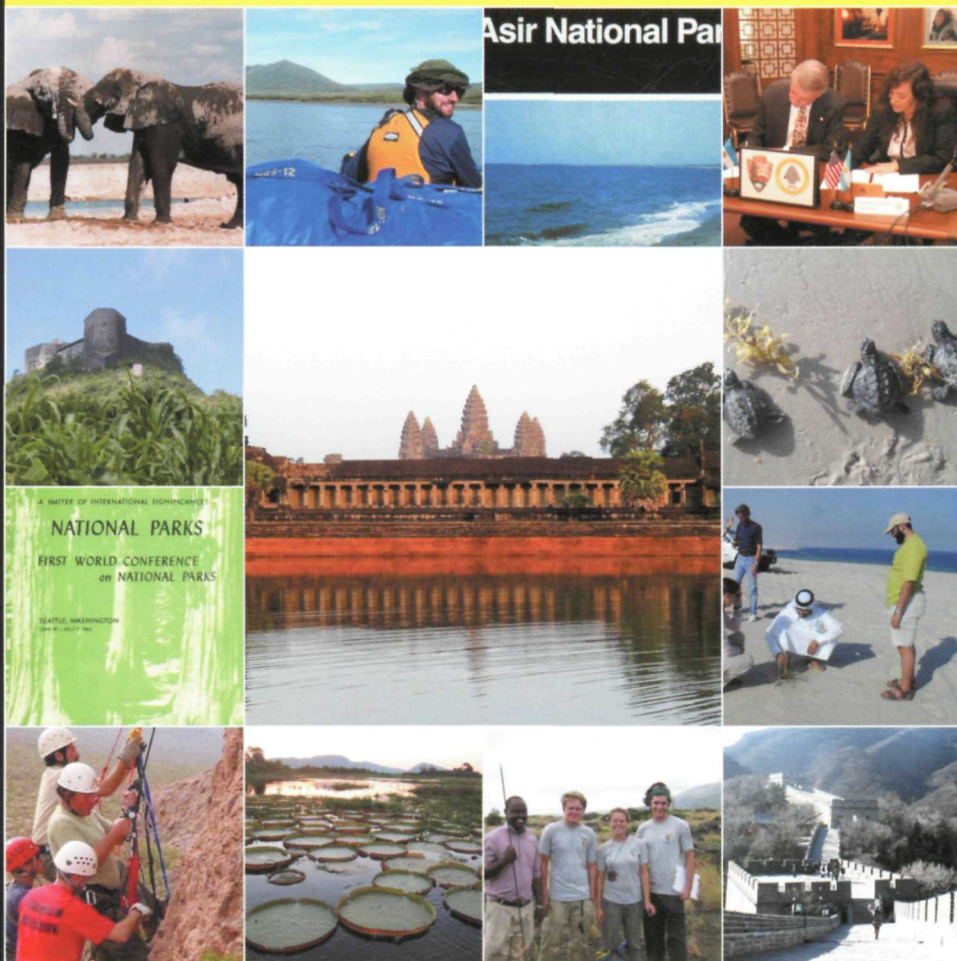


Fulfilling the International Mission



of the US National Park Service

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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P. O. Box 65 • Hancock, Michigan 49930-0065 USA

1-906-487-9722 • info@georgewright.org • www.georgewright.org

Publications Committee

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On the cover: A montage showing the involvement of the US National Park Service in international activities.

Clockwise from top left: Elephants in an African national park where NPS has worked; an International Volunteer in one of the NPS park units in Alaska; brochure for Saudi Arabia's Asir National Park, which mimics the NPS unigrid brochure; NPS Director Jonathan Jarvis with his Argentine counterpart, Dr. Patricia Gandini, director of the Administracion de Parques Nacionales, signing the documents to establish a sister park relationship between Pinnacles National Monument (US) and Quebrada del Condorito National Park (Argentina); Kemp's ridley sea turtles donated by Mexican national parks as part of a binational repopulation effort at Padre Island National Seashore; NPS park planners assisting counterparts in Qatar to determine where to establish the Middle Eastern nation's first national parks; China's Great Wall, an iconic World Heritage cultural site; World Heritage Fellow from South Africa at Hawai'i Volcanoes National Park; the wetlands World Heritage Site of Pantanal National Park in Brazil; Yosemite National Park climbing rangers sharing techniques with Chilean park counterparts; flyer for the First World Parks Congress, hosted by NPS in 1962; Haiti's lone World Heritage site, Citadelle-San Souci-Ramiers.

Center: Angkor Wat World Heritage site, Cambodia.

Cover photo designer: Rudy D'Allesandro, National Park Service Office of International Affairs.

SOCIETY NEWS, NOTES & MAIL

Davis, Wilson win seats on GWS Board; Gagnon appointed to term

Gary E. Davis and Lynn Wilson were elected to three-year terms on the Society's Board of Directors in this year's election. The field of candidates also included James Gramann, Dan Sealy, and Ryan Sharp. Davis is president and chief scientist of GEDavis & Associates Environmental Consulting, and had a 43-year-career as a marine scientist with the National Park Service. This is his second stint on the Board. Wilson is a regional park planner with the Capitol Regional District in Victoria, British Columbia. Her work focuses on community and regional parks that, for many urbanites, are the most vital connection to the natural world.

In September, the Board filled a vacancy in its appointed ranks by naming Nathalie Gagnon to a seat. Gagnon, who is from the Anishinaabeg First Nation, is senior analyst for Aboriginal engagement in Parks Canada's Aboriginal Affairs Secretariat. At Parks Canada, her main focus is to ensure that the voices of First Nations, Inuit, and Métis peoples are included and inform all aspects of planning and management of heritage places the agency administers. Her term will run through the end of 2013.

Applications being accepted for 2012 Park Break

The next session of Park Break, the all-expenses-paid field seminar for graduate students contemplating a career in parks, will be held March 19–23, 2012, at Delaware Water Gap National Recreation Area in Pennsylvania. The 2012 Park Break project will be the creation of a curriculum on sustainable living, aimed at 8th-grade students, to be used at the Pocono Environmental Education Center. Applications for the 2012 Park Break program are being accepted through January 20. For more information, go to

<http://www.georgewright.org/parkbreak>

Park Break is a collaborative program of the US Geological Survey, US National Park Service, Pocono Environmental Education Center, and GWS.

Darlene Wahl, 1961–2011

Darlene Wahl, a Life Member of the George Wright Society, died November 4, 2011, at her home in San Juan Island, Washington. Although sight-impaired at birth, after graduate school she forged a successful career with the National Park Service at Isle Royale National Park, Apostle Islands National Lakeshore, the Midwest Regional Archaeological Center, and San Juan Islands National Historical Park. There, she worked with local teachers in developing the "Habitats" curriculum for the Friday Harbor Elementary School. She was also an enthusiastic living history re-enactor and an avid outdoorsperson who participated in many sports. Wahl and her guide dogs, Fayette and then Ingrid, inspired schoolchildren and visitors with the message that a disability need not be an obstacle to achievement.

Revisiting the Organic Act: Can It Meet the Next Century's Conservation Challenges?

Robert B. Keiter

WRITTEN INTO LAW IN 1916, the act that created the National Park Service, known as the Organic Act, has ever since served as the Magna Carta for our national park system. The language of the Organic Act defines the national park mission in well-known terms: “to conserve the scenery and the natural and historic objects and the wild life therein, and to provide for the enjoyment of the same in such manner . . . as will leave them unimpaired for the enjoyment of future generations.” To achieve this mission, the act directs the National Park Service to “promote and regulate” the parks, establishes a visitor-focused planning process, and enlists the Park Service in identifying areas of “national significance” as potential new parks.¹ The agency has fully embraced these responsibilities, even as internal and external debates have swirled as to whether the act contains a fundamental contradiction and how its strictures apply in particular situations.

Since the Organic Act was adopted, however, the national park system and the world around it have undeniably changed. Where the system originally numbered 31 national park and monument units in 1916, it today boasts 397 units sporting an array of quite different designations that stretch across 49 states and several territories. Since the system's inception, the nation's population has more than tripled, becoming much more urban, diverse, and removed from nature. A century ago the automobile was just gaining a foothold in American society; it is now ubiquitous across the nation and within the parks. And where most national parks were originally surrounded by undeveloped land, these lands are today under intense development pressures, whether in the form of industrial activity on adjacent public and private lands or subdivision proposals on nearby private lands. Such matters as climate

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change, biodiversity conservation, and nature deficit disorder—unknown a century ago—present critical environmental challenges in the present age.

Given these enormous changes and concerns, is it time to overhaul the Organic Act? Is the act's simple injunction to conserve unimpaired sufficient to meet tomorrow's conservation challenges?² Is the absence of references to modern resource management terminology—biodiversity conservation, integrated planning, ecological integrity, and the like—a fatal flaw? Does the language of “national significance” correctly capture the essence of potential new park units in an era of biological decline and climate change? And in the face of well-known political realities, should the National Park Service be relocated outside the Department of the Interior? With the system's centennial anniversary approaching, it is impossible to ignore these fundamental questions. Is it time to change the law? And if so, then how—by a total rewrite or by targeted amendments?

Understanding the Organic Act

The history surrounding adoption of the Organic Act suggests that Congress gave scant attention to the key language defining the fundamental purpose of the national parks. Indeed, the congressional discussions involving the Organic Act proposal focused primarily on the need for a new federal bureau to oversee the parks and its cost, with few references to the mission of the proposed agency or the purpose of the parks. Supporters of the legislation, intent on bringing the diverse parks and monuments under the administration of a single agency, emphasized the economic value of the parks and the need to encourage Americans to visit them. To the extent that anyone at the various hearings spoke about the parks themselves, they did so primarily in terms of their recreational, scenic, and educational value. Though the proposed Organic Act language, initially drafted by Frederick Law Olmsted, Jr., evolved over the four years it took to pass the bill, the revisions made it ever more specific in listing the various purposes of the parks. And despite repeated suggestions that the law contained a fundamental contradiction between conservation and public use, the historian Robin Winks—after exhaustively reviewing the records surrounding the Organic Act's origins—concluded that Congress intended conservation of park resources as the paramount mission of the parks.³

Given its brevity and uniqueness, the Organic Act needed further explication, which was soon forthcoming in the form of the seminal 1918 Lane Letter. Originally drafted by Horace Albright, who was serving as Director Stephen Mather's chief assistant, and signed by Secretary of the Interior Franklin Lane, the document set forth three principles to guide future management of the park system: (1) the parks “must be maintained in absolutely unimpaired form” for present and future generations; (2) “they are set apart for the use, observation, health, and pleasure of the people;” and (3) “the national interest must dictate all decisions affecting public or private enterprise in the parks.” Elaborating on the first point, the letter admonished: “Every activity of the Service is subordinate to the duties imposed upon it to faithfully preserve the parks for posterity in essentially their natural state.” But the Lane Letter did not stop there; it also provided much more specific guidance for how the parks were to be managed. It expressly endorsed outdoor recreation in the parks, the construction of new roads and other facilities, the presence of automobiles, the removal

of inholdings, good relations with concessioners, and promotional collaboration with local chambers of commerce, auto clubs, and the like. In short, the Lane Letter gave expression to the national park idea and is widely regarded as an early authoritative interpretation of the Organic Act's provisions.⁴

Since then, Congress has engrafted amendments onto the Organic Act that affect the park system as a whole and further clarify the Park Service's mission. The General Authorities Act of 1970 expressed Congress's view that the national park system was a single entity, intentionally enjoining the Park Service from dividing the system into different categories—natural, recreational, and historical—for management purposes.⁵ A 1976 amendment to the General Authorities Act gave the Park Service a role in the new park creation process, directing the secretary of the interior “to investigate, study, and continually monitor the welfare of areas whose resources exhibit qualities of national significance and which may have potential for inclusion in the National Park System.”⁶ The so-called Redwood Amendment of 1978 reaffirmed in powerful terms the congressional commitment to the Organic Act's fundamental purpose, explicitly mandating that “the protection, management, and administration of these areas [national parks] shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.”⁷ The 1978 amendments also revised the park planning process, establishing quite general standards for unit-based general management plans.⁸ And in the 1998 National Parks Omnibus Management Act, Congress added “scientific research” to the Park Service's mission, clearly acknowledging that science must play a critical role in park planning and decision-making processes.⁹ Significantly, none of the subsequent amendments have altered the Organic Act's original mission statement.

Other related legislation has also shaped the system and its management. Two major concession reform bills—one in 1965 and another as part of the 1998 legislation—revised and then revised again how the Park Service deals with its concessioners, who have long played an influential behind-the-scenes role in shaping park management policies.¹⁰ Over the years, through a dizzying array of individual national park enabling acts, Congress has substantially changed the face of the national park system, primarily by adding new designations, such as national recreation areas, national seashores, national preserves, and national parkways, each with its own unique priorities and management standards. In doing so, Congress has indicated that the more specific enabling legislation takes priority over the more general Organic Act strictures in the event of conflict between the two.¹¹ And Congress has adopted laws like the Mining in the Parks Act and the National Parks Air Tour Management Act to address specific resource management problems.¹² Moreover, Congress has adopted other important laws that apply to the national parks, including the National Environmental Policy Act, Endangered Species Act, Wilderness Act, Wild and Scenic Rivers Act, and Clean Air Act. These cross-cutting environmental laws have not only influenced how the Park Service addresses its management responsibilities, but they can override inconsistent park management policies or decisions. While these laws have plainly expanded the agency's resource management obligations, none have either questioned or revised the Organic Act's statement of purpose.

For its part, the National Park Service has interpreted and given meaning to the Organic Act language through its policies, programs, and initiatives. The agency's *Management Policies* document not only explains how it interprets the Organic Act mandates, but also sets forth explicit resource management requirements and other responsibilities. According to the 2006 *Management Policies*, the Park Service "must leave park resources and values unimpaired," a mandate that is construed to mean "when there is a conflict between conserving resources and values and providing for the enjoyment of the visitor, conservation is to be predominant." Even if management actions do not impair park resources, park officials are still obligated to "conserve" them by minimizing or avoiding adverse impacts. Any proposed action that "could lead to impairment of park resources or values" must be evaluated, in writing, by the appropriate official before it is approved.¹³ But the *Management Policies* document is not binding law, according to the influential District of Columbia Circuit Court of Appeals, and thus could be revised to reinterpret the Organic Act's mission statement.¹⁴ And this is what almost occurred in 2006 when Bush administration officials sought to rewrite the document to open the parks to more commercial and motorized recreational activities. Though eventually derailed by strong opposition within and outside the Park Service, the rewrite episode revealed that politically motivated officials were not averse to revising the agency's priorities and that an array of forces stood ready to defend the agency's view of its statutory obligations.¹⁵

In fact, the Park Service's own interpretation of its Organic Act responsibilities has changed over the years. Perhaps the most stunning—and controversial—change occurred during the 1960s when, without any congressional modification of its statutory duties, agency officials reversed course in the aftermath of the Leopold Report and adopted a new, less-intrusive natural resource management policy to achieve its conservation obligations. Park managers were instructed to allow nature to take its own course in the parks, which meant intervening sparingly to control wildlife population numbers, allowing most wildfires to burn rather than suppressing them, and halting the practice of feeding bears and other animals.¹⁶ Although questioned at the time (and ever since),¹⁷ the policy change has endured, reflecting an evolved agency interpretation of the Organic Act's "conserve unimpaired" mandate. In the future, however, any such dramatic change in interpretation of the organic legislation will likely require a detailed explanation of why the agency is altering its view of its statutory responsibilities if it is to withstand judicial scrutiny.¹⁸

The courts, when called upon to interpret the Organic Act language, have consistently found that resource conservation takes priority over public enjoyment or other interests. In *National Rifle Association v. Potter*, a case that sustained the Park Service's prohibition on hunting, the court held: "In the Organic Act, Congress speaks of but a single purpose, namely, conservation."¹⁹ Later judicial decisions have reached the same conclusion, sustaining agency regulations that limit trapping, mountain biking, fishing, and whitewater rafting in the parks.²⁰ In doing so, the courts have generally deferred to the agency's regulatory restrictions, granting park officials considerable authority to ensure conservation takes priority over recreation and other park uses. But when confronted with Park Service decisions that seem to put park resources at risk, the courts have not hesitated to invoke the Organic Act's "non-impairment" standard to enjoin threatening activities, as a federal court did when Canyon-

lands National Park agreed to open a backcountry route that traversed a desert riparian area to motorized travel, risking both pollution and erosion.²¹ These court rulings not only put the *Management Policies* interpretation of the organic mandate on firm footing, but they should make it difficult—if not impossible—for a future administration to downplay resource protection in favor of recreation or another purpose.

An evolving national park idea

Change is endemic in any society and its institutions, and that holds true for the national parks. Just as the world around the national parks has changed, our view of the national park idea has changed, reflecting new knowledge about the natural world, the nation's history, and the role of parks in contemporary society. Among the ideas that we have long associated with the national parks are these: That they represent a wilderness area, a tourist destination, an outdoor playground, a “cash cow” for local communities, nature's laboratory, and a wildlife reserve. Each captures an important dimension of the national park's role over time, but none of these ideas presents an entirely satisfactory picture of what a national park is in today's changing world or what it should aspire to be for tomorrow.²² Indeed, new ideas about the parks are emerging with the potential to reshape our understanding of the national park idea as well as the national park system. What are these new ideas? And do they fit within the century-old Organic Act?

One compelling new idea about the national parks views these protected areas as the vital cores of much larger ecosystems. This idea reflects the fact, long evident to scientists and other knowledgeable observers, that the national parks are and always have been connected—economically, politically, and ecologically—to the larger landscape that surrounds them.²³ Although we have long characterized the parks as islands, this was never really true and never will be. The gateway communities have historically had economic connections with the parks; concessioners and other industries—hospitality companies, snowmobile manufacturers, off-road-vehicle businesses, and others—have long sought to shape park policies; the seasonal habitat needs and migration patterns of park wildlife regularly extend beyond park boundaries; distant pollution sources have a profound impact on air quality and visibility in the Grand Canyon, Great Smoky Mountains, and elsewhere; and a warming atmosphere portends game-changing effects on the natural world globally. Simply put, the national parks are both “anchor tenants” and “ecological cornerstones” in the larger landscape.

In today's world, recognizing this new ecological cornerstone role for the national parks is essential to fulfilling the Organic Act's fundamental conservation obligations and reflects the increasingly important role science is playing in national park policy. Scientists agree that our current nature reserves are too small to ensure the genetic viability and long-term survival of many species, particularly in the face of unrelenting development pressures and warming temperatures.²⁴ Industrial activities and subdivision development fragments the landscape and thus isolates species, while climate-related temperature increases will force species to relocate as ecosystems are altered and their habitats change. These realities have prompted scientists, conservationists, and others to endorse ecosystem-based management to address the problem, with the national parks viewed as the core protected areas in land-

scape-scale planning efforts. And the Park Service, in its *Management Policies*, has acknowledged this reality, recognizing that successful wildlife management inevitably entails transcending park boundaries, which means “park units must be managed in the context of their larger ecosystem.”²⁵

This new ecological cornerstone role has several implications for park management. It means giving science a prominent role in resource management decisions, putting biodiversity and resource conservation before public use or corporate profits, engaging with neighbors in creative new relationships that are designed to protect park resources from adverse external impacts, identifying and establishing new connective corridors across the landscape, and working strategically with allies (conservation groups, scientists, and others) to bring this new vision of the national parks to fruition. For issues involving adjacent public lands, it entails working with the Forest Service and the Bureau of Land Management to coordinate planning efforts, including new migratory corridor and dispersal route designations, and participating with them in project-level decisions in order to safeguard park resources from external impairment. For issues involving adjacent private lands, it means strategically engaging in local zoning and land use planning processes, providing technical and financial assistance, and promoting strategic conservation easement purchases, while carefully gauging the most effective way to engage as a sometimes unwelcome federal neighbor.²⁶

Another emerging idea conceives the national parks assuming a more prominent role in public education, both in terms of nature conservation and historical literacy. The National Park System Advisory Board, in its *Rethinking National Parks for the Next Century* report, put it this way: the “Park Service should be viewed as . . . an [educational] institution,” and “education should become a primary mission of the National Park Service.”²⁷ The recent Second Century Commission Report carries the idea even further, calling on Congress to “affirm in legislation that education is central to the success of the National Park Service mission.”²⁸ The Park Service has not only long maintained a highly regarded interpretation program at individual parks, but the national parks have long been associated with a nature conservation ethic. Establishment of the national parks is generally viewed as the nation’s initial and preeminent commitment to nature conservation; it not only helped forge a unique American identity linked to nature conservation,²⁹ but the national park idea has been exported around the world. Although Park Service nature management policies have vacillated over the years, the public plainly views the national parks as enclaves of nature conservation. To maintain and promote this conservation ethic and tradition (as well as greater historical literacy about the nation’s origins, development, and values), the Park Service should be engaging in public education to a much greater degree than is true presently. It is, after all, the only federal land management agency deeply engaged in public education, and thus uniquely positioned to impart environmental knowledge and related conservation values to the general public.

Public education about nature conservation is more important than ever in this age of potentially catastrophic climate change and in a time of growing urbanization when “nature deficit disorder” has infected the nation’s youth.³⁰ It is also important given the role that the general public now plays in resource management planning and decision-making under the

National Environmental Policy Act (NEPA) and other laws. An ecologically informed public is more likely to understand and endorse management policies that protect park resources, even when that involves constraining activities outside park boundaries. In short, the Park Service must assume a greater public education role, both inside and outside the parks, to explain the challenges of conservation in an interconnected and warming world, and to connect our citizenry with nature and its role in our everyday lives.

