande prescribed fire that burned 380 structures before being contained at 42,875 acres (IFIT 2000). This prescribed burn, which was intended to reduce hazardous fuel in the National Park Service's (NPS's) Bandelier National Monument, resulted in a payout of \$441 million to satisfy claims (IFIT 2000). Such spectacularly expensive events create intense pressure on protected area managers to mitigate the risk of escapes. This is in direct conflict with their compelling need to employ prescribed burns or allow ignitions to burn in order to maintain or restore desirable ecological conditions.

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Uncharacteristic wildfires—ignitions that occur outside of the season, frequency, location, or severity of the expected historical fire regimes for an area—pose a second rapidly increasing threat to parks and protected areas in the wildland–urban interface (WUI). Such ignitions are costly for protected area managers, requiring significant time and resources to contain, and can endanger sensitive ecosystems, endangered species, protected area facilities, staff, and visitors, as well as other public values. This increased fireload is being experienced at a time when most parks and protected areas have flat or even declining budgets. NPS has had to nearly triple its allocated funding for wildland fire management funding over the last decade (NPS 2008), straining its ability to focus on other management priorities. Despite these expenditures, in NPS-administered areas the number of unplanned fires and acreage burned each year has continued to grow, averaging greater than 250,000 acres burned annually since fiscal year 2003 (NPS 2005, 2006, 2008, 2009, 2010). In 2008, a fire ignited on the boundary of Florida’s Everglades National Park. By the time it was brought under control, the Mustang Corner Fire, a human-caused uncharacteristic wildfire, had burned through the habitat of the endangered Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*), consuming 39,465 acres to become the park’s largest wildfire in 19 years.

Another critical problem facing park and protected area managers is their increasing need for public support for prescribed burning and related activities. Those who live and work in WUI areas increasingly demand a voice in how managers implement activities that affect their interests. Though homeowners are influenced by the degree to which they trust agencies, stakeholders’ attitudes regarding prescribed burns are most significantly impacted by education about the process, and by the expected outcome of the activity (Fried et al. 2006). When their concerns have not been addressed, communities and stakeholder groups have successfully delayed or blocked prescribed burns.

In 2009, citing a lack of prior communication with the community, the Los Padres Forest Watch and the California Chaparral Institute filed a lawsuit alleging that the Los Padres National Forest failed to involve local community members in planning the Tepusquet Fuels Treatment Project. They charged that this exclusion from the project’s development (as they perceived it), which utilized prescribed burning as well as manual mastication to clear vegetation over 19,300 acres, violated the 1992 Forest Service Decision-Making and Appeals Reform Act. They petitioned the courts to halt the project until proper engagement could take place. Though many such actions are ultimately unsuccessful in terminating projects, they create sometimes-costly delays and generate ill will with local communities. In order to implement planned prescribed burns successfully, park managers will increasingly need to recruit community support.

Education programs can be a powerful tool to reduce potential liability from escaped prescribed fires, reduce the number of uncharacteristic ignitions, and increase public support for prescribed burning activities. By engaging proactively with the community, managers can communicate the realities of living in WUI areas and encourage residents to prepare their homes and properties to resist wildfires, reducing potential risks from escaped prescribed fires. Educational programs also provide managers the opportunity to explain

how to avoid accidentally starting a fire that might become a damaging uncharacteristic wildfire. Educational programs and outreach can serve to improve acceptance of planned prescribed burns and other activities.

In 2004, the Butte County (California) Fire Safe Council (BCFSC) developed wildfire education materials and began distributing them to area elementary schools. “Wildfire in the Foothills” was a five-segment wildfire education program aimed at sixth-grade students in local schools. Teachers were provided a kit, including lesson plans for five one-hour lessons as well as transparencies, handouts, and videos, and take-home materials for children to keep and share with their parents and families. This program, financed by local support and grant funding, has been an unquestioned success. It is requested by teachers in new schools every year who have heard about the lesson plans through word-of-mouth, and fire agencies have reported that the memorable lessons have helped the community understand wildland fires better, expanded recognition of prescribed burning and fuel reduction as important activities, and prompted families to identify practical steps they can take in their homes and communities to reduce risk.

Engaging in collaborative planning activities with stakeholders who live or work in WUI areas can be time-consuming, but it can dramatically improve management effectiveness. Including members of the community in fire planning activities can recruit citizens as advocates for good management, who then proactively educate their families and neighbors about fire’s appropriate place in the landscape. Community members who are engaged in collective planning often participate in on-the-ground fire risk abatement, stretching limited public resources through in-kind donations and work parties.

On July 27th, 2010, two men cutting pipe started a fire near the community of Old West Ranch in California’s Kern County. Within 15 minutes of the ignition of the West Fire (as it came to be known), spot fires burning 0.5 mile away from the blaze were endangering homes and firefighters reported flame lengths of 150 feet (Figure 1; KCFD 2010).

With heavy fuel loading driving extreme fire behavior, nearly no recorded fire activity for 110 years, no established water system and access only via dirt roads, the disaster potential for this incident was significant—but losses were limited to 23 structures. Extensive preparation by federal and county fire officials working collaboratively with local stakeholders can claim credit for this outcome (Figure 2). Kern County Fire Department (KCFD) and the Bureau of Land Management (BLM), working with the Greater Tehachapi Fire Safe Council (GTFSC), had years earlier identified Old West Ranch as particularly threatened by fire. Beginning in 2004, KCFD had created an escape route to help residents evacuate and provide safe passage for incoming emergency equipment. The work to create the escape route had been funded through a grant won by GTFSC, with contributions from its members and agency partners.

The completed escape route allowed every resident to evacuate safely (Figure 3). In the 2010 fire, a shaded fuel break project organized by the same group of agency and community stakeholders stopped the southern progress of the fire. This event illustrates the point that when WUI residents act as stakeholders and participants in fire risk abatement, they reduce the likelihood of catastrophic wildfires as well as protect the surrounding communities, limiting the risk of expensive losses.



Figure 1. West Fire approaches shaded fuelbreak, Wildhorse Ridge, Kern County, California, July 2010. Photo courtesy of Kern County Fire Department.



Figure 2. Kern County Fire Department crew conducts National Fire Plan grant-funded fuel management project on Wildhorse Ridge, spring 2010. Photo courtesy of Derrick Davis, Kern County Fire Department.



Figure 3. Wildhorse Ridge shaded fuelbreak halts the southern progress of the West Fire with no assistance from suppression forces, August 2010. Photo courtesy of Derrick Davis, Kern County Fire Department.

An excellent example of a protected area in which managers have used education and collaborative planning to overcome community fire-related challenges and achieved enhanced management objectives is Antioch Dunes National Wildlife Refuge (ADNWR) in northern California. Refuge resource managers have long struggled with the challenge of how to adequately protect the endangered species that inhabit Antioch Dunes. Some, like the Lange’s metalmark butterfly (*Apodemia mormo langei*), exist nowhere outside the refuge. For others, like the Contra Costa wallflower (*Erysimum capitatum angustatum*) and the Antioch Dunes evening primrose (*Oenothera deltoids howellii*), ADNWR comprises a major portion of their remaining critical habitat. In fact, ADNWR was established in 1980 to address the threat posed by sand mining to locally endangered species living in the dunes.

Today, uncharacteristic fire can profoundly impact the fragile dune habitat, reducing the availability of the wild buckwheat Lange’s metalmarks depend on, and providing an opening for invasive species. Complicating its management, the refuge is composed of two separate tracts, both of which border the city of Antioch (Contra Costa County), with more than 100,000 residents. In the last ten years, unwanted wildfires have burned acreage equivalent to 70% of the tiny 55-acre refuge. Effective management depends on local residents understanding the importance of preventing uncharacteristic ignitions on the fragile dune habitat, and support the use of carefully calculated prescribed burning to control invasive non-native species. Funding for management is a profound challenge for ADNWR; in fact, the refuge is currently completely unfunded, and depends on volunteers to implement projects for

resource objectives. On the heels of a 2006 “suspicious” and damaging 10.9-acre uncharacteristic fire, the US Fish and Wildlife Service (USFWS) staff at the refuge in 2007 partnered with the Diablo Firesafe Council (DFSC) and the Contra Costa Fire Protection District (CCFPD) to secure funding for an education and outreach campaign. Working collaboratively, they developed a proposal and won roughly \$25,000 in grant funding. In 2008, CCFPD initiated an education and outreach program to help visitors and local residents learn about the area’s unique species and how wildfire helps protect or endangers them. This resulted in significantly increased awareness of the refuge as well as the importance of protecting it from uncharacteristic ignitions.

CCFPD determined that the best groups to target for outreach were schoolchildren and young adults at local colleges to educate them regarding the importance of preventing fires. Acting as opinion leaders, it was thought they could pass on this information to their families. During the two-year program, USFWS, in partnership with CCFPD and DFSC, developed a specialized curriculum designed to inform residents about the existence and importance of the refuge. The program educated residents about the dangers uncharacteristic fire poses and encouraged them to participate in the effort to help the endangered species protected within the refuge recover. The education program included posters, signs, and flyers, as well as workbooks and bookmarks aimed for student audiences (Figure 4). They created opportunities for the public to interact with fire officials and learn about the key significance of the refuge, including a display set up at a local library.

Though ADNWR continues to struggle, the two-year outreach program has had lasting impact in helping the refuge continue to meet its resource management objectives. Lacking funding to employ California Conservation Corps workers to curb the influx of invasive species and reduce fuels through cautious prescribed burning, the reserve has instead relied on the student and community groups who were targeted in the educational campaign and have since grown into advocates (Figure 5). Over the last three years they have volunteered time and assistance to manually remove invasive species and excess fuels from the property.

The environment in which park and protected area managers confront the problems addressed here is continually evolving. Community-based fire planning was formally recognized in federal policy as one of three elements vital to reducing the threat of catastrophic wildfires in the wake of the damaging wildfires of 2000. By the time that year’s fire season was over, 123,000 fires had burned more than 8.4 million acres at a cost of more than \$2 billion to American taxpayers. At the request of President Clinton, the secretaries of agriculture and interior jointly developed a report presenting suggestions for handling the aftermath of the wildfires and preparing for future ignitions. This report, *Managing the Impact of Wildfires on Communities and the Environment*, came to be known as the National Fire Plan.

The National Fire Plan was a significant departure from previous federal fire policy documents, such as the 1995 Federal Wildland Fire Management Policy and Program Review. Earlier policies had discussed only the position and role of federal agencies in wildland fire-fighting efforts. The National Fire Plan, passed by Congress in 2001, introduced a collaborative theme, acknowledging that wildland fires do not recognize agency boundaries or property lines (FY 2001 Interior and Related Agencies Appropriations Act [P.L. 106-291]). It identified local community coordination and outreach as one of three crucial elements of the

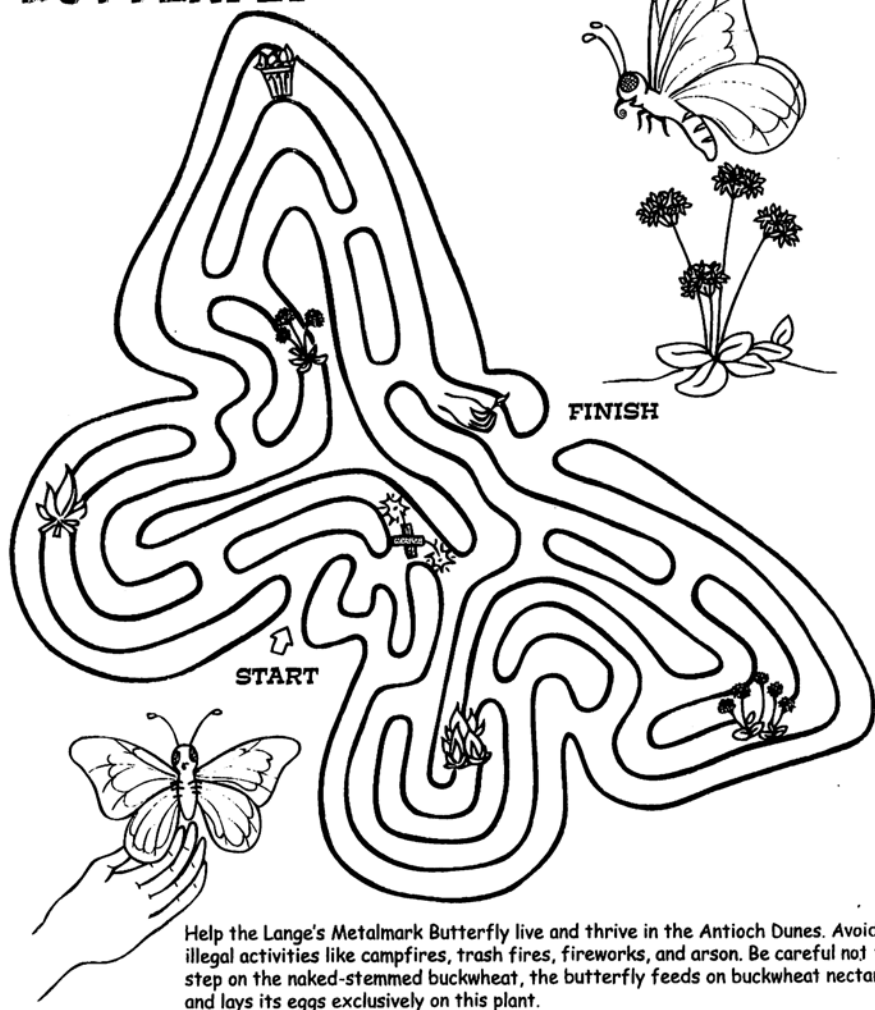


Figure 4. A page from a workbook designed to inform elementary students about the risk uncharacteristic fires pose to endangered species. Courtesy of Contra Costa Fire Protection District, US Fish and Wildlife Service.

administration's fire policy, confirming the importance of coordination and capacity-building with stakeholders, agency partners, and communities adjacent to or near federal lands. In response to a congressional mandate to develop reporting requirements for the National Fire Plan, in 2002 the Western Governors' Association wrote *A Collaborative Approach to Reducing Wildland Fire Risks to Communities*, emphasizing achieving goals through a collective, community-based process. In 2003, Congress passed the Healthy Forest Restoration Act (HFRA), which, in addition to incorporating elements of the Healthy Forest Initiative devel-

Antioch Dunes

National Wildlife Refuge

Guided tours second Saturdays 10:00 a.m.