Meeting tomorrow's conservation challenges

The national parks confront an array of vexing conservation challenges, and others lie ahead. With change endemic within and around the park system, policies that made sense in the past may not work tomorrow as new pressures are brought to bear on the parks and new knowledge alters our conservation strategies. We no longer need to universally promote park visitation in this era of industrial tourism,³¹ and we now recognize that uncontrolled recreational activities can visit adverse environmental impacts on the parks, while new forms of recreation can also cause serious damage and impinge on the visitor experience. And we now understand that ecosystems transcend linear park boundaries, and resource management policies must accommodate sometimes unpredictable ecological changes. With the threat of climate change looming over the world, profound demographic shifts altering the complexion of the nation's populace, the emergence of nature deficit disorder among the nation's children, and ongoing development pressures outside the parks, it is clear that new approaches to conservation are necessary—ones that will call for changes in how the Park Service addresses and handles its basic resource management responsibilities. Can the Organic Act meet these challenges?

The arguments for rewriting the Organic Act are evident. With its concise, almost quaint, statement of purpose and imprecise planning provisions, the Organic Act reads more like a century-old law than a modern resource management statute. It speaks of wildlife, scenery, and natural objects, not biodiversity or ecosystems; it makes no reference to the kind of public participation that has been enshrined in NEPA and other environmental laws; and it lacks rigorous, detailed planning standards or procedures. While Congress has amended the law, it has neither altered the Organic Act mission statement nor otherwise significantly changed the basic law, but rather only reconfirmed the act's purpose statement and clarified the agency's responsibilities. In contrast, Congress has given each of the other major federal land management agencies what amount to new organic laws: the Federal Land Policy and Management Act for the Bureau of Land Management; the National Wildlife Refuge System Administration Act and the National Wildlife Refuge System Improvement Act of 1997 for the US Fish and Wildlife Service; and the National Forest Management Act for the Forest Service.³² In each case, these new laws detail extensive new management responsibilities and procedures, employing the language of biodiversity, NEPA-based environmental analysis, public participation, and integrated planning. On several occasions, moreover, we have altered the nation's most hallowed document—the US Constitution—to incorporate new ideas that reflect our evolving social and political values. Why not the Organic Act?

Notwithstanding these arguments, the case for retaining the Organic Act and its concise yet inspirational mission statement is compelling. First, when faced with changing condi-

tions or crises in the past, Congress has responded with appropriate and measured Organic Act amendments rather than rewriting the law. Prime examples are the Redwood Amendment, the concession reform legislation, and the new science mandate. In the case of the Redwood Amendment, Congress responded to emerging external threats facing the parks by reaffirming the Organic Act and instructing the Park Service to protect national park values and purposes, unless specifically directed otherwise by Congress. And Congress has not hesitated to apply new laws, such as the Endangered Species Act, NEPA, and the Wild and Scenic Rivers Act, to the national parks, which has helped park managers to protect sensitive resources and address new environmental concerns. Moreover, when specific systemic problems have arisen, such as air overflights or mining in the parks, Congress has addressed these matters in targeted laws that did not infringe on the Organic Act itself.

Second, the Organic Act has proven flexible and adaptable, enabling the Park Service to identify and implement new policies to address changed conditions, enhanced knowledge, and new values. Without any change in the law, the Park Service has successfully devised and implemented new resource management policies that track evolving scientific knowledge and related conservation strategies. In the aftermath of the Leopold Report, the agency basically reversed course in its approach to wildlife management and resource conservation without any change in the Organic Act. Faced with pending climate change impacts, the agency is now in the process of identifying new conservation policies to address this threat.³³ These policies could involve more intrusive management and broader-scale planning efforts to promote ecological resilience, changes that may be necessary for the agency to meet the non-impairment standard when confronting significant ecological shifts.³⁴ So long as the policy revisions are adequately explained and linked to the Organic Act's mission statement, these changes would reinforce the statute's flexibility in the face of new knowledge and changing conditions.

Third, the Organic Act mandate has been interpreted and applied to provide important legal protection for park resources, both from pressures outside and inside the parks. Indeed, the act's non-impairment standard is the strongest found in contemporary public land law; the same standard appears in the Wilderness Act as well as several other preservation-oriented laws. When the National Rifle Association sought to hunt in the parks, the courts read the Organic Act's conservation mandate to prohibit hunting. When Redwood National Park was besieged by upstream logging outside the park that threatened its iconic namesake trees, park supporters successfully invoked the Organic Act in a lawsuit that forced the agency to take action to curtail the logging.³⁵ And when park officials agreed to allow motorized access along a desert riparian area in Canyonlands, a court blocked the plan on the grounds that it violated the Organic Act's mandate against impairing park resources.³⁶ Although the act has not protected the parks from these types of pressures in every instance, there may be no law that can ensure ironclad protection from the powerful political and economic pressures that industrial development or recreation advocates can deploy.

Fourth, a substantial body of judicial precedent has accumulated that acknowledges resource conservation as the Park Service's first management priority. As noted above, the courts have consistently ruled that resource conservation takes priority over visitor preferences and commercial interests, and have accorded the Park Service a great deal of discre-

tionary authority that it can invoke to protect park resources. These court decisions strengthen the hand of park officials when confronting resource conservation challenges and should embolden park managers to prioritize resource protection over other competing concerns.³⁷ And these rulings present a major obstacle to anyone seeking to rewrite the agency's management responsibilities, a lesson that the Bush administration learned in 2006 when it sought to revise the *Management Policies* document. Just the mere fact of these precedents should help to deter any effort to overcome, reverse, or downplay the Park Service's strong preservationist instincts.

Fifth, any call to amend or rewrite the Organic Act would invite congressional mischief and could open a Pandora's box. Once Congress starts down the legislative trail, the sausage-making begins, and no one can predict with certainty how the process will end. Although change proponents may have a clear vision of how they would like a new organic act to read, there is no assurance that their preferred version would emerge, given the compromises that inevitably figure into the political process and the trade-offs that might be necessary, perhaps for matters unrelated to the national parks. If there is a demonstrated need to adjust the Organic Act, then the task would be better accomplished by targeted amendments rather than rewriting the entire law—the approach that has been followed in the past to address specific problems.

In fact, rather than tampering with the Organic Act's classic mission statement or other key provisions, the new challenges confronting the national parks can be addressed, as in the past, through carefully conceived amendments and policy adjustments. The Organic Act's conservation imperative, as we have seen, has proven quite adaptable over the years, enabling the agency to shift from façade management to a new non-interventionist natural regulation policy rooted in science rather than scenery. The act—either through its “promotion” or “enjoyment” language—has also allowed the Park Service to develop a popular interpretation program, which should set the stage for a more ambitious agency foray into public education, including programs designed to improve ecological literacy, promote a conservation ethic, and address the nature deficit disorder problem. The Redwood Amendment, as interpreted by the Department of the Interior solicitor's office and the agency's own *Management Policies*, holds the Park Service responsible for protecting park resources from external forces that could impair them,³⁸ effectively legitimizing the agency's involvement in matters beyond the boundary as well as the concept of ecosystem management, with the parks constituting the vital core in regional initiatives. And the Park Service, drawing upon the Organic Act's rather general planning provisions, has incorporated quite detailed contemporary planning standards and requirements into its *Management Policies*, including public participation, NEPA analysis, inventory, monitoring, collaboration, and biological diversity provisions.³⁹ In short, the gloss that has accumulated on the Organic Act should be sufficient to enable the Park Service to promulgate new policies and strategies needed to address climate change, landscape-scale planning, nature deficit disorder, and a more expansive public education effort.

One policy merits special mention in the face of these daunting new challenges: the “national significance” standard that governs the Park Service in its assessment of potential new parks. The ecological impacts that climate change portends will likely put extensive new

pressures on the parks, particularly on sensitive wildlife populations struggling to adapt to fundamental changes in habitat conditions. One widely proposed adaptive response to this scenario is the need for new, expanded, or reconfigured nature reserves—a potentially significant new role for the national parks.⁴⁰ Besides focusing on conventional park system additions, this new role could include adding to the system damaged lands with restorable habitat or designating new connective corridors to facilitate movement by displaced species. Under the *Management Policies* definition of “national significance,” however, the agency may not have the authority to recommend these types of lands for a new or expanded park.⁴¹ But Congress has regularly discounted the “national significance” criteria in its own designation of new parks, as reflected historically in the Shenandoah, Great Smoky Mountains, Redwood, and other designations that included degraded lands—a fact that virtually invites the Park Service to redefine “national significance” in its *Management Policies* to add the restoration concept.⁴² In addition, faced with mounting urbanization, an increasingly diverse population, and nature deficit disorder problems, the need for new urban-based parks attractive to minority citizens and others is evident, and such units should also be considered for addition to the system. These definitional changes could be accomplished administratively by reinterpreting the “national significance” language in the *Management Policies*, obviating the need for a congressional amendment to the Organic Act. In short, this represents another instance where the existing language in the Organic Act is arguably broad enough to accommodate potential park system expansion policy revisions that are designed to address changes that are afoot.

Another aspect of the Organic Act that has come under scrutiny and prompted calls for reform involves the Park Service’s institutional structure, which regularly enshrouds the agency in politics. Director George Hartzog put it this way: “[T]he position of the director ... is the command post on the fireline where politics meets parks. From the birth of the park service in 1916 to the present day, the director’s job has been political.”⁴³ In response to instances of political intermeddling in agency affairs, proposals calling for an independent Park Service have surfaced regularly. Some have advocated creating a new independent agency along the lines of the Smithsonian or National Archives, in order to reduce the level of political interference in the agency. Others have called for the director, as a presidential appointee, to serve for a specified term of office, perhaps five years, to provide greater independence by safeguarding her from dismissal if she were to run afoul of the presiding administration.⁴⁴ The argument, simply put, is that independent status would allow the Park Service Director and other officials a greater degree of freedom to advocate for the national parks.

While not without considerable merit, these independence proposals also raise serious questions, including what effect independence would have on the agency’s influence and budget. If the Park Service were moved outside the Interior Department, it might lose some of its ability to influence the other Interior-based agencies and departmental conservation policy more generally. Without direct secretarial support, it would certainly be in a weaker position when seeking to coordinate resource management decisions with Interior and non-Interior agencies. And the agency would no longer have the department as a buffer against inevitable congressional pressures. Moreover, unless Congress were prepared to provide an

independent Park Service with a guaranteed revenue stream—a highly unlikely prospect—the agency could find itself in a weakened rather than strengthened position in the annual budget battles. Instead of expending the precious political capital that would be required to gain independent status, the agency and its supporters might be better advised to focus their reform efforts on expanding, strengthening, and better funding the system, recognizing that public land policy, whether in the case of the national parks or the other federal lands, is inherently political in nature.

Conclusion

For all of its quaintness and distinctly un-modern provisions, the Organic Act has served the national parks well for nearly a century. The act's concise and clear-cut mission statement has plainly put conservation in a priority position, strengthening the agency's hand when framing resource management policies and dealing with others. As new problems have surfaced over the years, Congress has addressed them without tinkering with the Organic Act's core mission statement or other key statutory provisions. Although the Park Service and the national parks face daunting conservation and other challenges in the years ahead, including the specter of massive ecological dislocation linked to climate change, the Organic Act has proven flexible enough to respond to similar past challenges. Rather than alter the fundamental national park system charter, attention should be on the agency itself to use its powerful conservation mandate and related authority to craft innovative new resource management and public education policies for the next century. If statutory changes or additions are needed, they can and should be accomplished by targeted amendments, not by wholesale revisions. In its evolved form, the Organic Act provides a clear, time-tested, and inspirational anchor for shaping the new policies and programs that will be required to meet the needs of future generations.

Endnotes

1. 16 U.S.C. §§ 1, 1a-5.
2. The essay's primary focus is on the relationship between the Organic Act and the national parks and areas; it touches only briefly on the act's relationship to the system's historic and cultural sites.
3. Robin W. Winks, "The National Service Act of 1916: 'A Contradictory Mandate'?", *Denver University Law Review* 74, no.3 (1997): 575, 623.
4. Letter from Franklin K. Lane, secretary of the interior, to Stephen W. Mather, director, National Park Service (May 13, 1918); reprinted in Lary M. Dilsaver, ed., *America's National Park System: the Critical Documents* (Lanham, MD: Rowman & Littlefield, 1994), 48-52.
5. Pub. L. 91-383, 84 Stat. 827 (1970), codified at 16 U.S.C. § 1a-1 et seq.
6. Pub. L. 94-458, 90 Stat. 1940 (1976), codified at 16 U.S.C. § 1a-5.
7. Pub. L. 95-250, 92 Stat. 166 (1978), codified at 16 U.S.C. § 1a-1.
8. 16 U.S.C. § 1a-7(b).
9. Pub. L. 105-391, 112 Stat. 3497, codified at 16 U.S.C. § 5931 et seq.
10. See Concessions Policy Act of 1965, 16 U.S.C. §§ 20-20(g) (repealed); National Park

Service Concessions Management Act of 1998, 16 U.S.C. §§ 5951–5983.

11. 16 U.S.C. §1c(b); see Robert L. Fischman, “The Problem of Statutory Detail in National Park Establishment Legislation and Its Relationship to Pollution Control Law,” *Denver University Law Review* 74, no.3 (1997): 779.
12. Pub. L. 94-429, 90 Stat. 1342 (1976), codified at 16 U.S.C. § 1901 et seq. (mining); Pub. L. 106-181, title VIII, 114 Stat. 61, 185 (2000), codified at 49 U.S.C. §40128 (air tour operators).
13. The noted provisions are found at National Park Service, *Management Policies* (Washington, DC: National Park Service, 2006), 1.43, 1.4.3, 1.4.7.
14. *Wilderness Society v. Norton*, 434 F.3d 584, 594-97 (D.C. Cir. 2005).
15. The *Management Policies* rewrite incident is described and analyzed in Richard West Sellars, *Preserving Nature in the National Parks: A History*, 2d ed. (New Haven, CT: Yale University Press, 2009), 301–306.
16. A. Starker Leopold et al., “Wildlife Management in the National Parks,” in *Transactions of the Twenty-Eighth North American Wildlife & Natural Resources Conference* 29, reprinted in Dilsaver, 237; Memorandum from secretary of the interior [Stewart Udall] to National Park Service director, “Management of the National Park System” (July 10, 1964), reprinted in Dilsaver, 272.
17. See, e.g., Alston Chase, *Playing God in Yellowstone: The Destruction of America’s First National Park* (San Diego: Harcourt Brace Jovanovich, 1986); Frederic H. Wagner et al., *Wildlife Policies in the U.S. National Parks* (Washington, DC: Island Press, 1995).
18. *Motor Vehicle Manufacturers’ Association v. State Farm Insurance Company*, 463 U.S. 29, 57 (1983); see Robert B. Keiter, “Preserving Nature in the National Parks: Law, Policy, and Science in a Dynamic Environment,” *Denver University Law Review* 74, no. 3 (1997): 649, 678–679.
19. *National Rifle Association v. Potter*, 628 F. Supp. 903, 910 (D.D.C. 1985).
20. See *Michigan United Conservation Clubs v. Lujan*, 949 F.2d 202 (6th Cir. 1991); *Bicycle Trails Council v. Babbitt*, 82 F.3d 1445 (9th Cir. 1996); *Organized Fishermen of Florida v. Hodel*, 775 F.2d 1544 (11th Cir. 1985); *Wilderness Public Rights Fund v. Kleppe*, 608 F.2d 1250 (9th Cir. 1979); *River Runners for Wilderness v. Grand Canyon National Park*, 593 F.3d 1064 (9th Cir. 2010) .
21. *Southern Utah Wilderness Alliance v. Dabney*, 7 F. Supp.2d 1205 (D. Utah 1998), reversed and remanded, 222 F.3d 819 (10th Cir. 2000); see also *Southern Utah Wilderness Alliance v. National Park Service*, 387 F.Supp.2d 1178 (D. Utah 2005).
22. See Robert B. Keiter, “The National Park System: Visions for Tomorrow,” *Natural Resources Journal* 50, no. 1 (2010): 71, 84–91.
23. See William L. Halvorson and Gary E. Davis, eds., *Science and Ecosystem Management in the National Parks* (Tucson: University of Arizona Press, 1996); Reed F. Noss and Allen Y. Cooperrider, *Saving Nature’s Legacy: Protecting and Restoring Biodiversity* (Washington, DC: Island Press, 1994).
24. See William D. Newmark, “Legal and Biotic Boundaries of Western North American National Parks: A Problem of Congruence,” *Biological Conservation* 33 (1985): 197; William D. Newmark, “Extinction of Mammal Populations in Western North American

- National Parks,” *Conservation Biology* 9 (1995): 512 (1995); see generally Michael Soulé and John Terborgh, eds., *Continental Conservation: Scientific Foundations of Regional Reserve Networks* (Washington, DC: Island Press, 1999); Jonathan S. Adams, *The Future of the Wild: Radical Conservation for a Crowded World* (Boston: Beacon Press, 2006).
25. National Park Service, *Management Policies* (2006), 4.1.
26. On the relationship between national parks and their neighbors, see Joseph L. Sax and Robert B. Keiter, “Glacier National Park and Its Neighbors: A Study of Federal Inter-agency Relations,” *Ecology Law Quarterly* 14 (1987): 207; Joseph L. Sax and Robert B. Keiter, “The Realities of Regional Resource Management: Glacier National Park and Its Neighbors Revisited,” *Ecology Law Quarterly* 33 (2006): 233.
27. National Park System Advisory Board (John Hope Franklin, chair), *Rethinking National Parks for the 21st Century: A Report of the National Park System Advisory Board* (Washington, DC: National Geographic Society, 2001).
28. National Parks Second Century Commission (Howard H. Baker, Jr., and J. Bennett Johnson, chairs), *Advancing the National Park Idea* (Washington, DC: National Parks Conservation Association, 2009), 43.
29. See Alfred Runte, *National Parks: The American Experience*, 2d ed. (Lincoln: University of Nebraska Press, 1987).
30. See Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Chapel Hill, NC: Algonquin Books, 2005); Richard Louv, “Leave No Child Inside,” *Orion* (March/April 2007).
31. We do, however, need to do a better job of engaging minority communities in the national parks and the park experience. See National Parks Second Century Commission, 30–31, 43.
32. 43 U.S.C. §§ 1701–82 (FLPMA); 16 U.S.C. §§ 668dd–668ee (refuge system laws); 16 U.S.C. §§ 1600–14 et seq. (NFMA).
33. National Park Service, *Climate Change Response Strategy* (Washington, DC: NPS, 2010).
34. For an insightful analysis of the challenges climate change presents for the national parks and park policy, see William C. Tweed, *Uncertain Path: A Search for the Future of National Parks* (Berkeley: University of California Press, 2010).
35. See *Sierra Club v. Department of the Interior*, 398 F. Supp. 284 (N.D. Cal. 1975).
36. See references and accompanying text under note 21. See also *High Country Citizens’ Alliance v. Norton*, 448 F. Supp. 2d 1235 (D. Colo. 2006), finding an Organic Act violation when the secretary of the interior agreed to relinquish Black Canyon of the Gunnison National Park’s federal reserved water rights.
37. For an expansive interpretation of the Organic Act and the Park Service’s authority under it, see William J. Lockhart, “External Threats to Our National Parks: An Argument for Substantive Protection,” *Stanford Environmental Law Journal* 16 (1997): 3.
38. See memorandum to secretary of the interior [Bruce Babbitt] from the Department of the Interior solicitor, “Options Regarding Applications for Hardrock Mineral Prospect-

ing Permits on Acquired Lands Near a Unit of the National Park System, M #36993,” (April 16, 1998), 23.

39. National Park Service, *Management Policies* (2006), 2.1 et seq., 4.1 et seq., 4.2.1, 4.4 et seq.
40. See National Parks Conservation Association, *Climate Change and National Park Wildlife: A Survival Guide for a Warming World* (Washington, DC: NPCA, 2009); Robert L. Peters, *Beyond Cutting Emissions: Protecting Wildlife and Ecosystems in a Warming World* (Washington, DC: Defenders of Wildlife, 2008).
41. National Park Service, *Management Policies* (2006), 1.3.1 (requiring a potential new area to retain “a high degree of integrity as a true, accurate, and relatively unspoiled example of a resource”).
42. See Keiter, “Visions for the Future,” 96–99.
43. George B. Hartzog, Jr., *Battling for the National Parks* (Mount Kisco, NY: Moyer Bell, 1988), 273.
44. See Dwight Pitcaithley, “On the Brink of Greatness: National Parks and the Next Century,” *The George Wright Forum* 24, no. 2 (2007), 9, 17–18; William J. Lockhart, “External Park Threats and Interior’s Limits: The Need for an Independent Park Service,” in David J. Simon, ed., *Our Common Lands: Defending the National Parks* (Washington, DC: Island Press, 1988), 3.

Robert B. Keiter is the Wallace Stegner professor of law, university distinguished professor, and director of the Wallace Stegner Center for Land, Resources and the Environment at the University of Utah S.J. Quinney College of Law. His new book, tentatively entitled *To Conserve Unimpaired: The American National Park Idea*, will be published by Island Press in 2013.

☪ The Heart of the Matter

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

Sacred Natural Sites: Conserving Nature and Culture, edited by Bas Verschuuren, Robert Wild, Jeffrey A. McNeely, and Gonzalo Oviedo. Earthscan, \$150.00 (hardcover), \$49.95 (paper), 310 pp., index. 2010.

Reviewed by David Harmon

FOR THOSE OF US WHO LIVE IN SOCIETIES where doctrinal religious practice—or reaction to it—has appropriated the majority of our thoughts and actions with respect to sacredness, it can be hard to grasp that for most of human history the sacred was firmly tied to nature. The mysteries of the natural world were certainly the initial impetus for humans to create (or, if you prefer, discover) the concept of sacredness. And, precisely because these mysteries were so abundant in the absence of any scientific explanation, people imputed sacredness to natural sites throughout the landscapes they called “home.”

It is this conjunction of sacredness, nature, and home that is brought to the fore in the welcome recent book *Sacred Natural Sites: Conserving Nature and Culture*. It is edited by four prominent figures within IUCN: Verschuuren and Wild lead the Specialist Group on Cultural and Spiritual Values of Protected Areas, McNeely recently retired as chief scientist, and Oviedo is senior advisor for social policy. Because of IUCN’s global reach, the editors were able to draw together contributions from every corner of the world, resulting in the most comprehensive analysis yet of the scope and importance of sacred natural sites—sites which persist despite the larger trend toward “denaturing” the sacred.

Framed by introductory and concluding chapters by the editors, the book is divided into four sections. The first looks at the scientific basis of these sites—“science” in this case including both conservation biology and the social sciences. The second offers case studies of places as disparate as the holy island of Lindisfarne in the UK, Sagarmatha (Mount Everest) in Nepal, and the sacred forests of western Cameroon, among others. The third considers how sacred natural sites—most of which exist outside of civil law regimes, having no official recognition—might fit into larger protected area systems, such as UNESCO’s Man and the Biosphere Program, the World Heritage Convention, and the Ramsar network of internationally significant wetlands. The fourth section recounts case studies where communities themselves have taken the lead to restore or protect sacred natural sites in the face of threats emerging from changed social and environmental conditions.

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Considering all this, conservationists of a skeptical bent are likely to have two main questions: How important are these places, really, in ecological terms? And, how well protected can they possibly be when restrictions are enforced by custom and not by law?

In fact, these questions, as I have just phrased them, are not nearly sophisticated enough. As most remaining sacred natural sites are part of rural landscapes that people consider to be their home, they cannot appropriately be evaluated simply on whether they protect biodiversity or deliver ecosystem services (though they do, as a review of the scientific literature by Nigel Dudley and co-authors shows). Rather, we need to ask how they fit into the environmental *and* social fabric of people's lives. The answer is that these sites, beset though many are by eroding traditions and encroaching modern development, are still highly meaningful to hundreds of millions of people around the globe. And, because the meaning people find in them is deep and multilayered, the second question posed above needs to be restruck to account for the fact that people's relationships to sacred natural sites is far more complex than simply refraining from prohibited activities.

Limitations of space allow me to give just a couple of examples. In a chapter on the sacred lakes of the delta of the Niger River, E.D. Anwana and co-authors explain how, in traditional African society, the notion of an ecosystem includes not just the plant and animal communities we see before us, but also the spirits of animals and human ancestors that have gone before. Nature conservation, therefore, does not take place exclusively in the present; it is conditioned by the past and, indeed, continuously relinked to it. This adds a temporal dimension to conservation that does not have an exact parallel in Western society (although it is akin to the epistemological field against which historians, preservationists, and archaeologists work). To make sense of the delta's sacred lakes from an African perspective requires both an environmental and social accounting.

A second example, this one speaking to the complexity of people's relations to nature in the context of the sacred, comes from Thailand as told by Denis Byrne. Thais, the majority of whom are Buddhists, have traditionally had an ambiguous attitude toward the nation's expansive and ecologically important forests. On the one hand, Thais "conceive of forests as representing darkness and disorder in distinction to the light and civilization of cleared agricultural and urban areas." On the other, forests have a venerable historical importance to Buddhist monks as sites of retreat, contemplation, and spiritual testing. This schism is reflected in the ranks of monks themselves, some of whom have been tabbed "development" monks while others are "ecology" monks. As Thailand has aggressively modernized and more forestland is cleared, some ecology monks have modified old rituals in order to carry out the "ordination" of individual trees. A saffron monk's robe is tied around the tree, which, to believers, has the effect of altering the tree's state so that it becomes spiritually hazardous to harm them. The point of the ritual is not to save a single tree, but to connect a whole community to the protection of the local forest. "In one tree ordination ceremony," Byrne explains, "a monk sanctified a bowl of water from which each of the village headmen drank, ritually binding them to protect the forest which was also ritually sanctified during the same ceremony."

Ordaining trees—seriously? Seriously. The book is full of similar examples that could very well induce eye-rolling in thoroughgoing secularists like me. But my view is that it is a

huge mistake for us cold-blooded rationalists to simply dismiss the cultural and spiritual values of protected areas, even if we cannot share in the vast majority of beliefs that underlie those values. Why? Because as foundational as conservation science and scientific values are, there is no doubt in my mind that cultural, spiritual, and other nonmaterial values are every bit as important in terms of motivating people to protect nature. And so it behooves conservationists of every stripe to at least make an attempt to understand them. Chapter after chapter of *Sacred Natural Sites* provides evidence to back me up.

In November 2011, the journal *Conservation Biology* published the results of a survey of nearly 600 conservation scientists. They were asked about their expectations for biodiversity in the decades to come, and about the values that motivate their work, among other things. The key empirical finding was that the respondents were virtually unanimous—99.5% being in agreement—in thinking that major biodiversity losses are likely. They were also largely agreed that “understanding interactions between people and nature” is “a priority for maintaining ecosystems.” “However,” the study’s author reported, “they largely rejected cultural or spiritual reasons as motivations for protecting biodiversity. They also rejected ‘human usefulness,’ suggesting many do not hold utilitarian views of ecosystem services.”

What does this tell you? What it tells me is several things. First is that, for biodiversity—unlike, for example, climate change—there is not merely a very strong scientific consensus about likely future impacts, but essentially complete agreement. That’s nothing short of remarkable. Second, biodiversity scientists understand that they cannot abstract people out of the picture when considering what to do about maintaining ecosystems (presumably meaning “ecosystem function”). Thus, the problem, as well as the context for its solution, are already settled. But—moving on to a third inference—it appears that, by virtue of their training, most scientists are quite unlikely to credit any overtly nonscientific reasons as being part of what motivates them to protect biodiversity. Yet they do *not* thereby default—as they easily and logically could—to an anthropocentric view of other species as mere commodities.

That fourth conclusion gives, if I am correct in my inferences, a very interesting twist to my little back-of-the-napkin exercise in figuring out what makes conservation biologists tick. It’s apparent to me that at some deep level they don’t just admire the complexity of the natural world: they *love* it. And they will go to their graves doing everything in their power to avoid admitting it.

Now, admittedly, I am exaggerating here. Still, the hard-to-disentangle attitudes of conservation biologists are a big challenge to those who want to gain respect for cultural and spiritual values for protecting nature. As I’ve said above, that is part of what the editors of *Sacred Natural Sites* are up to. But it’s only a very small part. The book is largely conceived as an opportunity for the stewards of these sites to explain them in their own words and on their own terms. My hope is that the rest of us will make time to listen.

FULFILLING THE INTERNATIONAL MISSION OF THE US NATIONAL PARK SERVICE

Stephen Morris and Jonathan Putnam, guest editors

The Importance of International Involvement of the National Park Service

Jonathan B. Jarvis

IN SEPTEMBER OF THIS YEAR, I TRAVELED TO TAYRONA NATIONAL PARK in Colombia, South America, to meet with about 15 park directors from around the world, places like Kenya, New Zealand, Mexico, and South Korea. For a few days we informally discussed issues of climate change, relevancy (South Africa's National Park Director David Mabunda lamented that the black residents of Johannesburg are not coming to Kruger National Park!), economics and park funding, wildlife encounters, and the politics of conservation. We meet to assert that parks and protected areas are essential antidotes to the challenges facing the world. It is not easy to understand the place the United States holds in the minds of the national park systems around the world until you hear it directly from peers.

The US is respected worldwide for our economy, our military, our democratic principles, our human rights, our justice system, and the opportunity



Director Jarvis signing a sister park agreement in Cambodia.

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for every citizen to achieve his or her full potential; we are also a respected leader for our conservation of the environment and our preservation of our history. Our presence on the international stage brings legitimacy and weight to the efforts of the protected area community at a time when threats to our institutions come from all corners. Plus, we have as much to learn as we have to give, as we certainly do not have all the ideas: Mexico has created private wilderness areas, Colombia works with indigenous land owners to conserve the environment and their culture, Australia is way ahead on the health aspects of the outdoors, and South Africa is pioneering techniques to stop the trade of animal parts.

As we look to the World Parks Congress in 2014, NPS will be there and helping to elevate the importance of special places that need public support and long-term preservation.

Jon Jarvis is director of the National Park Service.

Linking NPS to the World: The Role of the National Park Service Office of International Affairs

Stephen Morris and Jonathan Putnam

THE NATIONAL PARK SERVICE (NPS) HAS A LONG AND PROUD HISTORY of international leadership and engagement, a story not particularly well known among either the NPS rank and file or the general public. Since even before the creation of NPS in 1916, countries around the world looked to the US as a leader in the global parks movement, and indeed the very concept of national parks that began with the creation of Yellowstone National Park in 1872 has been viewed by many in and outside the US as “America’s best idea.” Likewise, from the earliest days the leadership of NPS and the Department of the Interior believed strongly in the international work of the Park Service, and, importantly, not just in helping other countries develop and manage their own parks. It was understood that NPS had much to learn from the experiences of other park agencies around the world. From the development of the NPS interpretation program in the 1920s to the use of all-taxa biological inventories today, NPS has gained much through international engagement.

The creation of the NPS Office of International Affairs (OIA) 50 years ago—in November 1961—was an important milestone, and not only in the NPS’s history. Its establishment put NPS in the vanguard of US government involvement in international conservation. Through its various international programs over the last century, NPS has been involved in park creation, development, and management in nearly every country in the world, and has helped train thousands of park managers. This history and the need for NPS to be engaged internationally is well covered in Brent Mitchell’s recent contribution to the NPS Centennial Essay Series in this journal (“Projecting America’s Best Ideals: International Engagement and the National Park Service,” volume 28, number 1, 2011).

While NPS has ceded much of its international leadership role over the last decade or two, the need for international engagement—both for NPS itself and for international conservation more broadly—has never been more urgent. The world is facing multiple environmental crises: climate change, biodiversity loss, air and water pollution, loss of habitats, etc., and while the number of protected areas worldwide has grown significantly, it is acknowl-

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edged that many, perhaps most, of these areas are still “paper parks” that are not successfully fulfilling their conservation mandate.

Furthermore, it is increasingly understood that the resources of our parks are intertwined with, and impacted by, the wider world. Nearly all park managers now understand that they cannot possibly succeed in protecting or interpreting their resources if parks become ecological or historical “islands” surrounded by a sea of development, and that they need to be connected to and protected within much larger land- and seascapes. However, it is increasingly clear that the extent of these connections is much greater than most people have appreciated: the migratory movements of many wildlife species (ranging from warblers and butterflies to sea turtles and whales) protected in NPS units means that, for example, Denali National Park and Preserve is connected to Patagonia in Chile and Argentina (among many other places), Great Smoky Mountains National Park is connected to rainforests in Costa Rica, and the National Park of American Samoa is connected to Fiji and Indonesia, just to name a very few. Air pollution in Alaska and even the Rockies may originate as far away as Asia, and invasive species and of course climate change are truly global threats to the integrity of US parks and protected areas. Cultural parks and heritage sites also exhibit the same kind of international connections, as is evidenced by the current joint efforts of NPS and agencies in Canada to commemorate the bicentennial of the War of 1812.

NPS Director Jon Jarvis, a career NPS employee and former regional director, fully understands the need for NPS to be engaged with foreign counterparts and supports strengthening the Park Service’s international outreach. Within a week of beginning his tenure as director in September 2009, Jarvis traveled to Canada for a meeting of the heads of protected areas agencies from around the world and announced to his counterparts, “We’re back!” (on the international stage). Several months later, he repeated the announcement to enthusiastic applause at a meeting in Mexico at which he and his Mexican and Canadian counterparts signed a tripartite agreement on cooperating to protect wilderness in North America.

Despite difficult budgetary constraints, Director Jarvis has begun making good on his pledge in numerous ways, perhaps most significantly by agreeing to assign for several years a senior NPS employee to the Global Protected Areas Program of the International Union for the Conservation of Nature (IUCN). IUCN is the world’s largest conservation network, with both government and nongovernmental members. In 2008, its commitment to protected areas appeared to be waning with the departure of the director of the protected areas program and a reorganization that merged the program with others. Several of the leading countries’ protected areas agencies, like NPS also IUCN members, were concerned by the apparent de-emphasis on protected areas within IUCN. To spur a reinvigoration of the program, the following year they issued a challenge to IUCN—if it would hire a new protected areas director and otherwise bolster the program, then the three agencies (Australia’s Parks Victoria, Parks Canada, and NPS) would each make available a member of their staff on detail to continue the effort to rebuild IUCN’s work on protected areas. David Reynolds, the former NPS Northeast Region chief of natural resources and a person with significant international experience, has now been assigned to work on the Global Protected Areas Program on capacity development. Reynolds will continue this work through the next World Parks Congress in 2014.

Director Jarvis has also taken the reins as the chair of the committee working to implement the recently signed Memorandum of Understanding on North American Wilderness and Protected Areas, which facilitates cooperation on parks and wilderness among Canada, the United States and Mexico. NPS will host the next committee meeting and working group in late 2011 and 2012.

Beyond specific initiatives such as these, the director is using his bully pulpit to promote the need for and the value of looking beyond our national borders as the Park Service goes about its mission. For one of his monthly “flat hat chat” videos posted on the Park Service’s intranet website, he championed the work of the OIA, and in this context the value to NPS of international outreach. His actions in this regard are setting an important tone that is much needed after the many years in which NPS leadership downplayed or actively discouraged international engagement, fearing in part that it would draw unwanted attention from Congress. It will take time to build a culture within the organization that views international work as relevant and important, but with his credibility in the organization and the passion he brings to the topic, Jarvis has made a good start.

It’s unlikely that NPS efforts in the international realm will see a return anytime soon to a level of engagement similar to the height of its activities during the 1960s to 1980s period, when, with a dedicated and significant international affairs budget, the agency was able to sponsor major training initiatives, allocate large amounts to technical assistance projects in developing countries, and send employees overseas for extended periods of time. The budget realities confronting the agency in today’s world simply won’t permit it. In any case, the global conservation arena has evolved significantly since those days. Unlike the early days of OIA, today there are many other players actively involved in international conservation initiatives, including several large nongovernmental organizations (NGOs) as well as a few federal agencies such as the US Fish and Wildlife Service and the US Forest Service. Other countries have strengthened their capabilities and outreach as well, which is a measure of the success of the global protected areas movement. Thus, the gap left by the NPS’s drawdown of international activities has been at least partially filled by these other organizations. Rather than reinventing the wheel and creating duplicative initiatives, NPS now looks to focus on specific “niches” where its expertise is deep and, perhaps, unmatched by others. It also needs to be more strategic in targeting NPS-funded international assistance in areas where the benefits to NPS and park resources can be clearly demonstrated. It can and will continue to provide assistance more widely on a cost-reimbursable basis, as it has done for many years.

There are a number of ways in which the Park Service is doing this. For example, rather than hosting a single large seminar on protected areas management, as was done for many years, NPS, through OIA, has sponsored several smaller targeted international workshops focused on specific topics of interest. A recent workshop highlighted NPS’s experiences with private-sector partners in managing visitor services through concessions, leases, and other partnership arrangements. It was organized with Colorado State University and held at Golden Gate National Recreation Area in San Francisco and at Yosemite National Park, and brought together representatives from Europe, Asia, Latin America, Australia, and Africa. Around the world, there is growing interest in how protected areas can engage with the

private sector to provide services and generate economic opportunities, particularly for nearby communities. In developing countries especially, protected areas are woefully underfunded and are looking for ways to generate revenues through partnerships with private businesses. NPS has decades of experience in this area, beginning with some of our earliest parks, which were established in coordination with the railroads and the tourism industry. Along the way, the Park Service learned quite a bit and also made some mistakes; it can pass those lessons on to countries such as Brazil, which is just beginning to think about how to increase visitation to its parks in anticipation of hosting several major international events in the near future, including the Olympics and the World Cup. A related workshop on visitor use management and planning was held in 2008 at Yellowstone National Park. This is another field in which NPS has deep expertise, given the emphasis placed on welcoming visitors to national parks since the Park Service's inception.

Though it currently has very limited funding to conduct international technical assistance, NPS through OIA remains involved in designing and implementing assistance programs in natural and cultural resource management around the world. For example, NPS and the National Oceanic and Atmospheric Administration (NOAA) have received funding support from the US State Department to develop a multi-year program of assistance and exchange with Chile's national parks and marine protected areas. This includes the development of a new sister park partnership between Glacier Bay National Park and Preserve and the Francisco Coloane Marine and Coastal Protected Area in Patagonia, a development which was highlighted by President Obama during his March 2011 visit to Chile. Under this partnership, Glacier Bay will be sending its science advisor to Chile for a six-month assignment to help Francisco Coloane develop tools to monitor park resources and to minimize threats to whales from ship strikes within the park.

As another example, in partnership with a contractor for the US Agency for International Development (USAID), Development Alternatives, Inc., NPS is working with Rwanda's national parks on a range of issues, including concessions, fee management, and the development of trails. NPS is also working with the national park agency of Colombia and USAID on a two-year action plan to help Colombia's parks develop programs in interpretation, concessions, natural resources management, and climate change.

A core function of OIA is to provide guidance to parks interested in establishing a sister park relationship with a foreign park with similar features or facing similar issues (see <http://www.nps.gov/oia/topics/sisterparks/sisterparks.htm>). The primary benefit of the sister park concept is the long-term nature of the partnership: rather than just a quick "one-off" technical assistance mission lasting a week or two, through a sister park partnership NPS and its partners can develop initiatives that deepen over many years. In a sense, the sister park concept started in 1932 with the creation of the Waterton–Glacier International Peace Park (the world's first transboundary park; Figure 1), but it has expanded considerably over the last decade or so, with more than 40 such relationships having been established. While many of these partnerships are with parks in Mexico and Canada, they also include some with areas as far away as Poland and China. Two case studies are discussed elsewhere in this issue: one of the more active partnerships links Rocky Mountain National Park with the Tatras



Figure 1. The superintendents of Glacier National Park (US) and Waterton Lakes National Park (Canada) shake hands across the border in this photograph from about 1960. Ed Hummel of Glacier is on the left; T.W. "Tony" Pierce of Waterton Lakes is on the right. The parks, which adjoin one another, form Waterton–Glacier International Peace Park—the world's first such designation, dating from 1932. Since 1995, the peace park is also recognized as a World Heritage site. Photo by Jack E. Boucher, courtesy of US Department of the Interior, National Park Service Historic Photograph Collection, Harpers Ferry Center.

National Park in the Carpathian mountains of northern Slovakia and southern Poland, and is described by Rocky Mountain Acting Deputy Superintendent Ben Bobowski. The part-

nership has attracted support from the US Embassy in Poland. White Sands National Monument Superintendent Kevin Schneider also summarizes the sister park relationship between White Sands and Mexico's Cuatrociénegas Reserve.

While OIA has no dedicated funding for sister parks (with some very specific exceptions), the office helps identify partners and ensures that the relationships are clearly articulated and well founded. OIA keeps track of the arrangements even when, as sometimes happens, the initial interest in the partnership wanes as a result of staff turnover. The most active and enduring sister park relationships result when enthusiastic park managers are motivated to seek the outside funding necessary to support exchanges and other activities. The best relationships are those that are broad enough to include friends' groups and representatives of local communities around the park who can ensure some level of continuity. For example, several parks in Minnesota and Wisconsin, led by St. Croix National Scenic River, have initiated a new partnership with Corcovado National Park in Costa Rica, described by Christopher E. Stein in this issue. Right from the start, the parks are looking to include other local partners in the relationship, including friends' groups, state and local governments, and others.

Among OIA's other core activities is the International Volunteers in Parks program (see <http://www.nps.gov/oia/topics/ivip/ivip.htm>) through which approximately 100 foreign volunteers annually serve in national park system units all over the country for periods ranging from a few weeks to six months or longer. OIA is authorized by the State Department to be the official sponsor of the volunteers and, when necessary, helps secure the appropriate visas. The volunteer program enriches not only the individual volunteers, who are mostly students (though they also include protected area professionals), but also helps NPS staff in critical ways. For example, volunteers from countries in Latin America participating in the Park Flight Migratory Bird program (see <http://www.nps.gov/oia/topics/flight/flight.htm>) have been able to connect with local Hispanic communities around their host parks in a way that local staff had not been able to.

The Office of International Affairs is the main point of contact for foreign delegations interested in meeting with NPS staff while in the US. Given the high profile of America's national parks around the world, the interest from overseas in how the parks are managed is very high. Some of the delegations are sponsored by the State Department, which runs an active International Visitor Leadership program. NPS is requested to make available staff with a wide variety of backgrounds and expertise to meet with foreign leaders. A recent Kenyan delegation was interested in exploring how NPS deals with research benefits-sharing, particularly in cases with potential commercial applications, such as microbial organisms found in geysers at Yellowstone National Park. In many cases, meetings take place at NPS headquarters in Washington, but also involve study tours to offices and units of the national park system. OIA worked with Yellowstone and Glacier recently to organize a study tour for a high-level South African delegation interested in commercial lodging facilities as they consider whether or not to authorize such a facility in Kruger National Park. The office hosts several hundred individuals annually for meetings of this kind.

A major responsibility of the OIA is serving as the staff office for the World Heritage program, under the direction of the assistant secretary of the interior for fish and wildlife and

parks. As documented in Peter Stott's article in this issue, the US was an early leader in the establishment of the World Heritage Convention, one of the leading global conservation instruments. Chester Brown, then chief of OIA, was one of the experts who drafted the convention in April 1972. Since that time, NPS representatives, including staff of OIA as well as senior agency officials and representatives of the assistant secretary's office, have regularly performed the role of "technical experts" who, together with their State Department colleagues, have made up the US delegations to annual sessions of the World Heritage Committee. The responsibilities of the delegation, and particularly NPS staff, have been especially demanding during periods when the US has served as one of the 21 countries on the World Heritage Committee. (The US's last term on the committee was from 2005 to 2009.) In addition to formulating US positions on various policy issues, NPS staff on the delegation review proposed nominations of new World Heritage sites as well as state-of-conservation reports on threatened sites. Even as an observer delegation, the NPS participants take an active role in working groups during the two-week-long meetings and gather information that informs our US World Heritage program.