✿ line for events...



Figure 5. A poster that educates residents about the presence of endangered species while inviting visitation. Courtesy of US Fish and Wildlife Service.

oped by President Bush in 2002, also legislated increased involvement with communities.

In addition to streamlining the environmental appeal process for hazardous fuels reduction projects, the HFRA targeted federal lands near vulnerable communities with fuel reduction projects to slow the spread of fires near structures. Without risk reduction efforts on the private side of the WUI, however, Congress recognized that defending homes in WUI areas from fire would remain costly and difficult, if not impossible. In order to encourage local communities to take part in prefire planning and make appropriate efforts on private lands to prepare homes and communities for wildfire, they created a framework for locally developed prefire management plans, called community wildfire protection plans (CWPPs). In order to encourage states and communities to create CWPPs, the HFRA established incentives, allowing groups that developed CWPPs to influence the location and prioritization of hazardous fuel abatement projects on nearby federal lands. It also allowed those groups to define their WUI boundaries, which impact property value, insurance costs, and the availability of grant funding. Additionally, communities with CWPPs received priority access to US Forest Service and BLM hazardous fuel reduction funding.

The passage of the HFRA marked the beginning of a greater national emphasis on engaging communities in all aspects of prefire planning. In fact, the 2008–2012 NPS Wildland Fire Management Strategic Plan explicitly directs employees to engage with stakeholders through both education and collaborative efforts. The strategic plan repeatedly cites a lack of engagement as a barrier to success and identifies education or collaborative planning as a crucial component to achieving agency goals. Local stakeholders have helped develop

CWPPs, and stakeholders have had the opportunity to provide input in land planning decisions and participate actively in fuel reduction projects that complement the efforts of the state and federal land managers throughout the United States. The full potential of such programs, however, has not been completely realized. Limited financial and personnel resources dampened participation and leadership in community outreach and planning. With a paucity of resources, managers taking a leadership role in cultivating productive, diverse, collaborative planning processes has not been a priority.

As people settle in and around parks and protected places in ever-greater numbers, educating and working collaboratively with stakeholders must be a priority for managers. It is clear that without parallel work on both the private and public boundaries of protected areas, wildfire risk abatement cannot be successful because of the potential for liability due to prescribed fires escaping from and uncharacteristic fires burning into protected areas. Without the mutual trust and relationships that outreach can forge, communities will be isolated from resource management decisions and are significantly less likely to support prescribed fire activities. Managers of protected areas may be able to catalyze significant reductions in fire risk by engaging a diverse range of stakeholders in collaborative planning and educational efforts. By working together, organizations and individuals may be able to eliminate unnecessary duplication and stretch limited budgets. Moreover, because collective implementation of prefire hazard mitigation activities is significantly supported in current resource management policy, additional sources for funding may be available to managers of protected areas and groups that work for mutual benefit.

The stakes have never been higher for managers confronting wildfire-related issues. Presently more than 38% of Americans live in the WUI, the zone in which structures and other human development mingle with undeveloped vegetation. As Americans move from urban areas into undeveloped or rural settings in increasingly large numbers, it is ever more clear that the residents of these WUI areas play a pivotal role in preventing ignitions and limiting the impact of wildfires. Managers have been challenged by increased potential liability should a prescribed fire escape protected area boundaries, increasing numbers of uncharacteristic wildfires impinging on protected areas from outside, and increasing demands from the public for information and a voice in decisions regarding wildfire risks. At the same time, managers are held responsible for achieving resource management goals despite budget cuts. In this era of shrinking budgets, community outreach through education and engagement is a comparatively inexpensive way to leverage limited funding to reduce fire risk both within and outside of the protected areas. Park managers must seize the opportunity to enlist their new neighbors as potential allies in achieving resource management objectives. Through collaboration with the public, managers of parks and other protected spaces may achieve significant gains in community education and support, as well as protecting private lands from fires escaping protected areas.

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THE STATE OF HISTORY IN THE NATIONAL PARK SERVICE: A CONVERSATION AND REFLECTIONS

Imperiled Promise: The State of History in the National Park Service—Opening the Discussion

Anne Whisnant, Marla Miller, Gary Nash, and David Thelen

Introduction (Anne Whisnant)

WE ARE PLEASED TO HAVE THE OPPORTUNITY TO PRESENT A DISCUSSION OF OUR REPORT, *Imperiled Promise: The State of History in the National Park Service* (2011), to readers of *The George Wright Forum*. As an organization that integrates research, preservation, and education about parks, the George Wright Society and its publication seem an ideal place for discussion of this landmark study.

Imperiled Promise grows from a collaboration between the National Park Service (NPS) and the Organization of American Historians (OAH) that began in 1994, when the two organizations signed a cooperative agreement that has since facilitated dozens of joint historical projects. Former NPS Chief Historian Dwight Pitcaithley and his staff secured funding for this study in the mid-2000s, but the project languished during the transition from Pitcaithley to his successor, Robert Sutton, who became chief historian in 2007.

In March 2008, the OAH's public history manager, Susan Ferentinos, invited me to join a team of four scholars to work for two years to "evaluate the quality of historical research undertaken and presented in parks ... and the current impact of historical research on park resource management, interpretation, education, and planning." After conducting a survey and interviews, we were to present "recommendations and best practices for strengthening performance, effectiveness, and program relevance in the area of historical research."

How could I say no?

Before long the team was assembled: Marla Miller, professor of history at the University of Massachusetts, Amherst; Gary Nash, professor emeritus of history at the University of California, Los Angeles; and David Thelen, professor emeritus of history at Indiana University. At some point, the team asked me to chair the project. We distributed a survey to over

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1,500 NPS employees in 2010. More details about our process and findings are included below in *Imperiled Promise's* executive summary and in the full study online at www.oah.org/programs/nps/imperiled_promise.html.

Finishing the analysis took three years, not two. Had I understood what a complex task evaluating the “state of history” in this sprawling agency would be, I am not sure I would have signed on. But as complicated as NPS is, one of the greatest challenges for me, as chair, was crafting a coherent report that reflected the insights of four scholars with different areas of expertise, circles of contacts, types of NPS experience, and ideas about what was most important. This was more difficult than writing the single-authored book I published in 2006.

Spread across time zones from California to South Africa, we were not often able to meet, or even to talk, in order to hammer out ideas and prose, and our comfort levels with the technological tools available for collaborative work varied. At one point, I was faced with melding 18 disparate pieces of text into a single draft we could all work on. Hard as this was, I am confident that my colleagues’ thoughtful contributions shaped *every page*. We saved each other from errors of fact, tone, and emphasis, and the final document represents the best possible blending of our insights about the research we conducted.

But, to honor our recommendation that NPS place greater emphasis on respecting *multiple perspectives*, we have decided here to allow our *individual* voices to be heard as we reflect upon the report and the road ahead. To create the conversation that follows the executive summary, *Forum* co-editor Rebecca Conard worked with Dwight Pitcaithley to develop a set of questions probing the difficulties as well as the rewards of our investigation and nudging the team to sharpen our recommendations. In so doing, we hope to stimulate an extended conversation. Toward that end, two other historians, Lisa Mighetto, executive director of the American Society for Environmental History, and Timothy Good, superintendent of Ulysses S. Grant National Historic Site, were invited to contribute comments on the report. Ultimately, we recognize that improving the state of history practice in NPS will be a product of many discussions and a project of many hands. Let the conversation begin.

Executive summary: *Imperiled Promise*

The National Park Service (NPS) stewards some of the most powerful and instructive historic places in the nation. Millions of Americans each year cultivate a deeper appreciation of the nation’s past through encounters with historic buildings, landscapes, and narratives preserved through the NPS and its myriad agencies and programs. At two-thirds of the nearly 400 national parks, history is at the heart of the visitor experience, and human activity has profoundly shaped them all. History is central to the work of the Park Service.

In 2008, the Organization of American Historians (OAH) agreed, at the behest of the NPS chief historian’s office, to undertake a study of the “State of History in the National Park Service.” Four historians—Anne Mitchell Whisnant (University of North Carolina, Chapel Hill), Marla Miller (University of Massachusetts, Amherst), Gary Nash (University of California, Los Angeles), and David Thelen (Indiana University)—were charged with completing this assessment.

Although only about 182 of the NPS's employees carry the job title of "historian" (0170 series), many more are engaged in the agency's vast history-related preservation, research, compliance, and interpretive work. Therefore, this study focuses both on what historians do within NPS, and the larger question of who does history in and for the Park Service.

The centerpiece of our work was an electronic questionnaire sent to over 1,500 members of NPS's permanent staff who have some responsibility for history. We received 544 responses, generating more than 800 single-spaced pages of discursive replies. We also solicited perspectives and advice from numerous retired and current NPS historians and administrators, including key leaders at the regional and Washington, D.C., levels. We consulted a set of external stakeholders—historians generally based in colleges and universities who have worked closely with the agency. Team members visited dozens of parks and conducted seven large-group listening sessions at annual meetings of the OAH, National Council on Public History (NCPH), and National Association for Interpretation (NAI). Finally, we combed through OAH-sponsored site-visit reports, NPS administrative histories, and reams of previous studies. These strategies yielded a full view of the fortunes of NPS history practice in recent decades.

We found that much is going well. Our study identified nearly 150 examples of historical projects and programs that NPS personnel regard as effective, inspiring models. We ourselves observed many instances of high-quality scholarship and creative interpretation. More than a dozen of these successes are profiled herein, as lamps lighting the path ahead.

But we also found that the agency's ability to manage its sites "unimpaired for the enjoyment of future generations"—let alone achieve its highest aspirations to become the nation's largest outdoor history classroom—has been imperiled by the agency's weak support for its history workforce, by agency structures that confine history in isolated silos, by longstanding funding deficiencies, by often narrow and static conceptions of history's scope, and by timid interpretation. As a consequence, one of our survey respondents wrote, history in the NPS is "sporadic, interrupted, superbly excellent in some instances and vacant in others" (Respondent 10273). Our findings describe many specific aspects of the state of history practice today—an uneven landscape of inspiration and success amid policies and practices all but designed to inhibit high-quality work.

Promises to keep:

Our vision for an expansive, integrated, and vital practice of NPS history

This report urges NPS to recommit to history as one of its core purposes and invest in building a top-flight program of historical research and interpretation that will foster effective and integrated historic preservation and robust, place-based visitor engagement with history. The more central history can be to NPS's missions and activities, the more relevant and responsive NPS can be to the needs of American society in the twenty-first century.