Since 2003, when the US rejoined the United Nations Educational, Cultural, and Scientific Organization (UNESCO) after a 19-year absence, NPS's World Heritage responsibilities have expanded. (The US continued to participate in the World Heritage Convention even when it was not a member of UNESCO.) In 2004–2005, the Office of International Affairs coordinated the development of a comprehensive periodic report providing a status update on each of our US World Heritage sites, as well as a national overview of how the convention has been implemented in the US. The report was coordinated with Parks Canada and a joint North American report was included. Subsequently, OIA oversaw the development of a new US World Heritage Tentative List of potential future nominations. Though no US sites had been proposed for nomination since 1994, the Bush Administration was interested in nominating sites and believed it was time to develop an updated candidate list to replace the previous one from 1982. Revising the list was a three-year effort, based on applications reviewed by individual experts as well as a committee convened under the auspices of the State Department's US National Commission for UNESCO (NPS partnered with the George Wright Society on the project). At the end of the process in 2008, a new Tentative List with 14 properties having good potential for nomination was submitted to UNESCO. Immediately following the submission of the Tentative List, OIA was given the charge to begin nominating two sites from it. The nomination process is a multistep effort involving an interagency advisory panel, *Federal Register* notices seeking public comment, and the completion and review of nomination documents prepared by the site managers. The sites selected, Papahānaumokuākea Marine National Monument in Hawaii, and George Washington's Mount Vernon estate in Virginia, were nominated in early 2009. Ultimately, in August 2010, Papahānaumokuākea, proposed for both its natural and cultural values, was inscribed by the World Heritage Committee, becoming the first US addition to the World Heritage List in 15 years.

Currently, OIA is overseeing the development of two new nominations: a serial proposal for 11 Frank Lloyd Wright-designed buildings in six states from New York to California; and one for Poverty Point, a vast earthwork of concentric rings built by a hunter-gatherer cul-

ture 3,500 years ago in what is today northeastern Louisiana. While the nomination documents are being written by the respective sponsors, OIA is providing overall policy and editorial guidance to help ensure that all the World Heritage requirements will be met. OIA will also coordinate review of the nominations by a federal interagency panel before the completed documents are sent to UNESCO in late 2012 or early 2013.

There is much more to the World Heritage program than nominating sites, however. In 2009, the office was involved in responding to petitions from environmental groups to the World Heritage Committee to add Waterton-Glacier International Peace Park, a single Canadian-US transboundary World Heritage site, to the List of World Heritage in Danger. The petitioners feared that energy development in the Canadian portion of the Flathead River valley posed grave danger to the watershed, including Glacier. The committee asked the US and Canada to invite representatives of the UNESCO World Heritage Centre and IUCN to visit the site and make an independent evaluation of the situation. OIA helped negotiate the terms of the review visit with Parks Canada. The resulting mission report warned that mining and energy development would be devastating for the ecology of the World Heritage site and, as a statement by the world community on the potential threats, played an important role in the agreement reached a few months later by British Columbia and Montana authorities to withdraw the Flathead Valley from consideration for any energy development.

OIA has worked closely with Everglades National Park, recently re-listed on the World Heritage in Danger List, to develop a "Desired State of Conservation for Removal from the Danger List," which consists of benchmarks in the Everglades restoration efforts that should indicate at what point the ecosystem has improved to a level at which most would agree that the park and larger ecosystem are no longer seriously threatened.

In line with the US's view that the World Heritage community needs to place more emphasis on conservation of World Heritage sites, NPS, along with partners including the United Nations Foundation, the National Park Foundation, and the George Wright Society, has developed the US World Heritage Fellows program (see http://www.nps.gov/oia/new/New_Page/WH_Fellowship.htm), in which promising mid-career World Heritage site managers from the developing world receive fully funded fellowships to travel to and train in US World Heritage sites managed by NPS. (Seventeen of the 21 World Heritage sites in the US are NPS units). To date, seven individuals have participated and there are several more anticipated over the next year. OIA coordinates the program in cooperation with the host parks.

Given its small staff and budget, OIA has expanded its work with partners, including the State Department, USAID, and other federal and nongovernmental organizations. A particularly successful partnership that lasted from the 1970s to the late 1990s was between NPS and the Peace Corps. NPS helped train incoming Peace Corps volunteers and organized projects in protected areas around the world. Some observers have described this as the "single most successful international conservation program implemented by the US government." Discussions are currently underway to revive this partnership.

OIA also plays a role in coordinating, consulting about, and sometimes promoting international work that takes place in parks and programs throughout the agency. The sister parks program, discussed earlier, is but one example. The Intermountain Regional International

Conservation Office (IMRICO) funds international projects between NPS units in that region and partners in Mexico and Canada. Since 1991, NPS, through the Alaska Region, has maintained a Shared Beringian Heritage program, which provides research and community assistance grants to recognize and celebrate the natural resources and cultural heritage on both sides of the Bering Strait. As part of a major diplomatic initiative to improve relations with Russia, beginning in 2010 the State Department has provided funding to NPS to increase exchanges between the countries and explore ways of formalizing this cooperation.

Many of the requests from overseas for technical assistance or other specialized expertise comes directly to specific individuals and park units. Often these are “one-off” requests, such as to give a paper at a conference, or to advise or provide training on a specific issue or problem. Generally, when the requesting entity has funding to cover travel expenses, NPS will make its staff available to provide assistance. To ensure overall benefits to NPS, OIA reviews all requests from staff for foreign travel.

More programmatic international activities also take place throughout NPS. For example, through its Public Health program, the Park Service is participating in a new global initiative, Healthy Parks, Healthy People, focusing on the health benefits of contact with nature, and particularly on parks as a place for healthy activities. The Park Service’s executive leadership training, a two-week course held annually in conjunction with the University of California–Merced, has recruited a significant number of international participants, which the sponsors believe enriches the experience for all the participants. The NPS Climate Change Response program, which sponsors the George Melendez Wright Climate Change Fellowship, will be recruiting fellows from Canada and Mexico in its next cycle. NPS Natural Resources programs have numerous partnerships with Parks Canada, and discussions are underway to create similar cooperation on cultural resource matters.

NPS’s international activities respond to administration and departmental priorities. As mentioned above, increased cooperation with Russia in the Bering Straits region is a direct result of White House and State Department initiatives. Similarly, OIA has been working with Big Bend National Park in response to Secretary of the Interior Ken Salazar’s strong interest in increasing cooperation between the park and the Mexican protected areas across the Rio Grande. The administration has announced that a limited border crossing linking the park and the Mexican village of Boquillas will be re-established after having been shut down following the events of September 11, 2001. The reopening of the border will facilitate cooperation between NPS and its Mexican counterpart and an action plan has been developed to carry that work forward. This is a very significant step in realizing the notion of an international park between the two countries, something first discussed by President Franklin Roosevelt and his counterpart more than 70 years ago. Cooperation with Mexico in the Big Bend region is discussed in Joe Sirotnik’s article in this issue.

Conclusion

Over the last few years, NPS has begun to rediscover its rich legacy of international cooperation and take steps to renew and strengthen its international role. This renewal is taking place in tough budgetary times and with the full knowledge of how much more complicated the field of international conservation has become since the 1960s and 1970s. However,

there is also a keener awareness now that working across national boundaries and being an active participant in global initiatives is no longer optional, but rather essential in an increasingly interconnected world in which cultural and natural resources face threats that can only be addressed at a global scale. The Office of International Affairs is playing a key role in guiding, coordinating, and promoting the efforts of many different parts of the National Park Service to help ensure that the agency successfully responds to the mandate in its mission statement to cooperate “with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and *the world*.”

Stephen Morris, National Park Service Office of International Affairs, 1201 I Street NW, Washington, D.C. 20005; stephen_morris@nps.gov

Jonathan Putnam, National Park Service Office of International Affairs, 1201 I Street NW, Washington, D.C. 20005; jonathan_putnam@nps.gov

Collecting and Diffusing “the World’s Best Thought”: International Cooperation by the National Park Service

Terence Young and Lary M. Dilsaver

ON OCTOBER 27, 1966, the National Park Service (NPS) announced that it would send a team of twelve specialists to Jordan to work with that country’s Tourism Authority and Antiquities Department. In cooperation with the Agency for International Development and under the guidance of the Park Service’s Division of International Affairs, the NPS personnel would spend two years providing site development plans for historical areas, training Jordanian park personnel, and coordinating Jordan’s developing national park and historic monuments system. According to National Park Service Director George Hartzog, “This is the first major international cooperative project the NPS has undertaken and is part of a continuing program to share experience and knowledge in park programs around the world.”¹

The “continuing program” noted by Director Hartzog was the Division of International Affairs, which celebrated its 50th anniversary in 2011 and which was established to manage and coordinate NPS interactions with foreign park and protected area agencies (Table 1). In the decades following its creation, the Office of International Affairs (OIA), as it is now known, has engaged the human and other resources of the Park Service to fulfill its complex international mission. In the words of former OIA Chief Robert C. Milne, this office “serves as the primary contact between the NPS and the world conservation community.”² Today, the OIA is NPS’s official arm for the evaluation and coordination of international programs, projects, and activities. Such interactions, however, did not begin with the OIA. Rather, they stretch back more than a century to before the creation of the National Park Service. In this article we aim to provide an overview of the principal agency-level interactions over the past century, situating them in the political and social evolution of American foreign relations as well as worldwide advances in science and conservation. In the space of this article, we cannot detail the outcomes of the many exchanges that occurred over the years. We can merely characterize the nature and intensity of interactions and recognize that in any specific instance the impact on the Park Service or a foreign agency may have been transformative, non-existent, or something between.

Before the creation of the Division of International Affairs, the NPS cooperated with overseas park systems on an *ad hoc* basis as situations and opportunities arose. At least as

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Table 1. International cooperative activities of the US National Park Service.

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- Disseminating information about US national parks
 - Collecting information about foreign protected areas
 - Assisting with foreign park planning, design, and technical development
 - Advising other US agencies
 - Coordinating visits to US parks by foreign officials
 - Training foreign park personnel
 - Providing representation at international conferences
-

early as the first decade of the 20th century, the national parks began one of their most enduring international actions: the dissemination of information to foreign officials seeking to better manage their own protected areas. Requests occasionally came from park authorities in Japan, Switzerland, Germany, and elsewhere, but most often they arrived from Canada, which has always been the premier respondent in these exchanges. For instance, R.C. Campbell, Superintendent of Canada's Forestry Branch, wrote to his southern colleagues in January 1909 to obtain "information in connection with the administration of hot water springs in the National Parks." As would be typical of many such inquiries, Campbell sought assistance with a specific management issue: "the cost and character of bath houses." In particular, he wanted to know how many "people of both sexes ... can be accommodated at one time, and the extent to which they are patronized." Furthermore, he had the facilities of a particular park in mind. "This information," Campbell relayed, "would be particularly acceptable in connection with the Yellowstone."³

Campbell's request came to rest on the desk of Frank Pierce, the first assistant secretary of the Interior Department, who mailed the forester a variety of superintendents' reports and "copies of the ... laws and regulations" relative to several national parks, including Yellowstone and Hot Springs. Despite the Canadian's specific interest, Pierce directed him to the Hot Springs report because, he informed Campbell, "No bath houses are maintained in the Yellowstone National Park."⁴ This single exchange captures a feature common to many early professional inquiries—a misperception of America's national parks that had to be corrected in a reply. Great distances and limited communications tended to result in frequent misunderstandings about the nature and management of US national parks.

American park authorities did not, however, simply dispense information during these pre-Park Service years. Officials at Interior also used the mails to collect information that could assist them with their work. Most notable during this period were the exchanges between Clement Ucker, chief clerk of the Interior Department, and J.B. Harkin, the first Commissioner of Canada's new Dominion Parks Branch. Canada had created the world's first national park service in June 1911, and before the year was out, Harkin and Ucker were corresponding with each other. Harkin initially sought budgetary and other information on America's national parks, which Ucker rapidly provided. Ucker, for his part, hoped to learn more about the creation of Canada's national park system because in December 1911 the American Civic Association had begun what would ultimately be its successful drive for a US park system. In pursuit of his goal, Ucker wrote Harkin in December 1912 to obtain a copy

of the law creating Canada's park system and transcripts of the debates preceding the law's passage by parliament. A bill to create a "Bureau of National Parks" had been introduced in the US Congress and Ucker wanted "to obtain all available information on this topic."⁵ Harkin mailed Ucker everything he had requested and wished his efforts well.⁶ Congress did not pass the 1912 bill, but the effort to create a US park system continued unabated and in 1916 resulted in the creation of the National Park Service.

In the aftermath of this success, the valuable support of an international partner was not forgotten by the Park Service's new leaders. In a May 13, 1918, letter to Director Stephen Mather, Interior Secretary Franklin K. Lane specifically linked the new service's mission to international cooperation. "You should," ordered Lane, "keep informed of park movements and park progress, municipal, county and State, both at home and abroad, for the purpose of adapting, whenever practicable, the world's best thought to the needs of the national parks."⁷ In accordance with Lane's directive, NPS collected information about the size, scope, use, and management of foreign protected areas, especially those in Canada and other English-speaking countries. Nevertheless, NPS's approach through the 1940s remained relatively casual, relying largely on what they could collect through correspondence, publications, research reports from the Carnegie Foundation, and the cooperation of State Department employees stationed overseas.⁸

During these early decades, the Park Service occasionally assisted a foreign agency with the planning, design, and technical development of a protected area, but as demonstrated by the case of Tongariro National Park, it did so at a distance rather than on-site. In spring 1923, a park board was appointed "to control and develop" this New Zealand park. As an initial move, J.B. Thompson, undersecretary for lands, wrote to Director Mather for assistance with two construction matters: "the erection of a Caretakers cottage and of a large hostel to accommodate visitors." Thompson knew that NPS had constructed many ranger residences so he requested any plans that would enable his staff to build a structure "in harmony with the surroundings." The hotel, Johnson relayed, was proposed to be a private venture so he would be grateful to know if NPS allowed nongovernmental facilities in its parks. Even if it did not allow private hotels, a "sketch or plan of a [national park hotel] would also be appreciated." One month later, Mather cheerfully informed Thompson that the Park Service was "very glad to give you every assistance." They mailed Thompson the plans for a standard ranger station, copies of the contracts signed between the Yellowstone Park Hotels company and the Department of the Interior "for the erection, operation, and maintenance of hotels," a report on how the Landscape Engineering and Civil Engineering divisions studied and criticized private plans before approval, and photographs of some existing park hotels. No one from the Park Service, however, traveled to New Zealand to assist.⁹

The cultural comfort afforded by a common language made it easy to assist other English-speaking countries in their efforts to design and manage protected areas, but traditional US foreign policy shaped contacts with other countries. The United States had regarded Latin America as its "neighborhood" since the early 19th century, and so it naturally paid attention to park developments in those countries. On October 10, 1940, the US signed the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere with 17 South and Central American countries, including Mexico, Cuba, Brazil, and Argentina.¹⁰

After World War II, the Park Service continued its earlier international practices, but it committed more resources and initiated three new activities. First, during the summer of 1948, the Park Service made available the services of Charles A. Richey, assistant chief of the Lands Division, to another US agency: the Army's Civil Information and Education Division in Japan. The American occupation forces had requested that Richey be sent on a three-month detail to Japan to advise them and the "appropriate Japanese agencies as to details of organization, equipment and planning for the thirteen National Parks of Japan; in cooperation with officials of [the Army], to hold conferences with officials of the Japanese Government, and to inspect National Parks with a view toward their organization along centralized national lines for the public benefit."¹¹ Richey traveled extensively through Japan's national parks from May to August 1948 and his report recommended comprehensive changes in administration, funding, resource utilization, wildlife protection, physical development, and expansion of the system.

Second, two years later, and for the first time, the Park Service coordinated a lengthy visit to US parks by a foreign official. Overseas park officials and advocates had been visiting US national parks for decades, but usually they had done so with little if any accommodation by NPS. For instance, when Kojiro Sano, secretary of the Unzen Prefectural Park in Japan, visited US national parks in 1928, the Park Service provided no formal assistance to him.¹² In 1950, however, this approach changed. Mervyn Cowie, the director of the Royal National Parks of Kenya, visited US national parks for two months during the summer and much of his travel was planned by Park Service personnel. Moreover, they arranged lodging and in-park tours for him, contacted the State Department for funds to underwrite his trip, and informed local newspapers when this celebrity would be available for interviews (Figure 1).

Almost one year after Cowie toured the American parks, NPS added a third new international-affairs activity when it took initial steps to train foreign park managers and personnel, which on this occasion, occurred overseas. In January 1950, A.E. Trollip, chairman of South Africa's National Parks Board of Trustees, asked NPS Director Newton Drury if Victor Cahalane, the Park Service's chief biologist, could visit South Africa to help his agency establish a "wildlife management program" in the parks (Figure 2). Such a visit, Trollip declared, would be "of mutual benefit and we are sincerely hoping that you will see your way clear to approve of

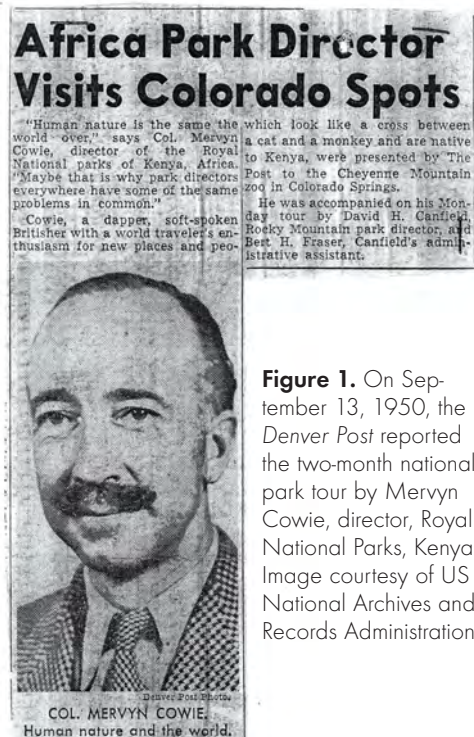


Figure 1. On September 13, 1950, the *Denver Post* reported the two-month national park tour by Mervyn Cowie, director, Royal National Parks, Kenya. Image courtesy of US National Archives and Records Administration.

it.”¹³ Drury replied that he would be pleased to let Cahalane provide training and program development, but only if outside funding could be secured. According to the historian Richard West Sellars, Drury was timid about approaching Congress for their support of NPS science.¹⁴ After lobbying and applications by Drury, Cahalane, and the National Parks Board of Trustees, the Carnegie Foundation provided a grant to underwrite this effort and Cahalane spent November 1950 through February 1951 training South Africans in the management of large wildlife species.¹⁵ On his return, Cahalane traveled north through Africa, including a stop in Kenya where he was hosted by Mervyn Cowie, and then through Europe to learn more about how the parks in these regions managed people–environment interactions.

World War II fundamentally reshaped political events and national roles in both the US and the world, with the United Nations recasting international cooperation and dialogue. An



Figure 2. Victor Cahalane, USNPS Wild Life Division. Photo by Allen Reinhart, courtesy of US Department of the Interior, National Park Service Historic Photograph Collection, Harpers Ferry Center.

arm of that supranational organization, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) facilitated the exchange of ideas and expertise in many areas, among them conservation and wildlife protection. In 1948, UNESCO established the International Union for the Protection of Nature, later renamed the International Union for the Conservation of Nature and Natural Resources (IUCN), which serves today as the primary international organization monitoring protected areas around the world and facilitating the exchange of management data.¹⁶

The war itself cast the United States into a leadership role as the least damaged and most powerful country in the world. At the onset of the Cold War, the Marshall Plan, as well as other events, convinced the American public and its

lawmakers that a bold US international role was paramount. In 1948, Congress authorized the Department of State to communicate directly with the peoples of foreign countries and to help its allies and poorer nations to recover or develop, but it was President Harry Truman who cemented the new international role of America in his 1949 inaugural address, also known as the “Four Point Speech.”¹⁷ Speaking to Americans and the world, Truman made it clear that he intended to continue and enhance America’s international involvement beyond the immediate post-war period. In the fourth foreign policy objective identified in the speech, Truman called for the US to share its “know-how” with other nations through technical assistance programs. “We must,” the president insisted, “embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas.”¹⁸ In short order the “Point Four” program was launched. During the 1950s this emphasis on foreign assistance accelerated culminating in the Foreign Assistance Act of 1961, which created the US Agency for Inter-

national Development (USAID). Soon USAID would become one of the primary sources of funding for the National Park Service's international projects.¹⁹

Enhanced international activity by the National Park Service did not begin until 1960 when Director Conrad Wirth expressed his support for an international affairs office.²⁰ Two years earlier the director had attended the 6th general assembly of IUCN in Athens, Greece, where he was appointed to the International Commission on National Parks.²¹ On May 17, 1961, Director Wirth asked his senior leadership to establish an office to coordinate the "aggressive interest on the part of this service [NPS] in the international park movement," and to appoint Dr. George Ruhle to head it.²² In response, Ben Thompson, chief of the Division of Recreation Resource Planning, tendered a list of recommendations for the new office, chief among them an immediate meeting with the "State Department and International Cooperation Administration [predecessor to USAID] representatives to explain the nature and scope of our work and explore all possible assistance from them, including financial assistance for fiscal year 1962."²³ The following October the new "Division" of International Affairs began its work.

According to a July 1961 press release, the Park Service would, through its new division, provide training and technical assistance on national parks and related activities to new and underdeveloped nations, scientific cooperation and professional consultation to countries having advanced park programs, and representation at international conventions, such as the First World National Parks Conference, to be held in Seattle in July 1962. In addition, the new division would work with other federal agencies, UN bodies such as UNESCO; and such international agencies as IUCN.²⁴ With the exception of representation at international meetings, the duties listed in this press release were more or less well established within the agency, but not in any one office. Once the Division of International Affairs was launched in October 1961, the Park Service quickly experienced a marked increase in the frequency and scale its interactions with foreign park agencies. In the mid-1980s, the division was renamed the Office of International Affairs (OIA).

In an article of this length we cannot comprehensively recount the OIA's interactions over the last 50 years, which are similar to what went before though much more extensive, but simply illustrate the change in degree. As noted at the beginning of this article, in the mid-1960s the Park Service began to send large teams of technical specialists overseas, beginning with the country of Jordan. Most technical teams quietly assisted their host-colleagues, but the team that assisted Jordan's park agencies had been there for only eight months of a two-year assignment when, dramatically, it was caught up in the Arab-Israeli war of June 1967. For a time, it was feared that NPS personnel may have been killed, but luckily all escaped unharmed. Despite this setback, the Park Service was able to assist Jordan in 1968 with a comprehensive, technical plan for the development and management of Amman's historic sites (Figure 3). Over the next several decades, such efforts expanded and NPS personnel produced a wide array of administrative, technical, and design reports for the park agencies of Bulgaria, China, Greece, Guatemala, Honduras, India, Kenya, Morocco, Panama, Saudi Arabia, Tanzania, Tunisia, Turkey, Venezuela, and elsewhere.²⁵

Another activity that increased sharply after the creation of the OIA was the training of foreign park managers and personnel, which quietly began with the African Student Summer

Program of 1961. A collaboration with the African-American Institute and the African Wildlife Leadership Foundation, this NPS program provided a small group of African college students who were studying in the US and who wished to become park personnel in their home countries with an opportunity to attend conservation training at Yellowstone and Grand Teton National Parks. As years passed, the program expanded to provide broad training in park design and administration, including wildlife, visitor, and infrastructure issues.²⁶ In 1965, a complementary, but more focused “short course” on park administration was launched by NPS, Canada’s park service (now known as Parks Canada), and the University of Michigan (Figure 4). Unlike the African student program, the short course began with one week of intensive study at the Ann Arbor campus, followed by 12 days at a variety of US and Canadian national parks. Moreover, it was offered not to African college students, but to the “executives and administrators” of parks “throughout the world.”²⁷ These administrative short courses (later “seminars”) continued annually into the late 1980s, but the number of applications was decreasing by 1987 as the market for high-level administrators reached saturation. Subsequently, the seminars were changed in format in order to focus on specific environments, such as arid lands, and aimed at mid-level staffers. Nevertheless, these annual preparatory courses soon ceased, to be followed by the occasional, more specialized training program aimed, for instance, at a specific foreign country’s park personnel or at new park superintendents in NPS and abroad.²⁸

In recent years other duties have added to the workload of the OIA, with much of the effort involving the coordination of an expanding array of international contacts and programs. For example, OIA personnel direct US participation in the World Heritage Convention particularly assisting in the nomination of

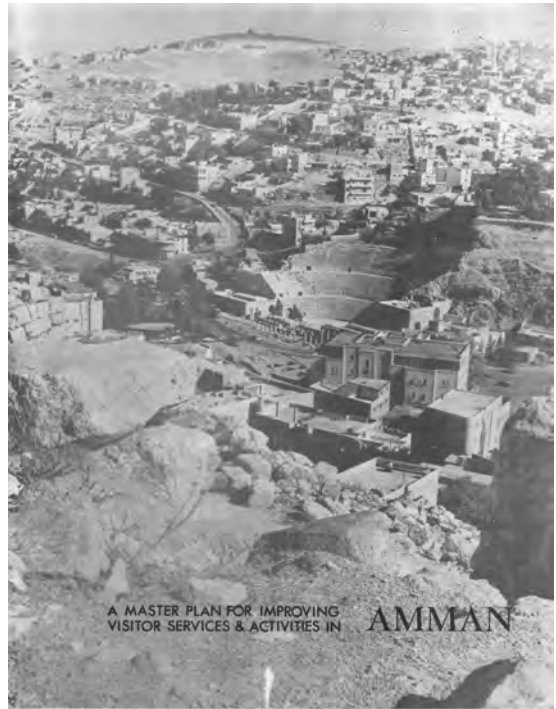


Figure 3. The NPS-produced master plan for Historic Amman, Jordan (1968).

Figure 4. Brochure announcing the first short course on “Administration of National Parks & Equivalent Reserves.”



new sites as well as the monitoring of the existing 21 American sites on the world list. As NPS's international face, OIA also participates in IUCN activities, international scientific and historic preservation meetings and data exchanges, and assists the Department of State, USAID, and the Peace Corps in maintaining US treaty obligations and initiatives. One staff member coordinates an International Volunteers in Parks program that brings more than 100 foreign students and young resource management professionals to work and learn in US parks each year. This is in addition to the 200 to 300 official foreign visitors and dignitaries whose activities and arrangements are planned and managed by the OIA. Another rapidly growing program that OIA oversees is the Sister Parks Program, which at the time of this writing fosters relationships between American parks and 39 foreign protected areas in 18 countries. Finally, OIA reviews and processes travel paperwork for NPS employees involved in international park projects and visits. Recently some of these trips have been undertaken to search for data and a fuller understanding of the natural and historical resources in NPS units. In following Secretary Lane's admonition to seek "the world's best thought" on managing parks as well as historical and scientific data pertinent to managing and interpreting NPS resources, America's national parks are improved.²⁹

Endnotes

1. "National Park Service Sending Twelve Consultants to Jordan for Development of Tourism and Parks," press release, October 27, 1966, 2; in "L66, Foreign Parks, Jordan," Box 61, Appendix 21, RG 79, Records of the National Park Service, US National Archives, College Park, MD (hereafter RG 79).
2. Robert C. Milne, "Beyond U.S. Borders: A Commitment to Cooperation." *CRM Bulletin* 10 (special issue, 1987): 26.
3. Letter of R.H. Campbell to C. Hart Merriam, January 20, 1909; in "0-30, Pt 1 General, Foreign Parks, Canada," Box 630, RG 79.
4. Letter of Frank Pierce to R.H. Campbell, March 24, 1909; in "0-30, Pt 1 General, Foreign Parks, Canada," Box 630, RG 79.
5. Letter of Clement S. Ucker to J.B. Harkin, December 19, 1912, "0-30, Pt 1 General, Foreign Parks, Canada," Box 630, RG 79.
6. Ucker to Harkin, December 19, 1912; Harkin to Ucker, 20 January 1913; in "0-30, Pt 1 General, Foreign Parks, Canada," Box 630, RG 79.
7. Letter of Franklin K. Lane to Stephen T. Mather, May 13, 1918; reproduced in Lary M. Dilsaver, ed., *America's National Park System: the Critical Documents* (Lanham, MD: Rowman & Littlefield, 1994), 51.
8. See, for example, letter of A.E. Demaray to J.B. Harkin, April 10, 1929, in "0-30 Foreign Parks, Canada (Parts 1-2), 1909-32," Box 630, Appendix 2, RG 79; "Mount Olympus May Become a Grecian Park," *Stockton [California] Record*, April 6, 1929; H.M. Hall, "European Reservations for the Protection of Natural Conditions," *Journal of Forestry* 27, no. 6 (1929): 667-684, in "0-30 Foreign Parks, Miscellaneous, ca. 1914-32," Box 629, Appendix 2, RG 79; and letter of H.C. Bryant to Theodore G. Ahrens, March 25, 1933, in "0-30 Foreign Parks, Germany, 1910-30," Box 630, Appendix 2, RG 79.

9. Letter of J.B. Thompson to Director, March 29, 1923; letter of Stephen T. Mather to J.B. Thompson, April 30, 1923; and letter of Arno B. Cammerer to D.R. Hull, April 30, 1923, all in "0-30 Foreign Parks, New Zealand, 1916-32," Box 631, Appendix 2, RG 79.
10. The Convention on Nature Prevention and Wildlife Preservation in the Western Hemisphere was adopted by the United States and 17 other countries in Washington, DC, on October 12, 1940. Congress ratified the treaty on April 15, 1941 (56 Stat. 1354, TS981) and it entered into force on May 1, 1942. In addition to the four mentioned in the text above and the US, signatory countries included Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Nicaragua, Peru, Uruguay, and Venezuela. In later years Panama, Paraguay, Suriname, and Trinidad & Tobago also joined. US Fish and Wildlife Service, "Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service," <http://www.fws.gov/laws/lawsdigest/treaty.html> (Western Hemisphere Convention), accessed August 20, 2011; Organization of American States, Department of International Law, "Multilateral Treaties," <http://www.oas.org/juridico/english/sigs/c-8.html>, accessed August 20, 2011.
11. Letter of Kenneth C. Royall to Secretary of the Interior, February 26, 1948; in "0-30 Proposed Foreign Parks, Japan, 1933-49," Box 2917, Appendix 2, RG 79.
12. Letter of Henry B. Hitchcock to Secretary of State, November 26, 1928; in "0-30 Foreign Parks, Japan, 1911-32," Box 631, Appendix 2, RG 79.
13. Letter of A.E. Trollip to Newton Drury, January 26, 1950; in "L66, Foreign Parks and Historic Sites, Africa, 1961-69," Box 2171, Appendix 3, RG 79; Letter of Hillory A. Tolson to Drury, September 8, 1950; in "L66, Foreign Parks and Historic Sites, Africa, 1961-69," Box 2171, Appendix 3, RG 79.
14. Richard West Sellars, *Preserving Nature in the National Parks: A History* (New Haven: Yale University Press, 1997), 166.
15. Victor H. Cahalane, "A Report to the National Parks Board of Trustees of South Africa," Washington, DC, 1951; in "L66, Foreign Parks and Historic Sites, Africa, 1961-69," Box 2171, Appendix 3, RG 79.
16. UNESCO, "The Organization's History," <http://www.unesco.org/new/en/unesco/about-us/who-we-are/history>, accessed August 20, 2011.
17. The first director of UNESCO, Sir Julian Huxley, sponsored a meeting at Fontainebleau, France, on October 5, 1948, at which the United States and other countries organized the International Union for the Protection of Nature (IUPN). In 1956, the name was changed to its current one. Leif E. Christoffersen, "IUCN: A Bridge-BUILDER for Nature Conservation," in *Green Globe Yearbook 1997* (Oslo: Fridtjof Nansen Institute, 1997), 60; http://www.fni.no/YBICED/97_04_christoffersen.pdf, accessed August 20, 2011.
18. Harry S. Truman, Inaugural Address, January 20, 1949, available from the Harry S. Truman Library and Museum at http://www.trumanlibrary.org/whistlestop/50yr_archive/inaugural20jan1949.htm, accessed August 23, 2011.
19. The Foreign Assistance Act of 1961, P.L. 87-195, 75 Stat. 424.

20. Letter of Conrad L. Wirth to Secretary of State, June 20, 1960, "L66, Foreign Parks and Historic Sites, Cooperation with Foreign Agencies, 1958-1963," Box 2170, Appendix 3, RG 79.
21. Letter of Harold Coolidge to Conrad Wirth, November 13, 1963, "A2415, International Union, Pt.1 From 1-1-62," Box 56, Appendix 3, RG 79.
22. Letter of Conrad Wirth to Messrs. Tolson, Thompson, Beard, and Ruhle, March 17, 1961, Box 2170; in "L66, Cooperation with Foreign Agencies 1-1-60," Box 2170, Appendix 3, RG 79.
23. Letter of Ben H. Thompson to Director [Conrad Wirth], April 21, 1961; in "L66, Cooperation with Foreign Agencies 1-1-60," Box 2170, Appendix 3, RG 79.
24. Hillory A. Tolson, press release of July 11, 1961; in "L66, Cooperation with Foreign Agencies 1-1-60," Box 2170, Appendix 3, RG 79.
25. Letter of Raymond L. Freeman to Mr. [George] Hartzog, June 12, 1967; in "L66, Foreign Parks and Historic Sites, Jordan, 1965-66," Box 61, Appendix 21, RG 79 ; John W. Bright and Raymond Freeman. "International Technical Assistance: NPS Landscape Architects Abroad," *CRM Bulletin* 10 (special issue, 1987): 5.
26. Letter of Myron D. Sutton to Neil Phillips, September 14, 1964, p. 2 of attachment; in "L66, Foreign Parks and Historic Sites, Washington Office, 1964-69," Box 2170, Appendix 3, RG 79; "African Leaders Program in Yellowstone National Park," unpublished paper, 1962; in Jim Charlton Papers, Library, Office of International Affairs, National Park Service, Washington DC.
27. Quotes from inside of brochure, "A Short Course, Administration of National Parks and Equivalent Reserves, May 10-29, 1965," National Park Service, Washington, DC.
28. David Reynolds, presentation on history of NPS short courses, George Wright Society Conference on Parks, Protected Areas, and Cultural Sites, March 14, 2011, New Orleans, LA; E-mail of James K. Bellamy to Mike Soukup, "The New Superintendent Course," December 10, 1997, in Library, Office of International Affairs, National Park Service, Washington DC.
29. National Park Service, Office of International Affairs, <http://www.nps.gov/oia/>, accessed October 7, 2011.

Terence Young, Department of Geography & Anthropology, California State Polytechnic University, Pomona, California 91768; tgyoung@csupomona.edu

Lary M. Dilsaver, Department of Earth Sciences, University of South Alabama, Mobile, Alabama 36688; ldilsaver@usouthal.edu

The World Heritage Convention and the National Park Service, 1962–1972

Peter H. Stott

Introduction¹

SINCE ITS ADOPTION IN 1972, the Convention Concerning the Protection of the World Cultural and Natural Heritage (the “World Heritage Convention”) has become the most widely recognized international environmental agreement, with close to universal ratification. The United States—under successive Democratic and Republican administrations between 1960 and 1981 the global leader in environmental conservation—had a critical role in the events leading up to its adoption and in the decade immediately following. The US introduced three key elements, without which today’s international treaty would be, in UNESCO’s phrase, only a “Red Cross for monuments.”² These elements were: (1) the concept of the “the List” itself; (2) the dual obligation to protect both cultural and natural heritage; and (3) the phrase “World Heritage.” These three elements were crystallized in the World Heritage Trust proposal, drafted in August 1971 by the National Park Service with support from other parts of the Department of the Interior. The Park Service also took part in the key negotiating sessions at UNESCO (the United Nations Educational, Scientific, and Cultural Organization) in 1972, when it was represented by the chief of the Division of International Affairs, Chester Brown.

Today, as the convention approaches its fortieth anniversary, these origins are increasingly shrouded and the debates forgotten. Not coincidentally, the National Park Service’s Division of International Cooperation, antecedent to today’s Office of International Affairs (OIA), was almost contemporary with this awakening and this year celebrates its fiftieth anniversary.

This essay, the first of a series of three on the role of the National Park Service and OIA in the evolution of the convention, examines the birth of the World Heritage idea in the new global conservation movement, and the US role in shaping it.

Harold Coolidge, the UN List, and the First World Parks Congress, Seattle, 1962

Although the World Heritage idea in the US has historically been associated with its propos-

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al at the 1965 White House Conference on International Cooperation (discussed below), a strong case can be made that the theme had been in development at least since the early 1960s by US conservationists.

The American zoologist and conservationist Harold J. Coolidge (1904–1985), has sometimes been called the “father of international conservation” (Figure 1).³ In 1948 he was one of the founders of the Swiss-based International Union for the Conservation of Nature and Natural Resources (IUCN),⁴ and one of its three original vice-presidents (in 1966 he would be elected president of IUCN). Coolidge saw the identification, analysis, and publication of sites and species as a key means of promoting their conservation and he was the founding chair of both the Species Survival Service (1949) and, in 1958, of a permanent International Commission on National Parks.⁵ At its general assembly in Athens in 1958, IUCN adopted two further resolutions to promote parks at an international level: a resolution calling for the United Nations to establish and maintain a list of national parks and equivalent reserves as representing a subject of concern to all UN member nations; and a World Parks Congress. Coolidge was instrumental in both activities.

On Coolidge’s initiative, the US placed the subject of a UN list of national parks on the agenda of the UN’s Economic and Social Council (ECOSOC). In addressing the April 1959 session, the US State Department representative, Christopher Phillips, using Coolidge’s text, recalled many of the same themes that would be later used to urge the support of the World Heritage Trust: the origin of the national park idea in the establishment of Yellowstone National Park in 1872, and the importance attached to national parks for cultural, scientific, educational, economic and recreational purposes. There is evidence that Coolidge had originally intended that the UN list include “historical areas,” but that he had been dissuaded by the State Department which thought this might confuse ECOSOC delegates, since these areas were “the direct province of Unesco.”⁶

The ECOSOC resolution was adopted unanimously,⁷ and, as expected, IUCN’s Commission on National Parks was asked to develop the list. Two years later, the new *United Nations List of National Parks and Equivalent Reserves* became the centerpiece and the principal reference document for the First World Parks Congress, held in Seattle with the cooperation and participation of the Century 21 Exposition (also known as the “Seattle World’s Fair”). The theme of the Congress was “National Parks are of international significance for all United Nations Countries.” Its sponsors included not only the National Park Service, but also UNESCO and FAO (the UN Food and Agriculture Organization). One hundred forty-five delegates from 63 countries attended the meeting (Figure 2), which brought together some of the key individuals and seminal themes from whom and from which the World Heritage concept would later emerge. Secretary of the Interior Stewart Udall gave the keynote address and NPS Director Conrad Wirth opened the first plenary session.



Figure 1. Harold J. Coolidge (1904–1985). Photo from Carnegie Museum, USA, ca. 1965; courtesy of IUCN Photo Library, Gland, Switzerland.



Figure 2. Delegates to the First World Conference on National Parks in front of the Civic Center at the Seattle World's Fair, 2 July 1962. Photo from Morley Studios, courtesy of National Park Service Historic Photograph Collection, Harpers Ferry Center, WV.

In his own address to the Parks Congress, Coolidge voiced an enthusiasm for the *UN List* that would later infuse the World Heritage List. He recalled the excitement of a park manager from Java when he discovered that his own park was on the *UN List*. “I am perfectly sure,” the park manager told him, “that now we are in the U.N. world list, this will have considerable influence on my government and it will be a great help to me and also to the governors of other provinces in Java who are trying to maintain the same kinds of areas.”⁸

Another participant, who three years later would develop the World Heritage Trust proposal for the White House Conference on International Cooperation,⁹ was Joseph L. Fisher (1914–1992), president of Resources for the Future (Figure 3). In reviewing the types of areas suitable for national park systems, Fisher reminded the meeting of the importance of the “unusual scenic, scientific and historical areas” that were an important part of park planning. He pressed for the development of an international park system as a tool for bringing participants together in international cooperation.¹⁰

The conference adopted 28 recommendations. Number 12, echoing Fisher’s theme, concerned park planning: the conference recommended that IUCN “study the need to establish a Committee on Park Planning” that would include “prehistoric, historic and cultural sites” as well as nature reserves and scientific areas for the purpose of assisting countries in developing park programs. At its first executive board meeting following the conference, IUCN adopted the recommendation, and, on Coolidge’s encouragement, submitted a proposal to Fisher’s Resources for the Future to direct this work.¹¹

The Division of International Affairs

Founded in 1961, the National Park Service's Division of International Cooperation was represented at the inaugural World Parks Congress by George C. ("Doc") Ruhle (1900–1994), who had been appointed as the first chief by NPS Director Conrad Wirth the year before. International concerns also played a role in Wirth's Long Range Requirements Task Force. Harold Coolidge, as chair of IUCN's Commission on National Parks, was advising the task force on the importance of "international park affairs."¹² The task force's report, published in 1964 as "The Road to the Future," included as one of its six objectives participation with other nations in "conserving, improving and renewing the total environment."¹³ Referencing both the recent World Parks Congress, as well as UNESCO's "Recommendation concerning the

Safeguarding of Beauty and Character of Landscapes and Sites," adopted a few months after the Parks Congress, the task force report called on the Park Service to share its experience in park management with other nations, and to participate with other national and international bodies in identifying natural and cultural resources and fostering an interchange of personnel. A draft version of the report also called for an NPS International Conservation Institute to train park managers around the world, a proposal that would be later taken up by the International Seminar on the Administration of National Parks and Equivalent Reserves. In what can only be seen as a prelude to the Park Service's involvement in World Heritage, another draft called for "an official international committee to promote identification, investigation, and conservation of sites of world interest [...] to preserve vanishing animal species, landscapes, and historic sites, and [to] explore means of establishing a world scientific and historic landmark system."¹⁴

The Division of International Cooperation took on an increasingly activist stance after George Hartzog's appointment as NPS director in 1964. The division was renamed the Division of International Affairs (DIA), and under its chief, C. Gordon Fredine (1909–2006), took on a wide range of new activities, several of which came to shape the direction of the division over the next 25 years.