In the spirit of the 1963 *Leopold Report* as well as the landmark 1966 study *With Heritage So Rich*, and building upon invigorating new directions in the larger profession of history, we recommend at the outset a general philosophy for both agency and park history grounded in these key ideas and principles:

- Expand interpretive frames beyond existing physical resources.
- Emphasize connections of parks with the larger histories beyond their boundaries.
- Highlight the effects of human activity on “natural” areas.
- Acknowledge that history is dynamic and always unfinished.
- Recognize the NPS’s role in shaping every park’s history.
- Attend to the roles of memory and memorialization at historic sites.
- Highlight the open-endedness of the past.
- Forthrightly address conflict and controversy both in and about the past.
- Welcome contested and evolving understandings of American civic heritage.
- Envision “doing history” as a means of skills development for civic participation.
- Share authority with and take knowledge from the public.
- Better connect with the rest of the history profession and embrace interdisciplinary collaboration.

Findings and recommendations

Careful review of the history of history practice in the NPS reveals that many of the challenges history faces in the agency today result from several defining legacies of the way the history program has developed over time. These legacies include:

- An underemphasis and underfunding of historical work as priorities shifted to natural resources, law enforcement, and other concerns;
- An artificial separation of cultural resources management from interpretation;
- An artificial separation of natural resources interpretation from cultural and historical interpretation;
- An overemphasis on mandated preservation compliance activities at the expense of other ways history can be practiced; and
- A misperception that history is a tightly bounded, single and unchanging “accurate” story, with one true significance, rather than an ongoing discovery process in which narratives that change over time as generations develop new questions and concerns, and multiple perspectives are explored.

Findings 1, 2, and 3 [explained in the full report, and summarized here in Table 1] describe how these legacies have left history without strong, consistent sources of leadership, fragmented history practice across the agency, divided what should be the closely linked arenas of history and interpretation, and increasingly isolated the practice of history in NPS from developments in scholarship, museums, and schools. These conditions have created administrative inefficiencies and dampened the agency’s ability to both draw on and contribute to broader scholarly and public conversations.

Findings 4, 5, and 6 address workforce development and funding challenges that have created a severe dearth of professional history expertise and capacity, both for now and the future. Meanwhile, findings 7 and 8 explore the current limitations and unexplored possibilities offered by targeted and thoughtful partnerships and creative uses of technology to

Table 1. Summary of findings from *Imperiled Promise*.

Finding 1: The history/interpretation divide. The intellectually artificial, yet bureaucratically real, divide between history and interpretation constrains NPS historians, compromises history practice in the agency, and severely hobbles effective history interpretation.

Finding 2: The importance of leadership for history. There must be visionary, visible, and respected leadership at the top and managers throughout the agency who understand, value, and systematically advocate for and nurture the professional practice of history.

Finding 3: The challenge of disconnection. NPS history is undermined by conditions that isolate both people and knowledge: employees feel sequestered, NPS historians are absent from discussions in the profession, NPS history scholarship is largely invisible to databases and journals the larger field relies on for information and insight, and historians beyond NPS are not in conversation with the strong scholarship and innovative practice the agency conducts and contracts.

Finding 4. Historical expertise and today's workforce. NPS support for professional expertise in history is surprisingly weak. Position qualifications for historians do not require advanced training in history, working historians have difficulty accessing the ongoing training they need to stay abreast of developments in the field, and most parks—even historical parks—do without any historian on staff. Historical interpretation is often left to poorly trained seasonal workers.

Finding 5: A history workforce for the future. NPS needs to attract the rising generation of historians, but barriers to employment in NPS exacerbate the already-challenging prospect of recruiting and retaining the nation's brightest young historians, especially historians of color.

Finding 6. Inadequate resources for historical practice. History in NPS has been under-resourced for decades. Chronic underfunding and understaffing have severely undermined the agency's ability to meet basic responsibilities, let alone take on new and bolder initiatives, nurture and sustain public engagement, foster a culture of research and discovery, and facilitate connectivity and professional growth among NPS staff.

Finding 7: Productive and enduring partnerships for history. History in the national parks depends on cooperation and collaboration with others—to obtain funding, to harness expertise, and simply to leverage much-needed labor. But partnerships must be crafted carefully with an eye to how they can contribute to the improvement of history practice.

Finding 8. Technology and the practice of history. NPS can do more to harness the power of technologies that offer specific promise to advance historical research, interpretation, and connections between the agency staff and the larger historical profession, as well as public engagement with the past.

Finding 9. Stewardship and interpretation of agency history. NPS has traditionally considered its own story (and the story of its parks) to be somehow separate from the history “out there” that it is charged with preserving or telling. Insufficient attention is paid to

the stewardship of the agency's own history, and the consequences both undermine research, interpretation, and management and create inefficiencies.

Finding 10. The constraints of boundaries, establishing legislation, and founding histories. The Park Service's own founding histories and boundaries are too often construed as constraining, rather than facilitating, the presenting and interpreting of history. Histories in and of the parks are often trapped in confining, static boxes. The inflexibility of interpretive and management plans has the same effect.

Finding 11. Fixed and fearful interpretation. NPS's interpretive approach has tended to focus on fixed and final conclusions or "themes" that are supposed to guide interpretation over the long term. This approach reinforces a tendency toward "defensive history" that seems to stem from a certain timidity in the face of controversy or criticism. These dynamics predispose NPS to underestimate visitors and view them as people to be instructed rather than listened to and engaged.

Finding 12. Civic engagement, history, and interpretation. NPS's approach to civic engagement—while laudable in many respects—misses many opportunities developed by other cultural institutions to enrich civic life and discourages more creative civic platforms through which history can connect with interpretation in ways we suggested earlier in this report.

enhance history practice and spread ideas and knowledge. In neither area is NPS presently mobilizing these strategies to best effect for history.

Finding 9 describes the irony that, despite a palpable reverence for longstanding agency practices and traditions, NPS has been surprisingly slow to deeply engage its own history. Findings 10, 11, and 12, meanwhile, discuss specific ways in which historical interpretation is constrained by inflexible conceptualizations and approaches that do not take maximum advantage of emerging ideas and methods that are transforming history practice and history-based civic engagement elsewhere.

This report makes or endorses nearly 100 recommendations to improve history practice in the NPS. In some cases, we seek to underscore recommendations made by the National Academy of Public Administration (NAPA), the National Parks Second Century Commission, and National Parks Conservation Association (NPCA), whose thorough and impressive studies yielded many important observations and insights. In many cases, we have adopted and advanced recommendations our NPS informants first proposed.

Among the key recommendations, we join NAPA, Second Century, and NPCA to advocate a concerted effort to invest in adequate staffing and restored funding for history (recommendations 1.1, 2.2, 3.4, 4.1, 4.2, 6.1). We urge NPS to reopen lines of consistent connection between history and interpretation in every way possible. This might take practical form of scoping cultural resources studies to include interpretive deliverables, and reconfiguring interpretive planning to incorporate the findings of historical resource studies (1.3). We propose formal and informal mechanisms to improve communication and reduce isolation both within and beyond the agency (3.2, 3.3, 3.5). We suggest that NPS revisit position qualifica-

tions (4.5) and essential competencies (1.4), study the agency's historical employment patterns for historians (4.1), distribute historians more widely across the agency (4.1, 4.6), and take other steps to ensure that additions to the staff are adequately trained for their work. We urge that existing staff be supported in pursuing necessary, ongoing professional development (4.2–4.4). We endorse recommendations made by the Second Century Commission to establish conduits for innovation (3.1), and work to cultivate an ever-more-diverse workforce (5.1, 5.2).

We encourage efforts to maximize synergies with an array of external partners, from colleges and universities to local community groups (7.1, 7.2), and to harness the power of technology to facilitate interpretation and conversation, with visitors, peers and partners (8.1). We recommend ways to make NPS scholarship more widely available, to disseminate knowledge cultivated within the agency more broadly (8.2–8.5). We describe ways to engage the agency's unique history and to improve internal documentation (9.1, 9.3).

With greater attention to the agency's own history, we envision ways for parks to adopt a more reflexive posture, interpreting their own pasts and engaging in more challenging and relevant interpretation with visitors (9.2, 10.1, 10.2). And we suggest several ways in which historical interpretation can be better connected with wider aims of civic engagement that is built upon engaging multiple perspectives and listening more closely to visitors (11.1–11.3, 12.1).

We make two cross-cutting recommendations to bring together leadership empowered to implement the best and most useful of the suggestions offered here: a History Leadership Council (recommendation 1.2), comprising the agency's most talented and influential historians and interpreters, and a History Advisory Board (2.1), comprising the nation's leading public history professionals from beyond the agency—the most innovative curators, the most insightful scholars, the most savvy administrators. With these two bodies providing much-needed leadership, other needs (dissolving internal barriers and fostering interconnection, better engaging the agency's own history, and learning of and from some of the most exciting developments both within and beyond the agency) should fall into place.

We conclude by enjoining the OAH and the history profession more broadly to embrace and enlarge their efforts to support history in the NPS, through expansion of the partnership that produced this report and through other creative efforts to make common cause in the interest of rearticulating a reinvigorated public and civic role for national parks-based history for a new era.

A conversation with the authors

GWF: *What was the most challenging part of doing this project?*

DT: The greatest challenge was to write survey questions that would invite people who practice history in diverse ways and in isolated places to talk about their experiences and then to listen to those diverse voices and write a report that would convey an approach to history

that both draws on recent practices outside NPS and connects staff across the Service. Such an approach needed to provide a common platform for those who are called *interpreters*, *historians*, *preservationists*, and *educators*. And it needed to grow out of what is unique—and possibly transformative—about experiencing history at the sites where people faced extraordinary challenges and did remarkable things. We ended up offering elements for such an approach on pages 27–29 of the report.

GN: I agree with David: devising a survey to be sent to NPS historians and those in history-related positions. As we imagined this survey, it would provide us with the “insiders” views on how well history was practiced in the service, what challenges they encounter on a daily basis, how the system’s culture might be improved, and much more. We needed a survey that was comprehensive yet not so long that it would intimidate the overworked men and women whose views were essential to writing this report. It took far longer than we imagined, and it was far more complicated, to reach a total of 26 questions. The 544 responses we received were of fundamental importance to writing the report.

MM: Mastering the complexity of NPS policies and procedures was certainly challenging. Some elements of NPS history work are invisible to the public eye and took a good bit of study to understand, while others (like the division between CRM and Interpretation) seem downright counterintuitive; all along the way I worried that we were missing some essential directive, policy or procedure that would make a given recommendation redundant, moot, or impossible. The sheer size of the NPS and the dispersed nature of the organization was a challenge as well; we seemed always to be learning almost by accident of initiatives or reports that were underway in some corner of the agency. There were just far too many occasions to send a note out to the team with a subject line like “Has anyone seen this?”

AW: The central challenge, as I see it, was deciding on appropriate boundaries for our work, both intellectually and practically. What is meant by “history” in a National Park Service context? Who count as “historians”? How could we think about “history” in the NPS without necessarily accepting the bureaucratic boundaries (e.g., the division between Interpretation and Cultural Resources) that so profoundly shape history work in the agency?

At a practical level, we had to answer these questions in order to design a workable survey instrument about “history” to send to said “historians.” But, neat answers were not forthcoming, so our work—from the survey forward—entailed unavoidable compromises.

People doing “history” in NPS work under vastly different conditions with very dissimilar imperatives and work products, depending on whether they work in cultural resources management or interpretation, or within a national park unit, a regional office, Washington, or an “external” program such as the National Register program. Attempting to talk to them all about a vaguely coherent “something” widely thought to constitute NPS “history” proved sometimes too difficult.

In the end, we took a hybrid approach. We surveyed a broad swath of NPS professionals who appeared to be doing history-related work and asked them about a somewhat nar-

rower set of activities more likely relevant to *park-based* history. Containing many open-ended questions, our survey offered those whose work was not primarily park-based to contribute; we supplemented these responses with additional personal narratives solicited from a smaller group of historians. Still, we know that the survey and final report did not fully capture the labors of some historians in regions, at WASO, in various support centers, or in the external programs.

Our difficulty in integrating all of the history work we found was in itself a lesson about how fragmented and disconnected historical work in the NPS has become. It showed us how much “history” needs articulate advocates who can make a case for its value across the agency, and how crucial creating more opportunities for cross-fertilization and collaboration across internal divisions is.

GWF: *What was the most startling finding?*

AW: For me, the most alarming realization was that a large part of what counts, to most observers, as “history in the National Parks” (historical interpretive work) has only tangential and sporadic connection to history as an arena of professional education and practice, or to the expertise of graduate-trained, credentialed historians either in or outside the agency.