One of the best known of the division's programs was the International Seminar on the Administration of National Parks and Equivalent Reserves. Launched in 1965 and co-sponsored by IUCN and the University of Michigan's School of Natural Resources, and later by Parks Canada, by the time the program closed in the early 1990s, its first director and former OIA Chief Robert Milne recalled, it had "trained almost every national park system director in the world." Similarly, cooperative partnerships with both the US Agency for International Development (USAID) and the Peace Corps came to support an extensive global wildlife reserve assistance effort.¹⁵

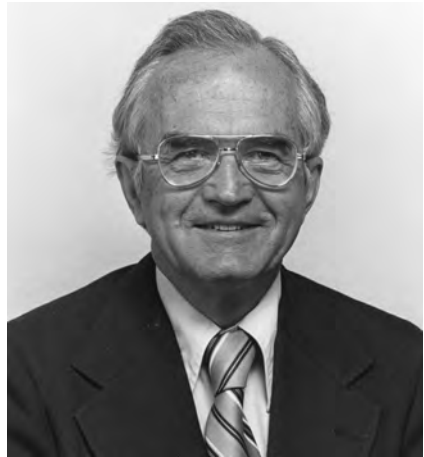


Figure 3. Joseph L. Fisher (1914–1992). Photo from Joseph L. Fisher Papers, Special Collections and Archives, George Mason University, Fairfax, VA.

The World Heritage Trust and the White House Conference on International Cooperation, December 1965

The new Park Service activities were a reflection of an increased internationalism by the Johnson Administration. In response to the designation of 1965 as “International Cooperation Year,” commemorating the 20th anniversary of the United Nations, President Johnson called for a White House Conference on International Cooperation. One of its 30 working committees was the Committee on Natural Resources Conservation and Development, chaired by Joseph Fisher. The members of Fisher’s committee, drawn from corporations, government agencies, and nongovernmental organizations, included both Coolidge, in his capacity as director of the Pacific Science Board of the National Academy of Sciences, and Russell Train, the newly appointed president of the Conservation Foundation.

In its report, Fisher’s committee called attention to the threats to “scenic, historic and natural resources [that were] part of man’s heritage.” After enumerating numerous examples, from the Grand Canyon of the Colorado to Angkor, Petra, and the ruins of Inca, Mayan and Aztec cities, the committee recommended the creation of “A Trust for the World Heritage” to stimulate “international cooperative efforts to identify, establish, develop and manage the world’s superb natural and scenic areas and historic sites for the present and future benefit of the entire world citizenry.”¹⁶ Although the debt to the four-year-old *UN List* is clear, this was the first time that an international proposal to list both natural and cultural heritage had been recommended.

The World Heritage Trust at IUCN

Both Coolidge and Train were enthusiastic about the trust proposal. About to be elected IUCN president, Coolidge invited Fisher to give one of the keynote addresses to IUCN’s Ninth General Assembly, held in Lucerne six months after the White House meeting. In his address, Fisher reported on the outcomes of the White House Conference, including the call for a World Heritage Trust. Explicitly acknowledging the link between the *UN List* and a World Heritage List, he noted that the world list of national parks already prepared by IUCN would be an important start in the identification of natural heritage sites.¹⁷

With the encouragement of both Fisher and Coolidge, the IUCN general assembly and its executive board enthusiastically endorsed the World Heritage Trust concept to identify and protect both cultural and natural heritage. In its own concurrent session, the executive board adopted the World Heritage Trust as an IUCN project. However, the timing was not auspicious for the organization, and after several months of discussion, it concluded that it could not afford to undertake the project at that time.

Russell Train, as president of the Conservation Foundation, continued to speak to organizations promoting the trust. Among the most important venues was the International Congress on Nature and Man, held in Amsterdam at the end of April 1967. In this, and subsequent talks, he expanded on the possibilities of the World Heritage Trust, which he proposed would work in close collaboration with organizations such as IUCN and the new cultural nongovernmental organization, the International Council on Monuments and Sites (ICOMOS), established with UNESCO’s support only two years earlier. Although he acknowledged that nations would be sensitive of their own sovereignty, Train proposed that

this could be resolved “with a judicious combination of diplomacy and financial inducement.” The “World Heritage” classification would be eagerly sought and sites so identified would “become the ‘five-star’ attractions of the world’s rapidly expanding tourist business.”¹⁸

Despite Train’s promotion of the trust in 1966 and ’67, no international organizations responded until the UN announced that it would hold a Conference on the Human Environment in Stockholm in 1972. In 1970, IUCN decided to recommend World Heritage as one of several international instruments it would propose for adoption at the upcoming conference.¹⁹ Lee Talbot, IUCN’s first ecologist and a close associate of Coolidge’s, had drafted the original IUCN executive board resolution in 1966. By late September 1970 he had developed a formal proposal for the board,²⁰ which would be expanded as the first of several draft convention texts by IUCN’s new deputy director general, the Australian scientist and lawyer Frank G. Nicholls. Nicholls immediately began to assemble a high-level task force, inviting Train, as well as representatives from UNESCO and FAO to take part. In February 1971, he brought the World Heritage concept to the second meeting of the Stockholm conference’s Preparatory Committee in Geneva, which decided that it should be further discussed at an Intergovernmental Working Group (IWG) meeting on conservation in New York the following September.

The first draft of IUCN’s “Convention on the Conservation of the World Heritage” was reviewed at an IUCN task force meeting at the end of April. The UNESCO representative at the meeting was Michel Batisse (1923–2004), chief of its Division for Natural Resources and the person largely responsible for the Man and the Biosphere Program. Faced with an IUCN draft convention, Talbot recalled, Batisse “suddenly discovered what we had — or suddenly registered what we were doing — and he said ‘But we (UNESCO) already had such a convention we’ve been working on, because our General Assembly several years ago directed us to do so.’ But what he had was entirely cultural, at that time.”²¹

Batisse was referring to a series of ongoing expert meetings and resolutions of successive UNESCO general conferences since 1968 that had recommended that the organization prepare an international instrument—a “Red Cross for monuments, groups of buildings and sites of universal value.”²² In principle, the intent of UNESCO’s convention was an attempt to regularize the organization and funding of the international campaigns to save cultural property. For UNESCO, IUCN’s proposal seemed a clear challenge to the organization’s international mandate to protect cultural heritage.

Over the course of the next several months, both IUCN and UNESCO amended their respective texts in preparation for the IWG meeting in September. By June, UNESCO’s text included a reference to “the work of nature or the combined work of nature and man,” but the new definition made for a very long paragraph, Batisse later admitted, one that was complicated and quite confusing.²³

Russell Train and the Nixon Administration relaunch the trust concept

In January 1970, President Nixon had named Train as the first chairman of the new Council on Environmental Quality (CEQ; Figure 4). In the first years of its existence, CEQ, with bipartisan congressional support, was the lead agency for promoting environmental legislation, both at the national level and internationally. Train recruited Talbot as CEQ’s chief sci-



Figure 4. Russell E. Train in 1969, visiting a Navy submersible vessel on the Anacostia River while serving as undersecretary of the interior. Photo from Russell E. Train Papers, container 33, folder 5, Manuscript Division, Library of Congress, Washington, DC.

entist and director of international affairs. Talbot's own agenda already included development of a World Heritage proposal, and Train agreed that he should actively pursue it.²⁴ With Train's support, Talbot drafted much of Nixon's environmental message to Congress of February 8, 1971. In part, the message endorsed the World Heritage Trust concept, and directed the secretary of the interior to develop the initiatives necessary.

In response to this directive, the Department of the Interior set to work. Theodor R. ("Ted") Swem (1917–2006), then director of the Office of Cooperative Activities (under which the Division of International Affairs was placed), convened a series of meetings of Park Service and other Interior staff during the spring of 1971. With the participation of CEQ's

Talbot, he circulated a 16-page position paper on the World Heritage Trust.²⁵ By August, Interior had developed a draft text for the "Convention on the Establishment of a World Heritage Trust." Like the IUCN convention, it called for a World Heritage "register" of natural and cultural sites, and, also like IUCN's draft, significantly left open the question of what government or international organization would provide the convention's secretariat. After further review by the State Department, this draft text would also be brought to the September IWG meeting in New York.

IWG meeting, September 1971

The IWG met in New York during 14–17 September to consider environmental agreements that could be reached at the Stockholm conference the following June. Although only the IUCN draft had been anticipated by the conference secretariat, both UNESCO and the US submitted their proposals. However, to the frustration of UNESCO officials present, their text was considered an internal document, then being reviewed by UNESCO member states for possible adoption by the next general conference, and therefore not appropriate for the Stockholm meeting. Furthermore, to many of the delegates, UNESCO's addition of 'and natural areas' to their convention at the last minute did not reflect a serious commitment of the organization.²⁶

The end result of the meeting was that IUCN, in collaboration with the Stockholm conference secretariat, was asked to amend its draft to deal "principally with natural areas whilst not forgetting cultural sites" with a view to concluding the convention at Stockholm the following June.²⁷ It was acknowledged that UNESCO's draft, already on course for adoption by the UNESCO general conference in the fall of 1972, would cover mainly cultural properties.

US persuaded to support UNESCO as secretariat

The State Department was unsatisfied with the outcome of the New York meeting. It firmly

believed that a single international convention should cover both natural and cultural sites. But by January 1972, it had come to see that the World Heritage Trust *could* have UNESCO as its secretariat.

This change of direction was in part due to the persuasive mission to Washington of UNESCO's Gérard Bolla, the newly appointed chief of the organization's Department of Cultural Heritage. In UNESCO's opinion, Bolla explained to Carl F. Salans, the State Department's deputy legal counsel, neither the IUCN nor the UNESCO convention texts could be adopted by the Stockholm conference, but a UNESCO draft, appropriately modified, could be approved by the UNESCO general conference in November 1972. In response to Salans' insistence that natural and cultural heritage must have equal protection, Bolla gave his assurance that the UNESCO draft could be modified to reflect this.²⁸

Bolla also participated in a larger meeting with officials from State, Interior, and CEQ to allow Bolla to respond to questions about UNESCO and the draft convention it had prepared. Participants included Lee Talbot, representing "nature" (Bolla noted); Robert Garvey, representing "culture"; and Chester Brown, representing the National Park Service. Robert R. Garvey (1921–1996) was then the first executive director of the Advisory Council on Historic Preservation and an ICOMOS vice-president with close ties to UNESCO. Garvey would be a key figure in all of the World Heritage delegations through the end of the Carter Administration. Chester C. ("Chet") Brown (1909–1973), a landscape architect and planner, was then chief of the Division of International Affairs. Brown had attended the IWG meeting in September, and, like Talbot and Garvey, would be part of the US delegation at the upcoming UNESCO negotiating sessions in April and November.

Before he left Washington, Bolla was informed of US support for the UNESCO process. While the State Department representatives encouraged UNESCO to revise its own convention to give equal attention to natural and cultural heritage, it would at the same time submit its own World Heritage Trust convention to the meeting of experts to be held the following April.

Talbot attributed the change of direction to the influence of Garvey, whose background would have strongly favored a base in UNESCO with ICOMOS support.²⁹ IUCN's UN Representative, Richard Gardner, saw the alliance with UNESCO as "essentially political. UNESCO has a great deal of influence with the Russians and the developing countries." Furthermore, he argued, "an intergovernmental organization within the UN framework would be helpful in forcing the commitments undertaken by the parties and securing the necessary financing."³⁰ Bolla, himself, believed ("he learned afterward") that the decision had been taken at the White House.³¹

By mid-January, both State and Interior had produced draft convention texts, modifying the World Heritage Trust proposal with language from the UNESCO draft that had been circulating since the previous June. The two were combined in a single submission as the US comments on the UNESCO draft.³²

Convergence at UNESCO³³

The most critical meeting in the establishment of the convention was the three-week meet-

ing of the “Special Committee of Government Experts” that took place at UNESCO in April 1972. Originally called to fine-tune and adopt the comments that had been submitted by UNESCO member states to its last draft, in the end the meeting completely overturned the intent of the original UNESCO text and, in large part, created the text that was adopted by the general conference in November of the same year.

The US delegation was headed by the State Department’s Carl Salans, and included Robert Garvey, Lee Talbot, and Chester Brown.

By far the most difficult and acrimonious issue, in April as in November, was over the issue of contributions to the World Heritage Fund. The US and several other developed states, wary of the growing obligations of multilateral instruments, vigorously insisted that contributions to the fund be voluntary. Garvey later called this debate “essentially a conflict between less developed countries who wished to show their willingness and ability to shoulder international obligations and favored the compulsory contributions system, and many developed countries (especially the United States), who, though expecting to bear most of the financial burden, feared serious difficulties and delays in securing congressional or parliamentary approval for a convention which *required* these contributions.”³⁴

In the end, the solution adopted by the general conference was a proposal from the Tunisian delegate, Rafik Said, allowing states parties to indicate at the time of adherence to the convention whether their contributions would be voluntary or compulsory, although both plans amounted to the same minimum amount.

Within minutes of the last US intervention, the convention had been adopted, with 75 votes in favor, 1 opposed, and 17 abstentions.

Looking back

In the end the World Heritage Convention, as it was adopted, completely turned UNESCO’s original conception on its head. No longer was it a “Red Cross” to raise funds for the rescue of a “short list” of monuments in danger, such as Abu Simbel or Borobudur, and instead was transformed into a public awareness tool to call attention to all sites considered of “outstanding universal value.” In hindsight, it seems doubtful that an instrument that would only have come into play when a site was threatened could have raised the funds necessary for a continuing series of major restorations—much less have awakened the same excitement in the general public that the World Heritage Convention has come to evoke.

Furthermore, it is hard to envision such an instrument gathering nearly the same support or enthusiasm if the subjects of its aid were only in those developing states that could not afford rescue and restoration in their own heritage department budgets, thus excluding the natural and cultural heritage of much of the developed world. By contrast, the World Heritage Convention captured the political, if not the popular, imagination immediately: applications to the World Heritage List jumped from 12 sites inscribed in 1978, the first year of inscriptions, to 74 new nominations from 25 countries one year later. How the World Heritage Committee, and the US—which helped to shape the committee’s policies in the convention’s first years in operation—chose to meet these challenges will be the subject of the second essay in this series.

Endnotes

1. This essay has benefited in particular from interviews and discussions with Robert C. Milne, OIA chief between 1974 and 1996; with Lee Talbot, former senior scientist at CEQ; with former State Department Deputy Legal Advisor Carl F. Salans; and with Russell Train, former chair of CEQ. Important documentary sources used included the papers of Russell Train (Library of Congress), of Harold J. Coolidge (Harvard University Archives), and the archived files of the National Park Service, CEQ, and the Department of State at the National Archives, College Park, MD. *L'Invention du "patrimoine mondial"* by Michel Batisse and Gérard Bolla (Paris: Club Histoire Association des anciens fonctionnaires de l'Unesco, 2003) has provided useful detail on the debates leading to the convention's adoption.
2. "Desirability of adopting an international instrument for the protection of monuments and sites of universal value," UNESCO General Conference Document 16 C/19, Sixteenth General Conference, Paris, 1970, paragraph 33. The report also dismissed the idea of an "International Register" out of a fear of divergent opinions (paragraph 55).
3. Lee M. Talbot, "The Coevolution of Science, Public Awareness and Policy," in Larry L. Rockwood et al., eds., *Foundations of Environmental Sustainability* (New York: Oxford University Press, 2008), 3–24.
4. Founded (with UNESCO's support) in 1948 as the International Union for the Protection of Nature (IUCP) and later renamed the International Union for the Conservation of Nature and Natural Resources (IUCN), the organization kept its second acronym when it (temporarily) became the World Conservation Union in 1989. It is now once again known as IUCN. IUCN's history is fully recounted in Martin Holdgate's *The Green Web: A Union for World Conservation* (London: Earthscan, 1999).
5. Today, known respectively as the Species Survival Commission (SSC) and the World Commission on Protected Areas (WCPA).
6. Memorandum, Fred Packard to Harold Coolidge, 19 February 1959, concerning "Conference with Dr. [Walter] Kotschnig." Harold Jefferson Coolidge Papers, Harvard University Archives, Cambridge, MA (hereafter cited as "Coolidge Papers") HUG(FP) 78.14 Box 7.
7. ECOSOC Resolution 713 (XXVII), 1959; *United Nations List of National Parks and Equivalent Reserves* (New York, 1961).
8. Harold J. Coolidge, "Future Prospects for International Cooperation in the Field of National Parks and Reserves," in Alexander B. Adams, ed., *Proceedings of the First World Parks Congress* (Washington, DC: National Park Service, 1964), 357–361.
9. Although Russell Train is often given the credit of being the "father of the World Heritage Convention," Train himself unreservedly identifies Fisher as the individual who introduced the concept of an international convention to protect both cultural and natural heritage. See Russell E. Train, *Politics, Pollution and Pandas: An Environmental Memoir* (Washington, DC: Island Press, 2003), 142.
10. "Committee Report: Problems of National Park Planning" (Joseph L. Fisher and Gert Kragh, co-chairs), in *Proceedings of the First World Parks Congress*, 362–363.
21. IUCN Executive Board Minutes (14–26 November 1962), 3; Coolidge Papers, HUG

(FP) 78.14 Box 10.

12. Letter of Coolidge to Wirth, 28 June 1963; National Archives RG 79, Entry P-11, Box 0056.
13. *Road to the Future: Long Range Objectives, Goals, and Guidelines for the National Park Service* (Washington, D.C.: National Park Service, 1964); National Archives RG 79, Entry P-29, Box 9.
14. "The National Park Service Long Range Plan," Draft for the National Park Service Conference of Challenges, Yosemite Park, October 13–18, 1964; National Archives RG 79, Entry P-29, Box 2. Although both Coolidge and Starker Leopold, recently appointed chair of the Park Service's Advisory Board on Wildlife Management, supported the Conservation Institute, no source has yet been identified for the international committee proposal.
15. Robert C. Milne interview, 6–7 June 2009.
16. National Citizens' Commission, "Report of the Committee on Natural Resources Conservation and Development," White House Conference on International Cooperation, November 28–December 1, 1965; Samuel E. Belk Personal Papers, John F. Kennedy Presidential Library and Museum (Boston, MA), Box 10.
17. Proceedings of the Ninth General Assembly, IUCN, 1966, 68–78. (Typescript, courtesy of IUCN Library, Gland, Switzerland.)
18. Train, "A World Heritage Trust," address to the International Congress on Nature and Man, Amsterdam, April 29, 1967; Mimeograph manuscript, Russell Train Papers, Box 69, Folder 2, Library of Congress.
19. Executive Board Decision EB.48/75: "... IUCN should take the initiative to crystalize [sic] ideas in this context and to recommend to governments throughout the world that an organization concerned with conservation of the World Heritage should be established under an international convention." Quoted in October 1971 IUCN Executive Board Agenda Paper EB.71.30; Coolidge Papers, Box 6.
20. Lee Talbot, personal communication, 11 November 2010. See also IUCN, "Preliminary Proposal for Establishment of World Heritage Trust," Tentative Outline for Project no. 1-2 / World Heritage Trust, September 1970; Coolidge Papers, Box 1.
21. Lee Talbot interview, 11 August 2009.
22. Cf. footnote 2.
23. Batisse in *L'Invention du "patrimoine mondial,"* 27. (Translation by the author. Subsequent citations to "Batisse" or "Bolla" refer to their respective essays in this work.) It seems likely that the UNESCO "preliminary draft" contains at least a "nod" to the IUCN text already in circulation: its preamble uses the phrase "world heritage of mankind as a whole," and reminds the world community that the protection of monuments was in UNESCO's constitution.
24. Talbot interview.
25. "The World Heritage Trust," unpublished paper, April 9, 1971. National Archives RG 429, Box 8. The author or authors of this paper have not been identified, but Rob Milne believes that (with substantial input from previous speeches by Train) it could well have been Swem himself. "Ted was the visionary and more strongly reflected the overall pat-

- tern, mission, principles and model of the NPS and [was] a skilled negotiator in pulling factions together” (Milne, personal communication, 17 February 2011).
26. Memorandum, Talbot to Train, “Items for Discussion with Prince Bernhard,” 3 November 1971. Train Papers, Box 74, Folder 7. See also Batisse, 28.
 27. Frank G. Nicholls (IUCN World Heritage Task Force), “Draft (6) Text of Convention on Conservation of the World Heritage.” Agenda Paper 1-2 TF.71/12. October 1971. Coolidge Papers, 78.20 Box 7, See also memorandum of Talbot to Train, “Items for Discussion with Prince Bernhard.”
 28. Bolla, 74.
 29. Talbot interview.
 30. Letter of Richard N. Gardner to Dr. Geraldo Budowski (IUCN director general), 28 January 1972. Coolidge Papers 78.20, Box 12. Gardner, a chaired professor of international law at Columbia University, was IUCN’s United Nations representative during the preparatory meetings leading up to the Stockholm Conference. Gardner had been deputy assistant secretary of state for international organization affairs in the early 1960s and subsequently in various advisory posts in the United Nations.
 31. Bolla, 75.
 32. UNESCO Document SHC/MD/18 Add.1 (Paris, 10 March 1972). The State and Interior department drafts are included in the Coolidge Papers, Box 12.
 33. For detailed accounts of the two UNESCO meetings, see Batisse and Bolla, *L’Invention du “patrimoine mondial,”* and the reports and transcripts of the two meetings: “Report of the Committee of Experts” (Unesco House, Paris, 4–22 April 1972), UNESCO Doc. 17 C/18; and “Report of the Thirty-third Plenary Meeting,” 16 November 1972, UNESCO Document 17 C. For a detailed account of the two meetings from the State Department’s perspective, see the series of its cables, National Archives RG 59, Subject Numeric Files, 1970-73, SCI 41, Box 2892.
 34. Interview with Robert Garvey by Robert Meyer, quoted in Robert L. Meyer, “Travaux Préparatoires for the UNESCO World Heritage Convention,” *Earth Law Journal* 2 (1976), 58.

Peter H. Stott, 7 Ocean View Drive, #108, Dorchester, Massachusetts 02125-3565; ph.stott@gmail.com

Binational Cooperation in the Big Bend Region

Joe Sirotnak

THE EARLY ADVOCATES FOR PRESERVING A LARGE CONSERVATION AREA in the Big Bend region were big thinkers. Even before Big Bend National Park itself was founded in 1944, they envisioned not an isolated national park unit in remote west Texas, but a true international conservation area, where the Rio Grande could be viewed as more of a river, and less of a boundary. As early as 1935, National Park Service, congressional, and civic leaders forwarded a recommendation to President Franklin D. Roosevelt to explore the possibility. By 1936, a formal International Park Commission was formed, holding meetings in El Paso and Alpine, Texas. This commission toured not only the proposed national park, but also the Rio Grande (called Río Bravo in Mexico), the towns of Boquillas, Coahuila, and San Carlos, Chihuahua, and the Sierra del Carmen, areas which eventually were included in the Maderas del Carmen and Cañón Santa Elena protected areas (Welsh 2002).

Unfortunately, although there was a flurry of scientific and photographic reconnaissance in the area, the international idea never fully took root. The tragic automobile crash death of International Park Commission member and Big Bend advocate George Wright while returning from the 1936 commission tour, and later the advent of World War II, prevented the international park from progressing beyond the idea stage. However, the establishment of Big Bend National Park in 1944 brought with it a second round of interest in an international park, with President Roosevelt writing to Mexican President Manuel Avila Camacho with such a proposal.

In 1947, a new binational commission was created. It was active for a number of years, with civic and government representatives visiting the governors of Coahuila and Chihuahua. The Mexican delegation even had a name for the planned conservation unit south of the Rio Grande: “Parque Nacional de la Gran Comba.” However, by 1953 NPS Regional Director M.R. Tillotson would confide to Big Bend’s superintendent, Lon Garrison, that “my efforts and those of the United States Section of this Commission have not been very fruitful” (Garrison 1954).

There seems to have been little high-level interest in the international park idea in the 1960s and ’70s, but beginning in 1981, and continuing to this day, superintendents of Big Bend National Park have worked to strengthen ties and work cooperatively towards cross-

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border environmental cooperation. In addition, several local and regional initiatives, such as the La Paz Agreement (1983), and civic groups, including Rotary International, were helping to strengthen border conservation ties. A major breakthrough occurred in 1994, when the Maderas del Carmen and Cañón Santa Elena protected areas were established, ultimately to be administered by Comisión Nacional de Áreas Naturales Protegidas (CONANP), under the Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT).

Since 1990, Big Bend National Park's fire management program has benefited from the assistance of "Los Diablos" wildland fire crew, consisting of Mexican nationals who live in the tiny villages immediately across the Rio Grande from the park. The remoteness of the park from other firefighting resources in the United States created the need to find local resources. With assistance from the Department of Homeland Security and the US Border Patrol, program participants are eligible for entry into the United States on an annual basis to assist any emergency firefighting effort in the company of Big Bend National Park staff.

In 1997, The Department of Interior and SEMARNAP (now SEMARNAT) issued a letter of intent to work together towards conservation goals in the national parks and protected areas along the US-Mexico border, resulting ultimately in a Memorandum of Understanding, and the initiation of several new conservation programs, in 2000.

Throughout the 20th century, river crossings (not bridges) between Mexico and Texas were open at four locations in, and adjacent to, Big Bend National Park, allowing international access to scientists, staff, and tourists into the frontier areas of northern Coahuila and Chihuahua, Mexico, and allowing Mexicans from these small towns to travel to and from the US border area for shopping and access to services that were scarce in rural Mexico. From the late 1980s through 1995, the park hosted an annual Mexican park managers' course, with several alumni becoming prominent protected area managers and environmental leaders in Mexico. Probably the most long-term NPS/Mexican village initiative was the International Good Neighbor Day Fiestas, which first occurred under Superintendent Ross Maxwell under another name, then were resumed in 1981, under Superintendent Gil Lusk, and continued until the final one in 2001. At times, there were even regular exchanges of amateur baseball games featuring NPS and CONANP staff and local citizens from both sides of the river. One legendary game played out in Jaboncillos, Coahuila, with the Yanks losing in spectacular fashion to a very skilled Mexican team. The game was followed by a picnic and goat roast under the big trees of town.

In May 2002, seven months after the 9/11 attacks, these crossings were closed, radically changing the human landscape in this remote area of the border, crippling the fragile economies of the small Mexican border towns, eliminating significant cultural and recreational opportunities to Big Bend visitors, and severely hampering efforts at binational management of resources.

Despite this setback, in June of 2003 the National Park Service hosted a river trip in Boquillas Canyon. Participants included agencies and nongovernmental organizations (NGOs) from both countries. This trip showcased efforts by CONANP to control saltcedar, an exotic invasive tree, and facilitated discussions on project expansion to both sides of the river. Soon afterward, cooperative projects between CONANP, NPS, World Wildlife Fund (WWF), and the Rio Grande Institute (RGI) began implementing saltcedar eradication proj-

ects within Boquillas Canyon. Each fall, saltcedar control crews from the village of Boquillas were joined by Big Bend National Park and NGO partners as they traveled by canoe through the canyon working on both sides of the river. Recently, the scope of exotic plant work on the Rio Grande was expanded, with projects designed to assess the relationship between diminishing flows and increasing riparian vegetation, and to address increasing occurrences of athel (an exotic tree related to saltcedar) and giant cane, a large invasive exotic grass that is taking over the riparian habitat.

In the winter of 2008, WWF organized and hosted the Rio Grande workshop, a binational meeting to discuss and identify restoration priorities and targets for the Rio Grande. In this meeting, participants developed a single vision statement for the river to be considered as a guide by each country when planning conservation projects. In addition, two teams were established to identify and investigate conservation challenges and possible solutions. The science and policy teams established at this meeting have been active in planning and implementing conservation and research work on the Rio Grande, including a binational tour of southern branch of the Rio Grande, the Río Conchos in Chihuahua. This trip was quickly followed up by a team of scientists visiting a grassland restoration program in Coahuila.

In the past ten years, several other binational resource management projects were begun, and many are still underway, including rare plant surveys and habitat analysis, a survey of groundwater and area springs, a study of diminishing river flows and declining aquatic habitat, amphibian and bat surveys, a study of genetic relationships among US and Mexico black bear populations, and peregrine falcon studies.

The pace of the current binational efforts picked up in 2009, when Secretary of the Interior Ken Salazar (US) and Environment and Natural Resources Secretary Juan Rafael Elvira Quesada (Mexico) announced a commitment to strengthen conservation cooperation in the Big Bend Area. This was followed in May 2010 by a statement from presidents Felipe Calderon and Barack Obama to “work through appropriate national processes to recognize and designate Big Bend–Río Bravo as a natural area of binational interest.”

The National Park Service recognizes that managing parklands along the international border presents unique challenges that include effects of drug smuggling and illegal immigration. However, the Big Bend region has historically experienced less cross-border traffic than any other southern border area. The close economic ties that arose from open border crossings yielded a free flow of information between the park and its international neighbors, which helped suppress illegal cross-border traffic. We believe an area of international cooperation, where the communities of both nations are engaged in mutually beneficial projects involving resource management, wildland fire protection, and ecotourism, can significantly reduce the negative impacts of illegal cross-border traffic.

Considering the obstacles, future prospects for increased binational conservation and tourism cooperation are good, although a true international park is unlikely in the near future. In 2011, Mexican and US agencies and scientists drafted a successful proposal to the Commission for Environmental Cooperation (CEC). The CEC supports development of collaborative transboundary landscape conservation projects in North America. The CEC Big Bend–Río Bravo project includes management of invasive exotic species, ecosystem sci-

ence and monitoring, ecological restoration, sustainable economic development, and building capacity for local communities to implement conservation. Additionally, plans are underway to re-open the river crossing at Boquillas, Mexico, with ground-breaking on a contact station on the Texas side occurring in October 2011. Both US and Mexican officials are cautiously optimistic that this crossing will be opened in 2012. Concurrent with the ground-breaking, secretaries Elvira and Salazar issued a joint statement on cooperative action for conservation in the Big Bend–Río Bravo region, memorializing the area as a conservation area of binational interest.

While such a statement, and the re-opening of a historic crossing at Boquillas, are important steps forward, they fall well short of the vision of a binational park as initially conceived nearly 80 years ago. Currently, US and Mexican agencies are working towards addressing some of the unique obstacles in the path of binational conservation, such as the need for bilingual staff on both sides of the river; difficulties in the acquisition of permits, travel credentials, and environmental compliance procedures that need to be duplicated to meet regulations of two separate federal bureaucracies for every proposed action; and the knotty question of how to legally move money and materials across an international border to meet shared conservation goals. A major hurdle in the management of the Rio Grande–Río Bravo is the fact that flows through the Big Bend reach are almost entirely supplied by releases from Luis León Dam on the Río Conchos in Mexico, with little hydrologic connection to the Rio Grande that is born in the southern Rocky Mountains of the United States. Water delivery is determined by treaty, and is governed by a maze of law, regulation, and policy, making the simple question of “how much water should be in the Rio” an international quagmire.

Perhaps the most glaring example of the unique challenges of binational conservation is what it takes to simply have a face-to-face meeting with our colleagues in Mexico. The only currently legal method for scientists and resource managers to meet outside of the river corridor, involves an epic journey of 13 hours or more through the nearest legal crossing at Ciudad Acuña, Coahuila–Del Rio, Texas, to cover a distance that is in places less than 100 feet, across a river that is often no more than knee-deep. The declaration of a conservation area of binational interest, and the re-opening of the Boquillas crossing to foot and boat traffic, would help to streamline bureaucratic processes such as moving funds and materials across an international border, issuing environmental permits, and completing compliance documentation. Additionally, the declaration would facilitate long-term planning, data sharing, training, and binational implementation of conservation projects. But there are no guarantees that any of this will happen. We could, after all this work, end up with another pleasant-sounding declaration without programmatic or legal authority. At least, if it does nothing else, recognition of the Big Bend–Río Bravo conservation area will get people on both sides talking to each other again. As long-time Big Bend river ranger Marcos Paredes used to say, “You can’t manage one side of a river.”

References

Garrison, L. 1954. "A History of the Proposed Big Bend International Park; Summarized by L. A. Garrison, Superintendent, Big Bend National Park." NPS files, Big Bend National Park, TX.

Welsh, M. 2002. *Landscape of Ghosts, River of Dreams: An Administrative History of Big Bend National Park*. Big Bend National Park, TX: National Park Service.

Joe Sirotnak, Big Bend National Park, Box 129, Big Bend National Park, Texas 79834; joe_sirotnak@nps.gov

Rocky Mountain National Park's Sister Park Relationship

Ben Bobowski and Vaughn Baker

IN SEPTEMBER 2007, Rocky Mountain National Park signed a sister park agreement with the Tatra National Parks in Poland and Slovakia (Figure 1). All three parks are mountain parks and international biosphere reserves, and all share mutual issues and concerns involving the conservation, preservation, and management of national parks, including natural and cultural resources, for the purpose of conservation, recreation, and public education. Since 2007, we have engaged in numerous staff exchanges and conferences, initiated joint science projects, and shared numerous work products, lessons learned, and ideas. To those who engage in the sister park relationship, there are unique and invaluable experiences gained that enhance careers and the protection of parks.

As with any relationship, it takes time to nurture and foster a sister park agreement. In this day and age of advanced technology, some of this can be done while in our own parks, but the fullest experience and greatest learning is obtained by physically visiting the parks and meeting and sharing face-to-face with our counterparts; each of the three partners agrees with this fact. All aspects of going to the other parks (e.g., travel, communication and language, culture, food, facilities, etc.) broadens one's viewpoint from previously held impressions and gives new energy to meeting the mission of managing these parks for preservation and enjoyment. Issues that once seemed specific to one park or one country are seen through a global lens and recognized as being common to many protected areas. Creativity in problem-solving is enhanced and the traditions of our respective agencies questioned as we compare and contrast how each protected area, and each democracy, approaches problems or opportunities.

The US State Department has been a significant partner in our sister park success. The US consulate in Krakow, Poland, as well as the US embassy in Bratislava, Slovakia, have provided assistance and leadership in maintaining local relationships with park staff. For example, each year in honor of Earth Day a thematic conference is sponsored by the US consulate in Krakow to enhance our knowledge about management challenges and opportunities we all share. This conference has evolved to include other Polish parks as well as border parks from the Czech Republic and, of course, Slovakia. Similarly, conferences have occurred in Slo-

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Figure 1. The three parks in the sister park relationship: Tatra National Park (Tatranský národný park; Slovakia; Rocky Mountain National Park (USA), Tatra National Park (Tatrzański Park Narodowy; Poland).

vakia. One of the highlights came in 2010 when Rocky Mountain National Park moderated a significant national conference in Slovakia titled “Forest Management in the Tatras: Preserving Protected Areas in the Era of Climate Change.” We have had success in collaborating in many aspects of park management, including the opportunity to observe Tatra National Park of Poland implement its first volunteer program—an outcome of our sister park relationship.

“Diplomacy through science” has evolved to be an area of emphasis for our international program. As similar mountain areas, we share similar environments, similar species, and a similar ecology. Air quality, climate, history and cultural practices, migratory species, and an ever-increasing human population are but a few issues in common that lend themselves to shared research questions in which the collection of data generally transcends cultures and governments, and provides for shared learning. Since 2007, we have collaboratively cultivated relationships with five universities (three in the US, one in Poland, and one in Slovakia) sharing research, our first Fulbright Scholar will travel to Poland in 2012 from the University of Northern Colorado, and our local high school (in Estes Park, Colorado) has established weather and ozone monitoring stations in both Estes Park and Zakopane, Poland, to engage students in both locations. The growth of our science efforts has been enhanced through participation of sister park staff in Rocky Mountain National Park’s biennial science conference.

The general premise of the sister park relationship is that each park hosts visits of sister staff. Once sister park staff arrive, support is provided to help reduce expenses and the stress associated with international travel. Support can include assistance with transportation, housing, and meals. Over the years, funding to support this relationship has been from a mixture of sources, including donated funds, university and grant funding, and, on occasion, US embassy support for travel expenses of individuals from Europe to America. As with many initiatives, sustainability of funding is enhanced through many partnerships.

Our experience suggests that a sister park relationship is time well invested. And, like many investments of relationship, the tangible benefits are shown over time as trust builds, shared visions evolve, and resources become available. For those who have been fortunate to travel abroad the experience has been career-changing; for those who spend time with staff from another country, their careers have been significantly enhanced. The future of protect-

ed areas management is global in nature. We believe the more we as individuals, as parks, and as an agency embrace the sister park concept, the more relevant and protected our parks will be for future generations.

Ben Bobowski, Rocky Mountain National Park, 1000 Highway 36, Estes Park, Colorado 80517; ben_bobowski@nps.gov

Vaughn Baker, Rocky Mountain National Park, 1000 Highway 36, Estes Park, Colorado 80517; vaughn_baker@nps.gov

Sister Parks as a Tool to Protect Shared Resources: An Example from St. Croix National Scenic Riverway

Christopher E. Stein

THE NATIONAL PARK SERVICE (NPS) CORE VALUE OF “SHARED STEWARDSHIP” applies to our international affairs as well as our domestic ones. For example, take the plight of neotropical migrants, a long-recognized international environmental issue.

At St. Croix National Scenic Riverway (located in Minnesota and Wisconsin), these winged neotropical jewels only spend about 25% of their lives in the Upper Midwest—to carry out the all-important reproduction function. The other 75% of these birds’ lives are spent elsewhere—either in Central or South America, or migrating back and forth between there and here. Given these percentages, the critical importance of “shared stewardship” is evident.

We must work with our Central and South American partners to protect habitat in their countries as well, so that neotropical migrants always come back north each spring. While international efforts like Partners in Flight and Southern Wings have been working on this dilemma for many years, St. Croix National Scenic Riverway and several other national park units in the Upper Midwest (Voyageurs National Park, Apostle Islands National Lakeshore, and Mississippi National River), as well as the Great Lakes Inventory and Monitoring Network, are now working on partnering with Corcovado National Park (located on the Osa Peninsula of Costa Rica), and perhaps others, to form a sister park arrangement to benefit these international birds.

While it is certainly true that park resource managers do not need to have a “sister in the south” to restore neotropical migrant habitat along the St. Croix (e.g., the park’s 65 pine plantations that lack diversity), the sister park aspect of this shared stewardship relationship is a public relations “win.” This cross-border relationship on behalf of neotropicals shines an educational spotlight on the birds’ very existence and this international problem. When the time is ripe for the media, it is anticipated that this issue will garner all the attention it rightfully deserves. By making it a “park-to-park” effort, we hope to raise public awareness about this pressing international environmental issue.

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Figure 1. The concerned citizen stewards of the St. Croix Valley on the bluffs at the confluence of the Mississippi and St. Croix Rivers.

Under the guidance of NPS's Office of International Affairs, we are establishing a formal international partnership that aims to further protect habitat for neotropical migrants in parks located thousands of miles away from each other—all in the name of the NPS core value of shared stewardship. We now patiently wait (as is required in many of these international partnership efforts) for a formal agreement to be signed between the US and Costa Rican governments. However, people of the St. Croix Valley are not waiting for these governments to act.

While we wait for a formal agreement, the idea of working across borders to protect the birds and their habitats (through “the people’s” national parks) has captured the imagination of a group of concerned and interested citizen stewards who live in the St. Croix Valley (Figure 1). Independent of government schedules, this new group is meeting regularly to develop ideas that can be implemented now on behalf of protecting the birds and their habitats. Recently, the international group Friends of the Osa (concerned about habitat protection in Costa Rica) told the new St. Croix Valley group that they should move “full steam ahead” with the idea of partnering with the Friends. This great news is a welcome byproduct of the budding sister park arrangement between St. Croix National Scenic Riverway (plus the other Midwest parks) and Corcovado National Park. Whether or not the day ever comes for a formal agreement, these dynamic citizen stewards will figure out how to help the neotropicals. At St. Croix National Scenic Riverway, we’ll work side by side with this group to help us all succeed even more than any one of us could do by ourselves.

Christopher E. Stein, St. Croix National Scenic Riverway 401 North Hamilton Street, St. Croix Falls, Wisconsin 54024; chris_stein@nps.gov

White Sands and Cuatrociénegas: An International Collaborative with Tangible and Intangible Benefits

Kevin Schneider

SINCE 2008, WHITE SANDS NATIONAL MONUMENT HAS ACTIVELY COLLABORATED with our sister park, Cuatrociénegas Protected Area in Coahuila, Mexico. Both areas protect the world's two largest gypsum dune fields, while Cuatrociénegas also includes numerous springs and pools in the midst of the Chihuahuan Desert. In just three years, the sister park partnership has produced both tangible and intangible benefits and the results have been significant.

Aside from hosting annual sister park meetings, we have obtained US\$125,000 to conduct an inventory of endemic arthropods in both protected areas, with the aim of discovering novel species. This project, led by the University of New Mexico, is currently completing its second year of fieldwork and is on track to have a final report delivered by 2012. Funding was provided by the National Park Service (NPS) Intermountain Region's International Conservation Office. For both protected areas, the arthropod inventory represents an infusion of scientific data that will help managers understand the richness of species. In addition, the project offers an opportunity to draw comparisons between the protected areas and how speciation has occurred in two similar but distinct biological hotspots.

Mexico's Comisión Nacional de Áreas Naturales Protegidas (CONANP) is currently developing a vital signs monitoring program to be implemented initially in protected areas in the Chihuahuan Desert, with the intent of later expanding it to the entire protected area network. Earlier this year, White Sands hosted a workshop for representatives from the National Park Service's inventory and monitoring program, along with Cuatrociénegas, Cañon de Santa Elena and Maderas del Carmen Protected Areas, the Universidad Autonoma de Nuevo Leon, and the World Wildlife Fund (which is helping to fund the monitoring program). The development of a vital signs monitoring program in Mexico marks an opportunity to complement the existing programs in the US and Canada and create a seamless network of vital signs monitoring throughout North America.

Cuatrociénegas' staff also played a crucial role in the development of all-new bilingual museum exhibits for White Sands' visitor center. They spent dozens of hours reviewing the Spanish translation of the exhibits and park orientation film. They provided a perspective

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representative of a visitor from northern Mexico—which is precisely the demographic targeted in White Sands’ diversity outreach programs. Without the input of Cuatrociénegas, the translations would likely have contained inaccuracies and would not have been relevant linguistically to the local Latino population. Further, Cuatrociénegas’ translation review saved White Sands thousands of dollars in additional translation costs.

In 2009, White Sands National Monument hosted a Cuatrociénegas employee on a one-month detail. This experience offered training and development not only for the Cuatrociénegas staffer, but it also proved a learning opportunity for White Sands staff as well.

While the partnership with Cuatrociénegas has produced meaningful tangible benefits, it has also yielded many intangible benefits. For most of us in park and protected area management, our job is more than just a job. It is burned into our core personal values; it’s a deep personal drive to improve the management of our most special natural and cultural sites. Spending time with our international colleagues is an incredibly enriching experience, to say the least. Many of them face challenges and obstacles far greater than those facing protected area managers in the US. Despite this, their commitment to their protected areas is no less than ours. It is humbling to see their dedication to achieving their mission, despite the numerous hurdles. Even with the cultural differences between us, protected area managers worldwide speak the same metaphorical language.

Collaborating with international protected areas is a unique cultural opportunity. It gives us a chance to better understand our neighbors in the world, be inspired, and recommit ourselves to the important work we do here at home.

Kevin Schneider, White Sands National Monument, P.O. Box 1066, Holloman AFB, New Mexico 88330; kevin_schneider@nps.gov

International Experience: A Gateway to Professional Development

Cynthia Orlando

MY INTERNATIONAL EXPERIENCES IN THE NATIONAL PARK SERVICE began in October of 2001 with a scoping trip to the national parks of Argentina and Venezuela. Members of the team I was to have been a part of opted out due to the events of September 11. My sense was that it would be a very safe time to fly and I proceeded with the scheduled trip. As I look back upon that international experience and others throughout the past decade, I realize that they have evolved and been directly linked to the progression of my professional responsibilities within the agency, beginning with the technical assistance to South American parks, going to relationships with global island parks in the Asia-Pacific region, and currently evolving to the role of participant in the broader international community of World Heritage protected areas, resulting in the establishment of sister volcanic parks from around the world. With each very different assignment I grew professionally in ways I could not have foreseen. I've developed relationships that have continually been strengthened and which will last a lifetime, while gleaned ways in which we could share best practices in park management, integrating them into our respective global situations.