Professional historians across the agency seem not to be routinely invited to review historical publications, exhibits, films, or programs planned and produced by NPS. Indeed, “peer review” by historians of NPS historical output in the interpretive realm seems spotty, at best. Meanwhile, the professionally produced historical research the NPS does sponsor (e.g., administrative histories, historic resource surveys, etc.) is not used, in a regular, predictable way, in historical interpretive activities. The almost willful detachment of NPS history “interpretation” from professional historical expertise is surreal and was hard for us to grasp. “Don’t all historians do interpretation?” one of us asked in a meeting about the report. Not in the National Park Service. And the separation is perpetuated and enforced by agency structures (especially the division between “interpretation” and “cultural resources,” discussed at length in the report) that render what seems to us like a natural collaboration nearly impossible in many cases.

Because of this separation, the agency fails to take advantage of many opportunities for engaging the public in a richer, more vibrant history and exposes itself time and time again to the danger of making glaring, even damaging missteps in its historical presentations and statements. These errors work at cross-purposes with the agency’s stated desire to broaden its relevancy to new audiences in the face of changing American demographics, and to provoke and challenge all visitors to think about a dynamic past in new ways.

DT: Yes, I was startled to discover over and over how interpretation was understood and practiced differently by “historians” and “interpreters”—often in isolation from each other—in the NPS. We were so struck by this divide that we made it our first finding in the report. As a partial result of that isolation both disciplines shy away from the mission Freeman Tilden projected for interpretation in the NPS—to “provoke” people to see themselves and experience the world in new ways. The challenge of what it would mean to provoke visitors

will require historians and interpreters (inside and outside NPS) to collaborate as they explore what their respective disciplines have to contribute.

MM: One memorably startling moment for me personally was opening an old issue of [the journal] *CRM* in the course of the research and discovering that NPS historians had initiated an almost identical survey some twenty years earlier. Imagine my dismay to find this 1988 initiative, entitled “Shaping the History of the NPS History Program,” posing almost identical questions. This turned up long after the scope of work calling for our survey was drafted, and long after our own questionnaire had been so painstakingly crafted, and yet no one had mentioned this over the couple of years we had at that point been underway, and our effort to turn up replies to or analysis generated from this effort located only a handful of memos. Having spent days holed up in a Bloomington, Indiana, conference room hammering out the subjects and phrasing of our own questionnaire, it was disheartening and sobering to uncover this other survey, and to realize how very possible it was that our own work could be likewise forgotten. From an analytical standpoint, it pointed up the surprising lack of institutional memory that undermines the work of historians in the Park Service, and underscored the challenge that lay ahead if we wanted our own findings to get more traction.

GN: I was greatly surprised, and much dismayed, to find how few dedicated historian slots (0170 series) were currently filled in the Park Service and how the number has declined over the last decade, largely through budget starvation, even as the number of park sites has increased. This number is discouragingly small when one considers that almost two-thirds of the park sites are history-centered. A reservoir of well-trained recent PhDs in history remains to be tapped because positions in colleges and universities have been sharply curtailed in recent years and because the number of aspiring professional historians has tilted toward public history positions.

GWF: *What is the area of your greatest concern?*

GN: The chronic underfunding of “America’s best idea,” as Wallace Stegner phrased it. The Second Century Commission Report put great emphasis on this, arguing that while “the national parks are greatly admired and the NPS is arguably the most popular agency in the federal government ... the current funding is fundamentally inadequate.... For decades, budgets for park operations have fallen far short of basic needs,” and today represent “less than one-tenth of one percent of the federal budget.” To be sure, many of the recommendations our committee has made can be implemented without additional funding, and we know that the prospect of additional funding in the next few years is very unlikely. However, our vision for how history might be practiced throughout the service, which would benefit the millions of visitors each year, cannot be realized under current funding restrictions.

MM: I concur with Gary: it’s the chronic underfunding of the history program. NPS cannot continue to ask its hard-working employees to continue to perform above and beyond the call of duty while draining history programs of fundamental resources. The gap between the

size of the investment in natural vs. cultural resources is well documented; the agency simply must restore equity across those two vast and equally imperative enterprises. People always say “this is not the right time” to ask for more money—they’ve been saying that for decades. At some point, the leadership simply must step up before the losses are irreparable.

DT: My greatest concern is with the frequent fragmentation of different practices of history into specialized silos and the related isolation of those NPS silos from rich, ongoing debates, experiments, and developments in museums, the academy, and schools outside NPS.

AW: Yes, I think NPS unnecessarily hobbles *itself* by clinging to the organizational structures that separate (and privilege) “interpretation” over expertise in history; this, in my view, is the greatest *cultural* and structural challenge the agency should address. But I am even more worried that the ongoing drain of funding from public programs renders it unlikely that NPS will, in the near future, have the resources it needs in *any* area, not just history.

Even in this context of agency underfunding, history in the NPS has suffered disproportionately. The relative investment in natural resources, with its emphasis on science, has been more robust. Overwhelmingly, our survey respondents called for more hands on deck. It is obvious to me that the agency desperately needs more historians with graduate training in *all areas of its historical practice*—from interpretation to preservation and research.

To fully recommit to history, I think NPS needs a service-wide “history initiative” on par with the Natural Resources Challenge that would fund agency-wide hiring of a large cadre of historians who would bring with them the kinds of historical expertise, ways of thinking, connections with larger practice, and insights we have endorsed. In the context of the much-lamented current surplus of well-trained (often PhD-holding) American historians, the agency has a golden opportunity to hire supremely well-educated professionals. I worry that such an initiative is, however, unlikely in the current political and fiscal climate.

GWF: *Where did you find the greatest promise?*

DT: This is easy. The greatest promise by far comes from the many extraordinarily creative and dedicated people in NPS who explore and create ways of overcoming the challenges described above. They are engaging and presenting history as creatively as it is being practiced anywhere in the world. Their achievements are the more remarkable because their work is sometimes made harder by the structures and larger culture of NPS.

MM: Yes, the passion so many employees bring to their work is nothing short of inspiring. My favorite quote in the study is from the observer who said that where NPS is strong, it is just lucky. NPS is fortunate indeed to have men and women in the ranks who undertake extraordinary extra effort to personally close the gap between what is and what could be.

GN: I agree: the inspired work at many NPS sites. One hefty part of our report—we titled it “Lamps along the Path: What’s Going Well with History in the National Park Service”—points to a dozen challenges at history-related sites where the superintendent and talented

staffers have found a way, usually with pinched budgets, to experiment, innovate, build engaging programs that draw visitors who in earlier days would not have found much that touched their lives, draw upon today's burgeoning technology, reach out to K-12 children with excellent curricular materials, form partnerships with local colleges and universities, negotiate the boisterous waters of civic engagement, and more. We were at pains to throw light on the many examples of exemplary work accomplished at specific sites because they are models of what can be done, if effectively disseminated, at other sites. "Best practices" is a commonly used phrase in museums and other places where the public comes to learn and engage in what makes an active citizenry invaluable in a democracy. We wanted our report to tip our hats to some of the Park Service's best practices.

AW: The parks themselves (as well as the NPS's archives and museum collections) represent an incredibly rich resource. Great promise also lies in the dedication of NPS employees to the mission of the National Park Service. Especially notable is the commitment of the agency's small contingent of professional historians who, if empowered and better connected and supported, could begin to lead significant change.

As Gary notes, our report highlights "Lamps on the Path" where creative historical thinking is flourishing, and where good models are already in place for park historical programs to build on. Much of the historical research that NPS sponsors, too, is of very high quality. Projects and programs that have built durable networks and ongoing partnerships among historians inside and outside the agency (such as the NPS-OAH agreement and various NPS-university collaborations) offer exciting examples of how to leverage scarce resources.

GWf: *Of all the recommendations found in Imperiled Promise, what one or two measures can and should be implemented to effect substantive change across the system within the next three to five years in order to generate steam for organizational change within the NPS?*

GN: First, Recommendation 1.2: create an internal History Leadership Council composed of historians, interpreters, curators, and other NPS staff in key history-related positions. Such a council can address many other recommendations, foremost among them to "develop strategies to bridge the structural divide between cultural resources and interpretation and engage historians more fully in interpretive planning." The council can also play a key role in spreading the word of model programs at particular parks and playing midwife to promising programs still in an incipient form. The council could easily help implement such recommendations as 1.8, 3.2, 3.3, 3.6, 4.3, 4.8, 5.3, 5.7, 7.1, 9.2, and others. Second, Recommendation 2.1: create an external History Advisory Board that would work closely with the internal History Leadership Council while providing clout in dealing with congressionally mandated budget shortfalls, thinking broadly about long-range planning issues, helping to facilitate partnerships with relevant national organizations, and "articulating and pursuing a coherent vision and concrete plans for enhancing historical work across the agency."

MM: There is no reason that the OAH cannot immediately begin to require some of the changes we propose to the contract work it facilitates in its cooperative agreement with the agency, particularly those that work to better integrate CRM and interpretation. I personally would like to see the chief historian's office, again perhaps working with OAH, embrace the recommendations related to the dissemination of NPS scholarship, and look for ways to place the best of this work in vehicles (like JSTOR or GoogleBooks) that historians based in colleges and universities encounter in the everyday course of their research.

But the two core recommendations, concerning the creation of a History Leadership Council (composed of leading lights within the agency) and the History Advisory Board (to engage the insights of the nation's most innovative history practitioners) have the greatest potential for meaningful change. These should be developed right away, and should have direct ties to the NPS leadership at the national level, including the NPS National Leadership Council and the National Park System Advisory Council.

AW: To prevent *Imperiled Promise* from joining the "stream of reports" we described in Part 1, I think it is imperative that some specific entities be charged with working to implement the changes we recommend. *Imperiled Promise* suggests, and I concur, that the ongoing work be taken up by a new external History Advisory Board and an internal NPS History Leadership Council. These groups can help historians in and outside the agency to continue to advocate for, and build a community of support for, top-flight history practice in the agency. The History Leadership Council, if designed to bring together historians from both cultural resources and interpretation, could begin work on bridging the chasm between those groups. That project should be their top priority.

Identifying the right participants for both bodies and organizing their work will require committed leadership and hours of time. To that end, restoring full staffing at the chief historian's office at WASO and charging the staff with facilitating the work of these bodies seems to me essential. Additionally, the chief historian's office, in concert with both of the above groups, needs to visibly advocate for history (and this report) to NPS top leadership (the National Park System Advisory Board and NPS National Leadership Council), and to regions and superintendents. Because NPS operates as such a top-down agency, signals from the top of visible public commitment to change will be critical.

DT: Meaningful organizational change will need to come both from the bottom up and the top down. The real need in either case is to engage creative practices outside NPS and adapt the most relevant ones to everyday life within NPS. From the top down, the creation of a History Advisory Board (2.1) composed of creative practitioners from academic and museum worlds outside NPS, and a History Leadership Council (1.2) composed of creative practitioners within NPS, offer unlimited potential, if composed of the most creative people, to lead a servicewide rethinking of how history is practiced within NPS. One focus for such an initiative could be to task a "cross-silo task force" to develop new methods for training interpreters (Recommendation 1.4).

From the bottom up, I would promote informal processes that encourage NPS staff to engage innovation within and beyond NPS. This could begin with a strong push to imple-

ment Recommendation 7.2, to encourage sister cities-like informal and ongoing collaborations—monthly conversations over coffee or beer—between individuals within NPS and those at nearby colleges, museums, or other institutions. I would likewise initiate a second category of initiatives (Recommendations 11.2, 11.6, 12.1) through which staff members would establish groups regularly to discuss proposals in books with huge cross-silo implications for NPS practice (such as Simon’s *Participatory Museum* or *Letting Go: Historical Authority in a User-Generated World*, edited by Adair, Filene, and Koloski) or to converse with practitioners outside NPS or to visit pioneering museums. They could modify such ideas and practices to meet needs at their parks or distill them into servicewide recommendations for change. A modest investment in such initiatives could bear great fruit.

GWF: *Of all the recommendations found in Imperiled Promise, which one recommendation, long-range or short, would, if implemented, best serve the NPS and the American taxpayers?*

AW: Recommendation 4.1, “Undertake systematically to restore and augment the agency’s professional trained history workforce at all levels.” Providing funding for a focused hiring initiative to increase the ranks of historians across the agency is crucial to recommitting the agency to history as one of its core priorities.

While NPS efforts to train existing staff in historical methods, scholarship, analysis, and interpretation should be encouraged, graduate schools are already turning out—in the midst of a major job shortage—hundreds of historians who have this training. If NPS could capture some of this current surplus, the agency and the public would benefit. Attempting to retrofit an agency that lacks a critical mass of historians by trying to bring non-historians to professional levels can be little more than a temporary, emergency response to a deep structural problem. The shortcomings of this latter approach would, it seems, be obvious if we were talking about biologists or other highly trained professionals within NPS.

GN: This priority also is expressed in Recommendations 6.1–3: to “seek funding to restore the number of cultural resources FTEs [full-time employees], now at the lowest point in more than a decade, to the pre-2005 level,” to “increase funding levels for the Historic Preservation Fund to support state, local, and tribal governments to guarantee that prehistoric and historical resources are properly preserved,” and to “seek additional funding ... to replace broken, dilapidated, out-of-date, and inaccurate media.” These related recommendations echo those of the Second Century Commission Report, which warned that “significantly increased revenues are needed simply to meet immediate priorities” and that “additional sources of income and new funding systems must be established if the parks are to surmount the challenges they face, and if the nation is to benefit from the opportunities the parks offer to build a healthier, wiser, more sustainable society.” Taxpayers would be getting a bargain if each American for just one year contributed about \$25 to NPS, which would in a single stroke remove the \$8 billion backlog of deferred maintenance and construction projects. (This is roughly the cost of 17 F-22s, which are not wanted by the Department of Defense and do not fly properly to the point that a number of pilots refuse to take them off the ground.)

MM: Here too, I must concur with Gary, and Anne, that, at the end of the day, the most critical recommendations are those urging the agency to “seek funding to restore the number of cultural resources FTEs, now at the lowest point in more than a decade, to the pre-2005 level,” to “increase funding levels for the Historic Preservation Fund to support state, local, and tribal governments to guarantee that prehistoric and historical resources are properly preserved,” and “seek additional funding . . . to replace broken, dilapidated, out-of-date, and inaccurate media.” Though there are many, many budget-neutral recommendations and proposals that would require only modest investment, the bottom line is the bottom line: NPS simply has for too long shorted investment in its cultural resources, and now must attend to what is essentially deferred maintenance of its cultural resources workforce and infrastructure.

DT: At a time when citizens are mobilized behind fixed positions, a time of political gridlock, NPS could play a major transformative role by pursuing initiatives suggested as Recommendation 12.1 (and closely related 11.2). By presenting programs and by modeling open-ended interpretation and embracing multiple perspectives on the past, NPS can advance a better civics. The most exciting possibilities for civic transformation occur where staffers and visitors encounter difference—from their own worlds, their own times, their own experiences, people whose understandings of history and civics differ from their own. Good initiatives can facilitate people in developing new civic skills: to uncover assumptions, to suspend judgment, to practice empathy toward others, and to embrace multiple perspectives. At the end of his life, David Larsen [training manager for interpretation at NPS’s Mather Training Center] believed that the greatest need for creativity in NPS lay at the intersection between visitor experience and civic engagement so as to advance more transformative possibilities in each. The focus on visitor experience is too much on teaching lessons and telling stories to visitors. The focus on civic engagement is too often on recruiting partners to complete tasks a park had identified on its own. Fears of controversy and a loss of control frequently retard the transformative potential of NPS civic initiatives for sharing authority and co-creation.

GWF: *Finding #1 in Imperiled Promise deals with the History/Interpretation Divide. Would you elaborate on Additional Recommendations 1.5 and 1.8, which seem designed to bridge the Great Divide? Specifically, how should the regional offices be restructured to facilitate an enhanced collaborative process regarding interpretive efforts, AND what kinds of “opportunities” would lead to “formal collaboration on planning processes and informal conversation”?*

MM: Any restructuring of the regional offices is probably too technical an issue for us to speak to. But I’d like to see the regional historians have a higher profile. At UMass Amherst, we were pleased to enjoy warm relationships with both Louis Hutchins and Paul Weinbaum—there are no better representatives of what scholarship in the agency can and should mean than those two outstanding historians, and it was greatly beneficial to our program to get to know them. I would encourage the regional historians to make the effort to get to the campuses of any universities and colleges that might make good partners on NPS projects.

Perhaps OAH could facilitate the visits of regional historians to campuses just as they do academics to parks.

AW: While each regional office is structured differently, it appears that most have divisions of Interpretation and Cultural Resources and that, in most cases, the credentialed historians they employ (particularly in the 0170 series) work in Cultural Resources and have little systematic connection to Interpretation. These regional historians are, in that regard, an underutilized resource. Re-envisioning the regional historians' role as more expansive and inclusive of consultation and review on interpretive projects would help build bridges between interpretation and historical research. A modest expansion of the staffs of regional historians' offices (accomplished by hiring new, well-credentialed historians from outside the agency) could turn those offices into resources that could assist both preservation and historical interpretive efforts across many parks that are unlikely to hire their own historians in the near term.

With regard to Recommendation 1.8, creating more opportunities for crossover between interpretation and cultural resources at all levels, this is an area where NPS staff should be encouraged to innovate. I could imagine that this crossover might be both formal and informal. Some ideas could include: encouraging horizontal conversations across division lines (even at the level of informal lunches and coffees); using social media or the proposed "Commons" within NPS Training and Development's just-being-developed "Cultural Resources Academy" to foster cross-division conversations; scoping cultural resource studies to be responsive to interpretive needs; planning follow-up meetings to discuss the interpretive implications of cultural resource studies; convening interdisciplinary teams around themes, anniversaries, moments in park planning or research life cycles, or at other moments where history's unfinished business impinges on visitor interaction or site management; identifying key leaders in interpretation who could be sponsored to attend and present work at pertinent professional history conferences; requiring that credentialed historians with subject-area expertise be included on every planning team for NPS interpretive products or public initiatives in which history is a major component; and maintaining a more dynamic, flexible "historians directory" in NPS that is as inclusive as possible of both historians in the 0170 series and credentialed historians in other series who would be encouraged to think of themselves as a community and to communicate via the Commons, conference attendance, and social media.

GN: The solution, I think, is not so much the restructuring of regional offices but rather a clear-eyed recognition of advantages of internal conversation and collaboration at particular parks and quarterly or semi-annual interpark gatherings for exchanges of ideas and progress reports on new initiatives. Something as simple as brown bag lunches at individual parks can begin to bridge the history/interpretation divide with hardly any expense. Regarding interpark get-togethers, at the OAH-NCPH 2012 joint conference in Milwaukee we heard, at a session of park historians, that in the New England part of the Northeast Region, meetings are held quarterly among historians and cultural resource personnel. The meetings migrate

from one park to another so the driving to these gatherings is spread out among the participants. This seems like a low-cost, high-value way to proceed and certainly apropos our recommendation.

DT: I agree with Gary's broad approach to this question. Extending his point, it would be great if some regions were restructured geographically so that historians are not in Boston, interpreters in Philadelphia, or offices are far apart even when they are in the same city—or park. Collaboration will most naturally begin with a shared embrace of an interpretive approach (open-endedness, multiple perspectives) or to solve a shared task (to develop interpretation at a park or to train interpreters or develop a new civic approach).

GWF: *What is the greatest challenge to implementing the recommendations contained in the report: mobilizing political support, funding, agency culture, or something else?*

GN: It is possible that greater political support is forthcoming but only if President Obama is re-elected and has a Democratic Congress with which to work. This is unlikely, and so is the prospect for any significant increase in the NPS budget in the next few years or even more. This being the case, the agency will have to look inward to bring about the cultural changes that our committee has recommended. In this situation, inspired leadership is at a premium—at the very top with NPS Director Jarvis, at the next level with regional directors, and, one level down, with the superintendents at the 397 parks.

DT: The fragmented and hierarchical structures, the isolation of NPS from broader currents, and the undercurrent of fear that discourages innovation are equally challenging. It would make a major difference if the leaders—secretary, director, regional directors—make clear that they will support innovators who encounter public criticism.

AW: The two greatest challenges are, I think, (1) finding the new funding needed to bulk up the history workforce, and (2) addressing the deep-seated tendencies in agency culture that privilege interpretation over historical expertise and that actively resist the infusion of historical expertise and scholarly perspectives into interpretative efforts. It is long past time to leave behind the notion that professional historians cannot relate to the public. Creating a culture in which regular, sustained, and ongoing collaboration between skilled historians (as well as other cultural resource professionals) and able interpreters is the norm, rather than the exception, will significantly improve the agency's educational practices and products.

MM: Given the number of previous reports that have made similar observations and recommendations, one significant challenge is a tangible pessimism that things can be any different this time around. At the OAH session at which the study was launched, Seth Bruggeman asked us what will make our report any different from those that went before; Anne replied, simply, "You." And that's right—we're depending on energy from below, above, and beyond to create this change. I recall a moment during one of our meetings with NPS historians when a voice on the phone (I'm afraid I don't recall whose) at the end of the conversation

told us that some of her colleagues had received our survey but chose not to fill it out, figuring it was a waste of time—just another study that would sit unread somewhere. After hearing us quote constantly from the survey responses as we reported our preliminary findings, she was eager to assure them that we really were listening. And that’s what I hope makes this time around different: that the voices of 544 NPS employees are front and center, articulating their own hopes, fears, aspirations, and disappointments from the agency’s front lines.

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A Sobering Report—Imperiled Promise: The State of History in the National Park Service

Lisa Mighetto

READING *IMPERILED PROMISE* IS A SOBERING EXPERIENCE. As its title suggests, this report warns that history, which is central to the National Park Service's mission and to visitor experience, is languishing. While some park units have demonstrated initiative, innovation, and intellectual rigor in their historical interpretation—engaging the public and local communities in meaningful ways—this report concludes that overall the agency's history program faces serious challenges, ranging from lack of funding and adequate training to bureaucratic inertia. History, according to the authors, "is not flowering on the whole" (53). The substantial section devoted to "Lamps along the Path: What's Going Well with History in the National Park Service" does little to offset the report's concern about the agency's lack "of investment in history work" and its failure "to capitalize on the many exemplary programs and fruitful approaches to the practice of history at individual sites" (118).

Much of the documentation for this study is derived from surveys sent to agency staff with some responsibility for history. The response rate seems high: 544 surveys completed out of approximately 1,500 distributed, yielding an impressive 800 single-spaced pages of text. Clearly these respondents wanted to be heard—and the use of survey excerpts throughout the study, allowing those on the front lines to speak in their own words, is very effective. As author Gary Nash explained, the survey responses "were of fundamental importance to writing the report."

The authors also interviewed NPS personnel and consulted various reports. What is largely missing is the perspective of visitors—the primary audience for historical analysis at the parks—although gathering information from this sector likely was beyond the scope of the project and would have been difficult to document in a cohesive manner. As it is, the authors have done an admirable job coordinating responses from NPS historians and other personnel from disparate units, which include national parks as well as battlefields, historic trails, seashores, riverways, recreation areas, and more. The various types of units and the different positions of the staff responding to the survey complicated the compilation and analysis of results. It is interesting to consider whether the complaining tone of some of the

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respondents resulted in part from the survey format itself. Would scientists in the NPS voice similar complaints if sent a similar survey on the state of science in the agency?

Some of the study's conclusions, such as the need for additional funding, are predictable, while others are surprising and revealing. I had not realized the extent of the division between interpretation and history, for example, or the consequences of moving the History Division from the Branch of Research and Education to Cultural Resources Management. The explanations of what is holding the NPS back are numerous and include the structure of the agency, fear of controversy, lack of leadership, legal constraints, preoccupation with regulatory compliance, isolation within the NPS and from larger communities, and more.

One alarming finding was the misperception that history is static—that once a narrative is completed it need not be revisited. Although the pervasiveness of this view within the agency is unclear, the authors report a lack of understanding among some NPS employees that history is a dynamic process that must be considered in light of ongoing research framed by new questions and multiple viewpoints. This is what makes history such an exciting field of study, vital to understanding the world—and it is that perspective that will engage visitors. As one respondent observes, the NPS “needs historian/researchers who are willing and able to dig for the deep, personal stories that are associated with each park, and who can then work with interpreters who can bring those stories to life ... and show their relevance to our society (and the individual visitor) of today” (73).

Another, related issue is the undervaluing of professionally trained historians and what they can contribute to research, interpretation, and dialogue with the public. “This important work should not be relegated to the self-trained or avocational historian,” the authors note (68). Graduate school prepares historians to examine primary sources, synthesize materials, assess validity of documentation, ask thoughtful questions, and provide context. Despite an abundance of trained and credentialed historians looking for work, the NPS, like other government agencies, does not always employ rigorous standards in its history work.

Also noteworthy is the concern that parks are sometimes constrained by their enabling legislation, which can confine the presentation of historical themes to the era specified in park creation and to the area within its boundaries, ignoring connections to larger stories outside the unit. Yet the interests and perspectives of visitors develop over time—as does historical scholarship—and history programs need the flexibility to respond as well as to provoke new insights and ongoing dialogue.

De Soto National Memorial, a small unit located in Florida, serves as a striking example. Its enabling legislation in 1948 authorized a memorial to the conquistador celebrating his expedition and landing on Tampa Bay. Park interpretation included a reenactment ceremony featuring conquistadors rowing ashore and planting a flag on the beach. As a child I attended many of these reenactments and can attest they were memorable, sometimes contested, spectacles that engaged a broad spectrum of the community. One year a conquistador fell from the boat, sinking into the water in his cumbersome regalia; on at least one occasion part of the regiment marched off in the wrong direction. The local paper routinely reported these mishaps; de Soto's expedition seemed beside the point. Similarly, my family and friends were attracted by the tradition and the pageantry of the event. For us it was never real-

ly about Hernando de Soto—and I recall protests about the celebratory tone of the reenactment.

By the late 1990s several professional historians and de Soto scholars had expanded the park's interpretation to include the perspective of native peoples and a revisionist interpretation of the conquest of 1539. Although appreciative of the sensitivity to multiple perspectives and to the social consequences of de Soto's expedition, the authors present this example as a missed opportunity to move beyond the focus on the historical figure and the 16th century to present the park itself as a historical artifact of commemoration and a remnant of an outmoded theory about de Soto's route and landing site. As a result, visitors leave without a sense of the changing scholarship regarding de Soto's expedition or "the dynamics of public memory" (102). This example resonated with me, given my personal experiences with this small park unit. The larger point is that historic sites are ideal places to explore the roles of memory and memorialization as well as the dynamic nature of history, and the NPS should encourage flexibility in interpreting them. Also compelling is the authors' suggestion that the NPS recognize its own role in shaping the history of each park and that this self-reflection be incorporated in interpretation.

The report's recommendations are thoughtful and extensive. Some are practical and seem quickly attainable, such as establishing a competitive award recognizing NPS history practice, and creating an advisory board and a leadership council. Others seem lofty and perhaps unrealistic, at least in the short term. The need for additional funding is a recurring theme, for instance, and the authors concede that the prospect of a significant increase in the agency's budget during the next few years is unlikely.

The report further recommends alleviating the isolation of the NPS from broad currents in historical scholarship by additional partnerships with scholarly societies (such as the cooperative agreement that produced this study), and by more direct contact between scholars and NPS historians. Yet the suggestion that NPS employees meet with historians at nearby colleges, museums, and other institutions for monthly conversations over coffee or beer is tempered by the realization that the NPS operates as a "top-down agency," requiring "signals from the top of visible public commitment to change" (Anne Whisnant's comments). Interacting with local scholars and tapping the resources available in scholarly organizations could remedy the intellectual isolation but might not lead to changes in the agency's structure.

Many of the recommendations include forces outside the NPS's control. For example, participation by NPS historians in scholarly conferences might keep agency employees apprised of new trends in scholarship, but, to be truly effective, partnerships with academics and scholarly societies need to work both ways. "The history profession must also examine itself," the authors advise, "and find ways to strengthen, support, engage, and partner with the agency most central in the presentation of its work to the American public. For far too long, academe's own culture and structure have prevented many talented scholars from engaging with history in the national parks," which contributes to the isolation of NPS employees and encourages insularity within the agency (17). Accordingly, the report recommends steps for the Organization of American Historians to continue and strengthen its collaboration with the NPS.

Many of these recommendations, which include site visits, follow-ups, and expansion of project scopes, will require additional funding. As one author points out, in the end “the bottom line is the bottom line” (Marla Miller’s comments). Yet it is unclear how partnerships with academic historians will convince Congress and high-level officials within the NPS of the value of history and its potential to inspire civic engagement, providing the context essential for understanding current issues and provoking thoughtful dialogue. Historians generally have not been as persuasive as scientists in demonstrating the need for their discipline or for credentials and standards. ““Until the historical profession actively engages policy makers with the importance of sound scholarship, expecting a government agency (even one entrusted with the historic structures and landscapes of the American public) to adhere to professional historical standards ... is unrealistic”” (17). History, as one of the authors points out “needs articulate advocates” (Anne Whisnant’s comments). *Imperiled Promise* does not provide a clear-cut solution, but it’s a start—and the fact that the NPS continues to participate in this discussion is itself a promising sign.

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The Need for Intellectual Courage, the History Leadership Council, and the History Advisory Board

Timothy S. Good

SHE WAS SOBBING UNCONTROLLABLY. One of the National Park Service's finest, most professional employees was so overcome with emotion that, when attempting to brief her colleagues as to what she had witnessed a few days before, she could not maintain her composure. She is an African American, the daughter of a Tuskegee Airman. Her name is Rose Fennell.

In December 2009, the National Park Service Civil War Sesquicentennial group, consisting of National Park Service employees from throughout the nation, gathered at Manassas National Battlefield Park for the first time to plan the National Park Service's commemoration of the American Civil War's 150th anniversary. Over a dozen employees met. Some were in the National Park Service interpretive series. One was African American. None was in the National Park Service historian series, and no academic historians were present.

Nothing better demonstrates the need for intellectual courage, the History Leadership Council, and the History Advisory Board—three vital recommendations in the Organization of American Historians's report *Imperiled Promise: The State of History in the National Park Service*—than the drama that unfolded within this group. In many ways, it mirrored the same controversy that the National Park Service faced with the Liberty Bell Center at Independence National Historical Park. The employees first had to draft a vision statement, a document that would guide the National Park Service throughout the four years of the commemoration, a document that would capture the themes and ideas that the National Park Service considered critical to Americans' understanding of the watershed of its history. In so doing, these employees found themselves engulfed in a debate that has raged throughout this nation from the days of the Civil War until the present, and will probably rage forever.

The employees vehemently disagreed on three points. Should the vision statement include the phrase "Civil War to Civil Rights"? Should the vision statement include the term "African American"? Should the vision statement even include the word "slavery"? The majority of employees expressed fear as to the controversy that they would face from certain groups and organizations if these terms were included in the vision statement. They preferred a vision statement that was not controversial, one that would be accepted by all Civil

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War groups. After extensive debate, the group finally decided to include “African American” but not the phrase “Civil War to Civil Rights” and not the word “slavery.” As one member of the majority later wrote in support of the vision statement, the National Park Service should avoid the terms “slavery” and “civil rights” because they were unnecessary “distractions.”

Abraham Lincoln stood on the steps of the United States Capitol in 1865 and stated, “All knew that this interest [slavery] was somehow the cause of the war.” Ulysses S. Grant, in the final days of his life, in the conclusion of his memoirs wrote that “the cause of the great War of the Rebellion against the United States will have to be attributed to slavery.” Academic historians have overwhelmingly accepted the principle that slavery caused the war. And yet the National Park Service had no intention of including African American slavery in its vision statement.

As word of the meeting spread, many National Park Service employees responded. One wrote, “This all sounds like the South’s ‘Lost Cause’ approach—just focus on everyone’s noble bravery and ignore why they fought.” Another replied, “A woman fails to give up her seat on a bus in Montgomery, Alabama, nine teenagers walk into a school in Little Rock, Arkansas, hundreds of Americans cross an Alabama bridge in the face of billy clubs, tear gas and bull whips, and fifty years later the National Park Service doesn’t have enough guts to stand up for the cause for which they were willing to give their lives.” The African American employees were especially incensed. “I am disappointed also but more determined to continue to speak out against injustice and speak up to remind us (NPS) of what we should be preserving,” one asserted. Another was “dismayed” at the statement while Fennell wrote, “I think that meeting was offensive, heinous, and shocking.”

The National Park Service chief historian, Bob Sutton, a former Manassas National Battlefield Park superintendent, who had been unable to attend the meeting, argued that the “Civil War has no meaning to anyone today, unless we understand where it fits into context—with slavery as the cause and civil rights as the eventual outcome—which are far more important than who shot whom where.” Fennell, the lone African American at the meeting, who lost her composure days later when attempting to brief her colleagues on the meeting’s outcome, and others began to fight for a new vision statement, and in the process, inspired others. Five months later, those insisting on a modified vision statement benefitted from a national controversy that erupted in Virginia. The governor had issued a Confederate History Month proclamation, a proclamation which failed to mention the word “slavery.” He immediately apologized after the proclamation became public, admitting that “the abomination of slavery divided our nation, deprived people of their God-given inalienable rights, and led to the Civil War. Slavery was an evil, vicious and inhumane practice which degraded human beings to property, and it has left a stain on the soul of this state and nation.”

This external event and the continuing internal pressure eventually caused the National Park Service to revisit the vision statement. Sutton was asked to draft a sentence that would include slavery as the cause of the war. However, his draft still required approval from the National Park Service members of the servicewide Civil War 150th committee. Fourteen employees attended a conference call on April 27, 2010, to decide whether the National Park Service would commemorate the 150th anniversary of the Civil War with the former vision statement or the new one. The discussion was divisive. But, like those African American sol-

diers who had so bravely charged across fields 150 years before, and like those Red Tails who had so courageously fought for their country in the European skies, Fennell charged forward as well. The employees sharply diverged on the question of whether slavery was the cause of the war. Fennell asked her fellow employees to identify the war's cause, if slavery was not it. One employee responded, "The firing on Fort Sumter." While technically correct, this reply completely ignored causality. This answer suggested that Edmund Ruffin was simply strolling down the Charleston boardwalk one fine April day when he, by chance, encountered a loaded cannon that happened to be aimed at Fort Sumter, and for no particular reason, pulled the lanyard that inexplicably plunged the entire nation into the cataclysmic trauma of the American Civil War.

After lengthy debate, the vote was taken. It was eight to six. Eight employees voted to have slavery identified as the primary cause of the war, while six voted against it. Fennell had succeeded. The vision statement now included these two sentences: "In particular, the NPS will address the institution of slavery as the principal cause of the Civil War, as well as the transition from slavery to freedom—after the war—for the 4 million previously enslaved African Americans" and the NPS will "deliver meaningful opportunities to understand, contemplate, and debate the events of the Civil War, the Reconstruction Era, the Civil Rights Movement, and their significance today."

However, this entire drama would have unfolded far better, or perhaps have been completely avoided, had the Organization of American's Historian's report on the state of history in the National Park Service existed prior to this controversy, and had the recommendations contained in the report been implemented. The Organization of American Historians should receive the highest praise for this outstanding report. First and foremost, it should be congratulated for the methodology employed. The investigative team did not sequester themselves in a closed room. Instead, they interviewed dozens of the agency's employees and visited numerous national historic sites. For this approach, the OAH deserves the National Park Service's deepest thanks and appreciation. It is only by communicating with employees at all levels of the organization that one can fully grasp the positive aspects and the ongoing challenges for the study of history in the National Park Service.

Three points of the OAH report merit special approbation. First, the authors recommend that National Park Service employees practice "intellectual courage." This is absolutely crucial. We have been entrusted with the care of America's most sacred places, places that are critical because of the controversies that occurred at these sites, whether it is a Japanese concentration camp in California, a massacre site in Colorado, or a high school in central Arkansas.

Second, the OAH recommends the establishment of a History Leadership Council (HLC). This is a laudable recommendation that would provide national leadership for history. It would function best as a mix of interpreters and historians, representing all the regions, and jointly chaired by the chief historian and the associate director for interpretation and education. The collaboration of interpreters and historians at the national level would serve as an example for the entire service, would bridge the disconnect between history and interpretation, and would serve as an internal group to focus on the challenging issues of history in the National Park Service.

Thirdly, the OAH recommends the establishment of a History Advisory Board (HAB). This board would provide a permanent connection between the study of history in the National Park Service and the academic community, a permanent connection that is so desperately needed. Former Chief Historian Dwight Pitcaithley deserves special praise for accomplishing the first crucial step in this relationship by completing the cooperative agreement between the National Park Service and the OAH, an agreement that formalized the relationship. The establishment of the HAB is the next logical step. This board would serve as the external group to guide the National Park Service with the expertise of professional academic historians.

Had intellectual courage permeated the National Park Service, had the HLC and the HAB existed in the fall of 2009, the agency would have avoided the Civil War vision statement controversy. The HLC and the HAB could have provided the much-needed guidance, fortitude, and leadership. And it is this leadership that all of us need in the National Park Service, and in the nation, and all of us would be better for it.

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Engaging New and Diverse Audiences in the National Parks: An Exploratory Study of Current Knowledge and Learning Needs

*Rebecca Stanfield McCown, Daniel Laven, Robert Manning,
and Nora Mitchell*

Introduction

IN RECENT YEARS, THE NATIONAL PARK SERVICE (NPS) HAS INITIATED PROGRAMS to more effectively engage diverse communities across the national park system. To better understand what constitutes good practice, the Conservation Study Institute conducted a multiphase research and evaluation project in partnership with the University of Vermont, the NPS Northeast Region Office of Interpretation and Education, and Boston Harbor Islands and Santa Monica Mountains national recreation areas.¹ This paper reports on research that examined the current state of knowledge and learning needs of the agency with respect to relevancy issues among new and diverse audiences.

Theoretical context

Under-representation of diverse racial and ethnic groups in national parks has been an issue for many years. Research has found consistent and substantial evidence of the under-representation of racial and ethnic minorities in outdoor recreation, particularly in national parks, and has also examined potential reasons for this under-representation and barriers to participation (Floyd 1999; Gobster 2002; Solop, Hagen, and Ostergren 2003; Shinew and Floyd 2005). If communities of color continue to be under-represented in the national parks, it will diminish the ability of national parks and NPS to maintain their relevancy in an increasingly diverse American society.

The NPS Northeast Region convened a conference in 2005 and published an associated report, titled *Keeping Parks Relevant in the 21st Century*, which developed a framework and identified key themes for addressing issues of diversity (Mitchell et al. 2006). More recently, relevancy, including issues of diversity and inclusion, has been highlighted as a top priority for NPS by Director Jon Jarvis.

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Research has shown that there are substantial differences in national park visitation based on race and ethnicity. A nationwide survey conducted in 2000 found that 13% of blacks and 27% of Hispanics reported visiting a national park in the last two years, compared with 36% of whites (Solop, Hagen, and Ostergren 2003). A review of surveys conducted at national parks during the summer of 2010 showed that an overwhelming majority of visitors, often as high as 90% or more, are white (University of Idaho Parks Studies Unit 2010). Moreover, the workforce of NPS is approximately 80% white (Partnership for Public Service 2007).

Research has begun to explore potential reasons for under-representation of racial/ethnic minorities in national parks and outdoor recreation, identify barriers to visitation among racial/ethnic minorities, and understand differences in recreation choices and preferences between people of color and whites (Manning 2011).² Research has focused on socioeconomic differences between communities of color and whites (Johnson and Floyd 2006), differing cultural norms and socialization practices among communities of color (Ho et al. 2005), and contemporary forms of discrimination impacting communities of color (Philipp 1999; 2000) as potential reasons for under-representation of communities of color in national parks (Floyd 1999). Barriers to visitation by people of color can include transportation, knowledge, expense (both internal to parks and external), and the interpretative themes of parks (Payne et al. 2002; Tinsley et al. 2002).

Study methods

This study used qualitative, semi-structured interviews with NPS staff and select individuals from other organizations. The focus of these interviews, and foundation of the semi-structured questions, was to identify or determine (1) past and present programs designed to enhance cultural diversity in national parks, (2) the success or failure of those programs, (3) reasons for success or failure, (4) NPS goals and objectives regarding relevancy in the 21st century, and (5) reasons for under-representation of communities of color in national parks.

A total of 25 qualitative interviews were conducted for this project. Study participants were purposely selected because of their knowledge and experience regarding diversity issues in national parks (Maxwell 2002; Patton 2002; Berg 2007). Interviews were recorded and transcribed to allow for open-coding, a method of analysis in which qualitative data are broken into thematic categories (Miles and Huberman 1994; Coffey and Atkinson 1996). Of the participants, 16 were from NPS and 9 worked for other organizations. Study participants included superintendents, chiefs of interpretation and education, Cooperative Ecosystem Studies Unit (CESU) coordinators, park rangers, youth program coordinators, former NPS personnel, presidents of partner organizations, presidents of consulting groups, and academics. Study participants were geographically as well as racially/ethnically diverse.

Results

The findings from these interviews identified six themes key to the success of NPS diversity initiatives: (1) program sustainability, (2) inclusive interpretation and histories, (3) media and communication, (4) supportive NPS climate, (5) workforce diversity, and (6) community involvement. Subthemes that describe different aspects of the six themes were also devel-

oped from study data. The conceptual model shown in Figure 1 represents how these themes are generally connected. It is important to note that the model and associated themes are not one-dimensional. There is no identified entry point to the model because the data suggest a more comprehensive approach to addressing diversity is needed. The relationships among the themes in the model flow in both directions and all of the themes are connected through multidirectional relationships. Due to the need to comprehensively address diversity, the model is a simplified depiction of themes important not just to a single program in a park unit but to its overall management.

Theme 1: Program sustainability

So the program died for these two reasons ... because there was no sense of connection among the students and ... because it was so [hinged] on one individual that when he left, there was no way to keep the program up.

— ID#016

The notion of *program sustainability* emerged as an important part of program success for several reasons. For example, study data indicated that programs that go beyond “one-touch” (single-event) experiences appear to build more lasting relationships with community partners. One-time special-event programs may provide an entry point to new audiences, but study participants felt strongly that programs that take place over a few weeks or even months form deeper relationships. Study participants also described the ways in which program sustainability is linked with the ability to overcome budgetary and leadership changes, as well as with the development of strong partnerships. The above quote illustrates the importance of consistent leadership for programs to be successful. The three subthemes associated with program sustainability are (1) consistency in message, (2) people involved in the program, and (3) relationship-building.

Consistency of message means that everything an NPS unit does (e.g., interpretation, public information-sharing, workforce decisions) should reflect a commitment to diversity. Diversity-focused programs are one way to show a commitment to diversity, but many aspects of the park, even those seemingly not directly diversity-related, should reflect a strong commitment to this issue. According to study participants, this consistency communicates a commitment to addressing under-representation as well as efforts to be a welcoming place for people of color. For example, an NPS unit that has translated interpretive material into Spanish but has not provided facilities for extended family gatherings may not be sending a consistent message to the community because studies have shown that recreational styles between whites and people of color differ, and that facilities and sites need to be more universally designed to accommodate different styles of recreation (Chavez 2000).

People involved in the program refers to those individuals involved in the program as well as their degree of involvement. Study data strongly linked the notion of program sustainability to leadership and the individuals involved in the program. For example, numerous stories emerged from the data highlighting programs that deteriorated after a key individual left. The *people involved in the program* subtheme also refers to community members who are or could be involved in the program. Multiple members of a community can be involved to

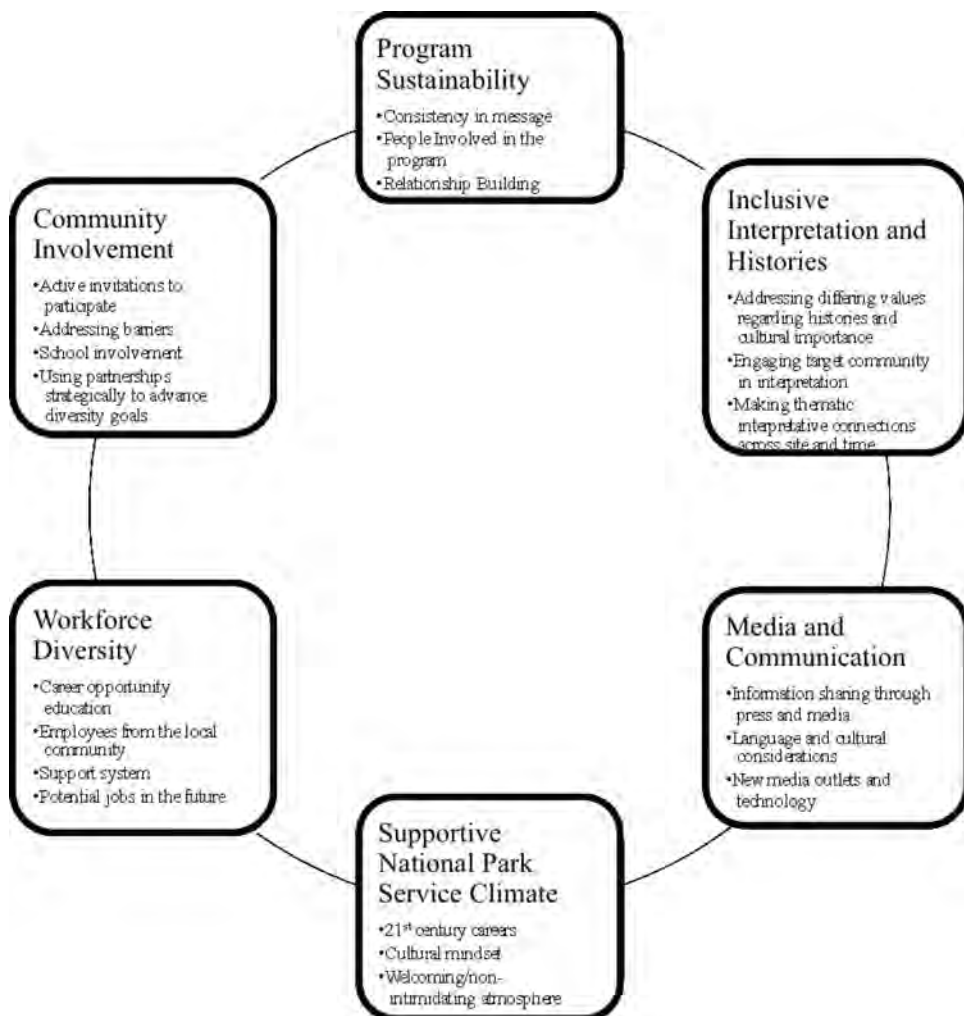


Figure 1. Relevancy model.

ensure program success and sustainability. Just like in park management, community leadership can change and impact vital programmatic connections.

Building meaningful, intentional relationships is a crucial part of program success and sustainability. While linked closely with the previous subtheme, this subtheme goes beyond individuals and refers to a more systematic approach to relationship-building. This subtheme also emphasizes the importance of long-term efforts: relationship-building takes time and parks must be committed to working and talking with community groups to build and maintain meaningful relationships. As described above, maintaining leadership and commitment is also key in developing lasting relationships with the community and other organizations.

Theme 2: Inclusive interpretation and histories

Historical significance ... has usually been determined around criteria of architectural significance as opposed to social or historical significance.... Very often the diverse communities have not been at the table when the importance of things or places is determined. So criteria used for the primarily European American community may or may not be applicable to why a place or a building is of importance to my community.

— ID#004

The second theme represented in the model, *inclusive interpretation and histories*, looks at the stories interpreted at NPS units. The above quote describes one study participant's perspective on reasons why interpretive themes have not always been meaningful to traditionally under-represented audiences. Ensuring that interpretive programs encompass the experiences of diverse people associated with a particular story is crucial for increasing visitation and relationships with traditionally under-represented communities. This theme looks at not only what stories are told, but how and by whom they are told. The three subthemes associated with *inclusive interpretation and histories* are (1) addressing different values regarding historical and cultural importance, (2) engaging the target community in interpretation, and (3) making thematic interpretative connections across sites and time.

Addressing different values regarding historical and cultural importance focuses on ensuring that diverse groups are part of the decision-making process when defining what resources are considered "important" enough to interpret or protect. As the above quote illustrates, typical approaches to historic preservation may have excluded some segments of society. Study participants noted that many structures or places that are of historical significance to minority cultural groups may be located in buildings of little architectural significance. Consequently, the stories associated with these places may not be well-documented or -interpreted. Ultimately, study participants felt that in order for park managers to know what resources to interpret and protect, they need to continue to work with community partners to better understand the values, perspectives, and experiences of different cultural groups in a particular context.

Engaging target communities in interpretation refers to the inclusion of the specific community whose story is being interpreted. Study participants felt strongly that in order to tell inclusive histories and to present stories from various cultures, members of those cultures need to be part of the process, and when possible, participate directly in the interpretation of those stories. For example, the Underground Railroad is a significant story that transcends NPS units and boundaries. As an interpretive theme, it lends itself to interpretation by a broad base of individuals, not just NPS employees. Engaging target communities in interpretation may occur through increasing workforce diversity, partnering with local historical societies, and using volunteers from the target community.

Making thematic interpretative connections across sites and time refers to the ways in which interpretation at any specific site might connect to broader stories and themes across the National Park System. For example, study participants noted that there may be opportunities to thematically link Civil War sites and themes with civil rights sites and themes. This, in turn, may create the context for interpreting the stories of not only important historical fig-

ures and events, but how they were shaped and influenced by other events and people in the nation's history. While not every site in the national park system will relate to every racial and ethnic group, connecting interpretive themes in meaningful ways across time and space may help broaden the context and relevance of specific NPS units to include constituencies that have yet to be engaged.

Theme 3: Media and communications

If we're thinking that the program alone is going to do it and we're relying on our normal promotional materials for the general public, it's a lot more hit or miss than when we're really also including active promotion through outlets that people will connect with.

— ID#005

The *media and communications* theme refers to the use of nontraditional media outlets and technology to help ensure program success. Along with the use of new and different forms of communication, study participants felt that the type of information communicated is important for welcoming and engaging diverse audiences. Providing information that is specific to target communities and fills knowledge gaps about NPS is important to engaging diverse audiences. As the above quote suggests, media and communications can not only encourage visitation to national parks but may also provide an opportunity for NPS to connect to a more technology-savvy generation. The three subthemes associated with *media and communications* are (1) information-sharing through press and media, (2) language and cultural considerations, and (3) new media outlets and technology.

Information-sharing through press and media refers to using the press and media to provide communities with information about national parks and the range of programming they offer. This information-sharing can focus on numerous aspects of the national park experience, including activities people can participate in at the park, special services a park might offer, and new exhibits and interpretive material. Study participants agreed that educating communities about NPS could be done successfully through effective and appropriate press and media. This approach would allow NPS to take advantage of information dissemination as a way to educate communities about opportunities and activities available in national park units.

Addressing cultural and language considerations is crucial when developing a media or communications plan. According to one study participant, learning about language and cultural differences and then adapting media and communications strategies appropriately will likely enable messages to reach broader communities. Several study participants noted that cultural barriers often go beyond language differences and it is important to understand ways in which different cultures access information. Traditional forms of public notices may not reach certain cultures; for example, radio spots may have more impact on one culture than another. Learning about and understanding these differences are crucial for a successful program.

Many study participants emphasized the importance of using *new media outlets and technology* for engaging youth. Study participants noted that when possible, NPS might think about incorporating newer technologies like MP3 players, Facebook, and Twitter. In

the minds of most study participants, exploring ways that technology can enhance a national park experience while bridging gaps between nature, culture, history, and technology will be increasingly important for engaging and making national parks relevant to youth, not just youth of color.

Theme 4: Supportive NPS climate

[Relevancy] is not a ‘nice-to-do,’ but a ‘must-do.’ But that needs to be followed by a willingness to fund, a willingness to experiment... We have very traditional ways of doing things in national parks and that can create cultural barriers. We need to do programs differently, offer services differently ... based on what audiences might need.

— ID#005

The *supportive NPS climate* theme refers to what under-represented park constituencies perceive as the agency’s “attitude” or “orientation” towards diversity issues in a general sense. As the above quote illustrates, the vast majority of study participants felt strongly that successfully addressing 21st-century relevancy goals requires an NPS climate or organizational culture characterized by a willingness to experiment with new ideas as well as the commitment to fund initiatives. The four subthemes associated with a *supportive NPS Climate* are (1) 21st-century careers, (2) cultural mindset, (3) supportive authorizing environment, and (4) welcoming, non-intimidating atmosphere.

Twenty-first-century careers addresses NPS’s ability to be competitive in the contemporary job market. Study participants commented on changes in society and the potential inability of NPS to remain current in the context of these changes. One study participant described it like this: “Now the estimate is that a youngster coming into the workforce may change jobs 15 to 20 times. And I don’t know that the agency is prepared for that kind of turnover.” Participants also brought up issues such as competitive salaries and desirable work locations as possible barriers to viable career opportunities.

The notion of a *cultural mindset* emerged from the data as an important aspect of a *supportive NPS Climate*. Study participants described this in different ways. For example, one agency employee stressed the need for NPS to continue to work toward broadening the perceptions that different cultural groups may have about the role of national parks as well as the mission of NPS. Another study participant described it this way: “I mean everybody’s not going to stand in front of the scenery and get the same kind of impact. And I think that’s hard for people to understand. So I don’t think you can assume that just because you provide them with transportation that there’s a foregone conclusion that they’re going to first want to come, and to have an impactful kind of experience.”

Supportive authorizing environment highlights the importance of strong and consistent support from all levels of NPS management, but particularly from the regional and national leadership environments. Study participants felt strongly that NPS personnel need to understand the importance of diversity and need to be advocates for including 21st-century relevancy and related diversity objectives and that various authorizing environments encourage, promote, and mandate diversity programs and initiatives.

Welcoming, non-intimidating atmosphere is closely linked to the *supportive authorizing environment* subtheme, but refers more broadly to the environment created by NPS employees, policies, and tradition. Creating a welcoming, non-intimidating atmosphere refers to both visitor and employee experiences. Several study participants reflected on the strong tradition and culture of NPS and the ways in which this can be intimidating, while making the work environment hard to navigate for some people of color. This notion extends to challenges that new hires, particularly personnel from minority groups, may have in navigating the agency's culture. For example, one study participant noted the struggle that people of color can sometimes have in remote locations where they are the only person of color on staff and in the community. Study participants widely agreed that support networks should be set up for new hires because creating a welcoming, non-intimidating atmosphere for park visitors also relies on supportive staff. One study participant noted all staff members need to be culturally competent because visitors can pick up on subtle, sometimes unintended signals that make them uncomfortable.

Theme 5: Workforce diversity

If you have a cross-cultural workforce, then you have a cross-cultural connection to communities and that is extremely advantageous.

— ID#002

Workforce diversity emerged from the interview data as an important theme in the overall context of NPS 21st-century relevancy and related diversity initiatives. According to many study participants, a diverse workforce demonstrates a commitment to diversity and creates a more welcoming environment for underrepresented visitor groups. Study participants felt strongly that, ultimately, the NPS workforce must reflect the ethnic and cultural diversity of the US population in order to achieve 21st-century relevancy and other related diversity goals. As the above quote suggests, a diverse workforce provides a broader range of interpretive voices and may create new avenues for connecting diverse communities with national parks. The four subthemes associated with *workforce diversity* are (1) career opportunity education, (2) employees from the local community, (3) support system, and (4) potential jobs in the future.

Career opportunity education refers to educating youth and other potential employees of NPS about the range of career opportunities available within the agency. Study participants noted that potential applicants from diverse communities may perceive NPS as only offering “ranger-type” careers. Several study participants felt that materials and/or outreach efforts that explain the possible avenues of employment in the agency may help ensure that individuals are aware of jobs and career opportunities beyond the traditional park ranger. Other study participants suggested using career fairs, developing relationships with high schools and universities, and using new media and technology to communicate with diverse audiences about the wide array of career opportunities in NPS.

Employees from the local community refers to the importance of hiring from the local community. According to many study participants, parks that are located in diverse commu-

nities have opportunities to attract local applicants. Hiring from the local community not only increases the diversity of the workforce but also strengthens bonds and relationships with key local partners. This relates to the community involvement theme discussed later in this paper. Hiring people of color from local communities can create a relationship between the park and that employee's social network, thus providing an entry point for other individuals to visit the park. Having a diverse workforce also provided opportunities for interpretation of histories and stories by group members and people closely associated or related to a story (as discussed in Theme 3).

The *support systems* subtheme focuses on the need that many new hires and interns have for some type of support system to ensure their successful transition into NPS. Study participants suggested the use of team-hiring practices as well as team-building retreats before employees report to their duty stations. Several study participants pointed out that bonds with other employees may be especially important for new hires of color assigned to units or offices that have little or no staff diversity. In some situations, these employees may also be the only person of color in the surrounding community, underscoring the importance of connecting these employees with people who understand this situation. Providing a mentoring network was also mentioned as an important part of increasing workforce diversity because it creates a support network for new employees, helping to ensure their success in the agency.

Potential jobs in the future surfaced as a very important element for ensuring creation of a diverse workforce. Numerous study participants mentioned that interns are highly qualified and trained by the time of they complete their internship but, in many instances, there is no position or opportunity to hire them. Study participants repeatedly suggested a "pipeline" approach, whereby NPS would create direct opportunities for interns to enter the agency upon conclusion of the internship.

Theme 6: Community involvement

... I'm a proponent of going into the community and taking the park to the people. [Often] people are uncomfortable going into a new environment, and if they don't see people of their own ... culture group, it's harder for them to feel comfortable.

— ID#022

Community involvement emerged as an important theme associated with the ways in which national parks can effectively engage diverse communities. As the above quote illustrates, many study participants felt that community involvement can provide opportunities for diverse audiences to get to know their NPS unit and personnel. Many study participants emphasized the importance of community involvement both inside and outside park boundaries. This refers to interacting with the community within the park (e.g., special events and interpretative exhibits) and at locations and events within the community (e.g., churches and festivals). Study data associated with this theme also suggest that there may be substantial value in partnering with nontraditional groups already working to address issues of diversity. Developing partnerships with museums addressing diversity, local government agencies (e.g., housing authorities), and community groups working with communities of color (e.g., grassroots organizations, nonprofit groups). The four subthemes associated with *communi-*

ty involvement are (1) active invitations to participate, (2) addressing barriers, (3) school involvement, and (4) using partnerships strategically to advance diversity goals.

Active invitations to participate requires more than just being open to visitors, but actively going into the community and reaching out to underserved audiences. A majority of study participants felt that providing communities with the opportunity to get to know the park, its mission, and personnel in a comfortable, familiar setting (e.g., local schools, recreation centers, churches) can help build a meaningful relationship between communities and national park units as a whole.

Addressing barriers to park visitation emerged as an important subtheme. Study participants felt strongly that park managers need to understand and respond to the challenges that some groups face in terms of visitation. For example, several study participants identified the lack of transportation as a potential barrier in some instances. This involves getting to know the specific needs of the community and crafting programs that respond to them.

School involvement also emerged as an important subtheme. Many of the programs that study participants felt had been successful involved schools, particularly those that brought park personnel into the school and used this opportunity to encourage full family visitation. Study data underscored the importance of engaging children to get whole families involved in park activities.

Using partnerships strategically to advance diversity goals emerged in many of the themes but primarily when study participants described initiatives that were designed to involve and engage communities. Study participants felt that NPS could reach beyond traditional partner groups and work with community organizations, such as churches and community recreation centers, to reach diverse audiences. NPS might also consider partnerships with organizations already addressing under-representation of people of color in other areas. Museums and zoos, for example, are developing programs and initiatives to increase minority visitation.

Conclusion

Previous research on the under-representation of people of color in national parks has focused mostly on visitation. Results from this study show that visitation is only one aspect of under-representation. Study participants spoke to the importance of addressing not only the lack of visitation by people of color but also workforce diversity and the role of national parks in the social fabric of local communities. To engage people of color in national parks, NPS staff will need to create welcoming environments that are inclusive and reflective of local and/or target communities. Moreover, for parks to accomplish those goals, they must develop long-term and dynamic relationships with local communities. Creating these kinds of welcoming environments, and, even more importantly, sustaining deep and meaningful relationships with communities of color, will require a highly culturally competent NPS workforce. Studies like this one—especially in the context of the Second Century Commission report and the director's associated "Call to Action"—can be used to advance NPS cultural competency in very specific ways.

Findings from this study, for example, reframe the issue of under-representation as not just about visitation but also about the role of national parks in communities and society at

large. The Conservation Study Institute is using these study findings, along with related efforts, to initiate a “community of practice” focused on the successful engagement of diverse communities.³ Communities of practice are “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting” (Wenger et al. 2002). Institute projects assisting in the developmental evaluation of youth programming across NPS (including many of the Massachusetts-area national park units and Grand Teton National Park) are bringing together youth program practitioners to facilitate sharing of innovations, lessons learned, and promising practices. By sharing the experiences and findings from evaluation efforts, youth program practitioners are able to design and implement programming utilizing the best resources available and building on the experience of other practitioners.

Study findings can also be understood as intended long-term outcomes that result from engagement programs. The study data also emphasized the importance of addressing the issue of diversity and under-representation in a more comprehensive and systematic manner. The six themes identified in the paper should be addressed concurrently and with an integrated approach, when possible. Focusing on just one theme will likely not lead parks to effectively address broader issues of diversity and relevancy in NPS. All of the themes and subthemes identified in this study (as presented in Figure 1) interact, and therefore NPS engagement and diversity efforts will need to be cross-cutting to ultimately be effective.

Endnotes

1. See Rebecca Stanfield McCown, “Evaluation of National Park Service 21st Century relevancy initiatives: Case studies addressing racial and ethnic diversity in the National Park Service,” PhD dissertation, University of Vermont, 2011.
2. Please see chapter 2 of Manning 2011 for a review of the literature.
3. Contact the Conservation Study Institute for more information about current projects: stewardship@nps.gov or visit www.nps.gov/csi/.

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