Most recently I am immersed in international biosphere reserve and World Heritage programs at the local, state, and international level. In spite of the fact that the US national park system has been a model in the world for so long, our own country's response to World Heritage and biosphere reserve designations seems less passionate. Perhaps this is because 17 of the 21 US World Heritage sites are units of the national park system and thus already protected with that designation, and of the 47 biosphere reserves in the US, 31 contain national parks. Yet as an ambassador for the national park system and Hawai'i Volcanoes National Park, I recognize that our international responsibilities are often as great as our domestic roles under the Organic Act, and that as a park manager I must accept the global responsibility that is inherent in the World Heritage and international biosphere reserve designations of Hawai'i Volcanoes National Park.

Our participation in the international arena of protected areas benefits us both at home and abroad. We share a park system that is many things. It is a center of excellence in man-

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agement and function, and a benchmark for environmental change. It is a champion of a broader landscape-level approach to ecosystem protection, and an environmental leader promoting economic development and tourism in a sustainable way. It uses interpretation and education to achieve success in preservation and restoration efforts. Our long historical traditions have evolved from unique host cultures of the land that we steward. As major international destinations, the US national parks share in the common challenges of preserving biodiversity and maintaining ecosystems while, in many places, also preserving sacred, cultural landscapes. Information we impart to international visitors about these special places is useless without a strong link to people's experiences.

Sharing best practices is also important to do locally. At Hawai'i Volcanoes, we highlight World Heritage and the obligation we have—in our local community, on our island, and in the state—to protect the outstanding universal values that come with the inscription. Sister park relationships have brought us together in unique ways that benefit us all economically, socially, and politically, and this is of particular importance to islands in the Asia-Pacific region. The characteristics that make our places unique as a place to live also make them unique as places to visit.

We were a host park to one of the first USNPS World Heritage Fellows, and we will soon welcome an intern from Gaolugongshan National Park in China as part of her formal leadership training. The on-the-ground experiences are invaluable for both countries. Sometimes it is the simple things that mean the most. Perhaps the description shared by a colleague best sums it up:

The trip to US 2008 would be my fondest memory for my whole life. For me, it was not only a eyes open experience but also a inspiring journey. It yields outcomes: not only from surface. We now have our own logos and uniforms, but also the underneath. It influences my leadership in my organization. Now, we create a vision and mission statement for the park that would be among the first through China's nature reserve.

Cynthia Orlando, Hawai'i Volcanoes National Park, P.O. Box 52, Hawaii National Park, HI 96718-0052; cindy_orlando@nps.gov

International Experience: Personally Rewarding and Good for NPS

Bob Krumenaker

IN 1998, THE NATIONAL PARK SERVICE (NPS) NORTHEAST REGION and the Glynwood Center in upstate New York collaborated to put on the first “international short course” in decades. Students came from several Eastern European countries; instructors, including me, were NPS employees from the region. My role was to teach natural resource management on Thursday of the week-long class. I knew almost nothing about the experience level of the class members, so came early to observe and tailor the lesson plan to their needs. As I also had no experience at that point in international affairs, I didn’t know what to expect.

It didn’t take long to realize that these people already knew at least as much as I did about natural resource management, as they were senior park and protected area managers from some of the most ecologically significant places in Europe. Protected for centuries by kings and then communist elites as private reserves, opening these “new” parks and protected areas to public use was what they came to the US to learn, though protecting nature clearly was their priority. What they wanted from us was, in some ways, a comparative anatomy class—in other words, how did we do it in the US?

What also emerged from the first few days was that these highly experienced protected area professionals were far less experienced with cultural resource management; in fact, it puzzled them. These were natural areas, why were we talking about cultural areas?

Nora Mitchell, who was there to teach the cultural resources section, and I decided to change plans and integrate our sessions. But we struggled, failing to connect with the students with the idea that cultural resources were important. We didn’t know their parks; was it possible that there really weren’t any cultural resources there?

We decided to try one more thing and asked the class to divide up by country and discuss the stories people told about the places that were now their parks and protected areas. When the students came back to report on the discussions, the room buzzed in several unfamiliar languages. A dignified man named David from the Republic of Georgia, whose voice I had not heard all week, rose to speak first. I hadn’t realized until then that he neither spoke nor understood English. He walked to the front of the room and began to draw a map on a

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flip chart, explaining the story excitedly in Georgian to his colleagues as he added lines, dots, dates, and arrows to his map. One of them translated his words into Russian, and then another interpreted for the rest of us in English as he kept adding features to the map. No doubt the tale was lengthened by the need to repeat it three times, but David's rendering of 12 centuries of human history held us spellbound. Adding to this remarkable moment was the fact that in his free hand our Georgian colleague was gesticulating for emphasis with an 18th-century US sword, a Revolutionary War-era artifact that had been found on the Glynwood property.

I'll never forget that moment. The Eastern Europeans "got" cultural resources. I got hooked on working with colleagues from other parts of the world.

Since that time, I've participated in two International Ranger Federation congresses, the first in Australia in 2003 and the second in Scotland in 2006, both on my own time and dime. Finding common interest and experience with men and women whose passions are similar to mine, yet who live and work in so many different parts of the world and usually under far more trying conditions than we have in NPS, has been both fascinating and humbling. One surreal moment occurred while listening to a ranger from the Congo give a PowerPoint presentation in French-accented English dispassionately discussing how civil war is very bad for park wildlife. My job seems pretty simple in comparison.

In 2005, I went on my first official international trip for NPS, to Sweden, where then-Yellowstone Superintendent Suzanne Lewis and I met King Carl Gustaf and were treated like royalty ourselves as we toured several Swedish national parks after a conference at which we both gave papers—Suzanne's the keynote, mine rather less visible. In 2007, I had the keynote experience when I was asked by the Office of International Affairs to represent the NPS director at a conference in Seoul commemorating the 20th anniversary of the Korean National Park Service. My only lament about these two official trips was that they were whirlwinds, altogether too short—but my own comparative anatomy lessons were hugely rewarding as I learned from colleagues (who quickly became friends) about how parks were run in their countries.

Along with about two dozen other park managers, I participated in the inaugural National Parks Institute class in 2010. I've been fortunate to have had a lot of leadership training, but this was an intense two weeks focused on the challenges park people face. It would have been great had all the students been colleagues from NPS, but with half the class from overseas, the vibe was different and even better. We delved into the issues each one of us faced, and—again—it was refreshing to recognize the commonality of experience, regardless of country of origin.

International colleagues have become friends, and sharing experience in park and protected area management has provided me with a perspective and context that has deepened my commitment to park management. It's been personally rewarding, but I believe it's also been good for the NPS as I can now go all over the world—electronically, at least—for ideas, as the network keeps growing and growing.

Bob Krumenaker, Apostle Islands National Lakeshore, 415 Washington Avenue, Bayfield, Wisconsin 54814; bob_krumenaker@nps.gov

The Wilderness Act: The Minimum Requirement Exception

Frank Buono

Introduction

CONGRESS PASSED THE WILDERNESS ACT ON SEPTEMBER 3, 1964.¹ Forty-six years later, the federal courts continue to play the indispensable role of interpreting the act and reviewing how federal agencies apply it. The Wilderness Act is neither as complex nor as lengthy as the Clean Air, Clean Water or Endangered Species acts. There are fewer Wilderness Act court decisions than for nearly all other environmental laws.

Despite its brevity, federal courts have judged the Wilderness Act's words. Several federal Circuit Courts of Appeal have issued opinions on the administration of designated wilderness.² In 2001, the Eighth Circuit decided that an Indian treaty right to hunt and fish on ceded lands in Minnesota did not authorize Indians to operate motor vehicles in the Boundary Waters Canoe Area Wilderness (*U.S. v. Gotchnik*).³ In 2003, the entire Ninth Circuit decided that salmon stocking by the state of Alaska in the Kenai National Wildlife Refuge wilderness for enhancing commercial catch outside of the wilderness was an impermissible "commercial enterprise" (*The Wilderness Society v. USFWS*).⁴ In 2004, the Ninth Circuit decided that the Forest Service had violated the Wilderness Act exception that allows limited commercial services by not heeding the extent and necessity of such services in the John Muir Wilderness (*High Sierra Hikers v. Blackwell*).⁵ In 2004, the Eleventh Circuit decided that the National Park Service (NPS) violated the Wilderness Act by transporting park visitors in motor vehicles across designated wilderness of Cumberland Island National Seashore, Georgia, for interpretive programs because this use of motor vehicles did not fall within the ambit of the Wilderness Act's "minimum requirement" exception, as asserted by NPS (*Wilderness Watch and Public Employees for Environmental Responsibility v. Mainella*).⁶

On December 21, 2010, the Ninth Circuit rendered a new decision: *Wilderness Watch v. USFWS*. The decision examined the Wilderness Act's minimum requirement exception. The United States Fish and Wildlife Service (USFWS) installed large structures (called "guzzlers") to provide water for desert bighorn sheep in the wilderness of Kofa National

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Wildlife Refuge in Arizona. USFWS concluded that the structures, though generally and explicitly prohibited by the Wilderness Act, section 4(c), nonetheless qualified for the minimum requirement exception.⁷ The Ninth Circuit disagreed. This article is about the Ninth's Circuit decision. Before examining the Kofa decision, we must explain the minimum requirement exception.

The Wilderness Act minimum requirement exception

The Wilderness Act prohibits nine specific activities, seven of which an administering agency may waive by invoking a so-called minimum requirement exception. The prohibited activities that an agency may waive are: temporary roads, motor vehicles, motorized equipment, motorboats, landing of aircraft, mechanical transport, and structures or installations.⁸ The Wilderness Act allows the exception "as necessary to meet minimum requirements for the administration of the (wilderness) area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area)..." (16 U.S.C. 1133(c)).

Four federal agencies administer wilderness: the Bureau of Land Management (BLM), NPS, USFWS, and US Forest Service (USFS).⁹ Each agency has policies and procedures for determining when an otherwise prohibited activity may be employed because it may meet the minimum requirement exception. The agencies joined together to establish a national wilderness training center, the Arthur Carhart Center, in Missoula, Montana. One important function of the Carhart Center is to develop a systematic and consistent standard for applying the exception across agency lines.

As a former manager in Joshua Tree National Park, and now a retiree who frequently evaluates NPS wilderness management, the author attests to the difficulty of applying the minimum requirement exception. As with any statute, even words that are simple on their face are subject to many interpretations. Subjective judgment inevitably enters into determinations of what is "*necessary to meet minimum requirements for the administration of the (wilderness) area for the purpose of the (Wilderness) Act.*"

Some land managers with wilderness responsibilities may regard wilderness as an impediment rather than a valued resource. Wilderness designation constrains not only how the public may use the lands (e.g., no off-road vehicles, no bicycles) but also how the agency administers it. That is the very point of wilderness. Wilderness designation intentionally constrains both the public and the federal manager.

Managers who seek to sidestep the act's severe constraints may adopt a liberal minimum requirement interpretation. A now-retired National Park Service manager known to the author promoted the opinion that once NPS determined that an activity is "necessary" to administer a wilderness area, then any and all seven otherwise prohibited acts automatically pass the minimum requirement test. This convenient interpretation would remove the Wilderness Act's constraints (the seven prohibited acts) by a simple conclusion that the proposed activity is "necessary" for the purpose of wilderness administration. All that is needed to employ any of the prohibited means is for the manager to sign a minimum requirement analysis (MRA) that concludes an activity is necessary for the purpose of wilderness.¹⁰ This interpretation of the act is both extreme and invalid because it discards the word "mini-

mun.” It would render meaningless all the prohibitions for every requirement a manager deemed necessary for area administration. The Wilderness Act permits such a waiver only for the “minimum” requirements.

Circuit Courts and the minimum requirement exception

The Mainella Decision: Is the activity “necessary?” The first decision that seriously examined the application of the minimum requirement exception arose in Cumberland Island National Seashore in Georgia. In 1999, NPS began a regular schedule of transporting park visitors in a 15-passenger van through designated wilderness in the park. Because the Wilderness Act provides that agencies administer wilderness for such public purposes as recreational, educational, or historical use, NPS argued that the motor vehicle transport conformed to the Wilderness Act.¹¹ The agency’s MRA for the trips declared that the trips were “necessary” to administer the (wilderness) area. Applying common sense, the court wrote: “In no ordinary sense of the word can the transportation of fifteen people through wilderness be ‘necessary’ to administer the area for the purpose of the Act.”¹² The 2004 Eleventh Circuit decision (*Mainella*) firmly rejected the NPS argument.

A cardinal rule of statutory construction is that every word has meaning. “Necessary” is one such word within the minimum requirement exception. Although NPS believed that the van tours served other valid or valued purposes, the court concluded that NPS van tours were not “necessary” for the administration of the Cumberland Island Wilderness for the purpose of the Wilderness Act, and were therefore impermissible. The van tours failed the first test that matters in wilderness. The court found that NPS misunderstood the Wilderness Act command that, to employ a minimum requirement exception, the agency must first correctly determine that the proposed activity is “*necessary* ... for the administration of the (wilderness) area for the purpose of the (Wilderness) Act” (emphasis added). The van tours did not meet that primary and essential test.

Federal land manager determinations of what may be “necessary” to administer wilderness may vary. As a manager, the author judged that removal of tamarisk, an invasive and water-loving non-native plant, from springs and watercourses in Joshua Tree National Park was “necessary” for the administration of the park wilderness. Wilderness managers make such determinations regularly. A reasonable determination will likely survive court challenge, if challenged at all. The principle remains that the determination of “necessary” is the first and indispensable test in applying the minimum requirement exception. It is not an impossible one for an agency to meet.¹³ The Cumberland Island van tours did not.

A minimum requirement exception to the seven prohibitions cannot be made *if* the task itself is not “necessary ... for the administration of the (wilderness) area for the purpose of the (Wilderness) Act.” In short, the *Mainella* decision found the NPS van tours were *not* “necessary” for the administration of the Cumberland Island Wilderness. Therefore, NPS could not provide otherwise prohibited motor vehicle use (for public transport) in wilderness as a “minimum requirement.”

The Kofa Wildlife Refuge decision: Is the activity the “minimum requirement?” Now, we cross the country to Kofa National Wildlife Refuge. The December 2010 Ninth Circuit decision (*Wilderness Watch v. USFWS*) is the most relevant case to date about the minimum

requirement exception. As described above, USFWS constructed large tanks and pipes to hold and convey water to conserve a population of desert bighorn sheep. In contrast with the Cumberland Island decision, the Ninth Circuit found that the challenged USFWS activity at Kofa was “necessary” for the administration of the wilderness area for the purpose of the Wilderness Act. But then the court found that although the goal was “necessary” for wilderness administration, USFWS employed means (the guzzlers and motorized vehicles and equipment used in connection with them) that were hardly the “minimum requirement.”

USFWS administers Kofa National Wildlife Refuge in the Sonoran Desert of southwestern Arizona. Congress designated 516,200 acres of the refuge as wilderness on November 28, 1990.¹⁴ USFWS, with the support and encouragement of the state of Arizona, installed two large structures and associated conduits to supply water to support desert bighorn sheep, a species native to Kofa and the US southwestern deserts. In 2007, USFWS constructed water tanks (called the McPherson and Yaqui tanks) in the refuge’s designated wilderness. The agency MRA determined that these tanks, the use of motor vehicles (for access and transport), and mechanized equipment (for construction) were the “minimum requirement.”

Wilderness Watch, an organization devoted to public oversight of wilderness, challenged the USFWS decision. In 2008, the federal District Court in Arizona rejected the Wilderness Watch claim and supported USFWS. Wilderness Watch appealed to the Ninth Circuit. The Ninth Circuit first determined whether conserving desert bighorn sheep was “necessary” for administering the Kofa wilderness for the purpose of the act. The Ninth Circuit was satisfied that it was.¹⁵ As the act puts it, wilderness is “an area where earth and *its community of life* are untrammelled by man...” (16 U.S.C. 1131(c), emphasis added). A wilderness without its natural resources, processes, plants, animals, or waters would be like a “pub with no beer.” Wilderness is to be “managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature...” (16 U.S.C. 1131(c)). The Wilderness Act, as the above quotes demonstrate, recognizes that wilderness is not a blank space on a map. Conserving native plants and animals is critical to preserving wilderness.

But the court found that USFWS erred in determining that the large water tanks were the “minimum requirement” that served an otherwise necessary administrative purpose. The agency’s error was procedural; i.e., it had performed a sloppy, insubstantial, and perfunctory MRA. USFWS employed an approach used in too many MRAs: it failed to analyze the alternatives in relationship with one another rather than in isolation. This had the effect of making the desired action (installing the guzzlers) the minimum, if not the only, action.¹⁶ USFWS also erred even more fundamentally by failing to consider a range of far more minimal actions that could alternatively serve the necessary goal of conserving bighorn sheep at Kofa. Foremost among these actions, USFWS failed to consider actions that did not involve any of the seven Wilderness Act prohibitions.¹⁷

Among the actions that USFWS could have considered, said the court, was to put a hold on future sheep translocations by the state of Arizona from the refuge until populations reached an optimal level. USFWS could also have considered limiting the take of bighorn sheep by recreational sport hunters.¹⁸ As the court said:

Due to the population's stability, the Service and other government agencies have permitted certain activities that generally are viewed as inconsistent with population conservation. For example, since 1979, the area has served as a primary source of sheep for translocation programs to re-establish populations of bighorn sheep in Arizona, Colorado, New Mexico, and Texas. For decades, the Service translocated sheep from the refuge on a nearly annual basis. The area also has been a hunting ground for bighorn sheep, and the Service has issued a limited number of hunting licenses (between 9 and 17) each year. The Service also permits hiking in known lambing areas, despite the sheep's strong aversion to human disturbance.

None of the management actions to conserve bighorn sheep cited by the court would involve any of the Wilderness Act prohibitions. Yet, instead of considering or applying any or all of them, USFWS immediately adopted actions that implicated three of the Wilderness Act prohibitions (the use of motor vehicles, use of motorized equipment, and building of structures). USFWS acknowledged that the guzzlers transgressed the Wilderness Act prohibitions but proceeded because the agency asserted they were the minimum requirement. Rejecting this conclusion, the Ninth Circuit Court decided that the USFWS actions could not possibly qualify as the "minimum requirements," since the USFWS had failed to consider or adopt actions within its power that were truly minimal. None of the actions ignored by USFWS transgressed any of the Wilderness Act's seven prohibitions. Thus they, and not the guzzlers, were truly the "minimum."

Conclusion

In the decisions that affect wilderness, USFWS is not alone. Other agencies, including the National Park Service, have made similar errors. NPS may soon repeat that error at Mojave National Preserve in California. There, in 1994, NPS inherited several water sources for desert bighorn sheep, constructed on Bureau of Land Management lands, now transferred to NPS and within designated park wilderness. NPS committed to evaluate the guzzlers in the 2000 General Management Plan for Mojave.¹⁹ Some may say that it will be a freezing July day in the Mojave Desert before NPS honestly considers the truly "minimum" requirement for conserving the desert bighorn sheep of that park. But they must.

Few animals are as integral and symbolic of America's Southwest desert wilderness than the bighorn sheep. Just as in Kofa, conserving the bighorn of Mojave is necessary to administering the wilderness of that park. The Ninth Circuit Kofa decision, analogous in so many respects to the Mojave situation, should guide NPS to intelligently weigh the real minimum requirements for conserving desert bighorn sheep as part of a living wilderness. That would require both courage and insight.

Endnotes

1. 16 U.S.C. 1131 *et seq.*
2. Other Circuit Court decisions address agency management of lands that are not yet wilderness but are instead in wilderness study status. An example is *Norton v. Southern Utah Wilderness Alliance*, 2003. This article does not examine or discuss such cases.
3. "[T]here shall be ... no use of motor vehicles ... within any such (wilderness) area" (16 U.S.C. 1133(c)).

4. “Except, as specifically provided for in this chapter, and subject to private existing rights there shall be no commercial enterprise ... within any wilderness area...” (16 U.S.C. 1133(c)).
5. “Commercial services may be performed within the wilderness areas designated by this chapter to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas” (16 U.S.C. 1133(d)(5)).
6. “[E]xcept as necessary to meet the minimum requirements for the administration of the area for the purpose of this Act” (16 U.S.C. 1131(c)).
7. “[T]here shall be ... no structure or installation within any such (wilderness) area” (16 U.S.C. 1133(c)).
8. Note that the minimum requirement exception never allows an agency to permit permanent roads or commercial enterprises. Other exceptions may apply to these two, such as “existing private rights.”
9. BLM, NPS, and USFWS are in the Department of the Interior; USFS is in the Department of Agriculture.
10. Often MRAs are the sole environmental compliance document completed, with no further analyses done because agencies invoke a widely used categorical exclusion under the National Environmental Policy Act (NEPA). The public may not learn of the agency’s conclusion because, without NEPA, there is often neither public announcement nor involvement in the MRA process.
11. “Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use” (16 U.S.C. 1133(b)).
12. Note that the minimum requirement exception is to be made *only* if necessary to serve the “purpose” of the act, not “purposes.” Further, the statute’s text that describes the other “public purposes” to which wilderness “shall be devoted,” is prefaced by the phrase “except as otherwise provided in this Act.” If this were not so, an agency could build, say, an astronomical observatory, unrelated to administering wilderness, on a wilderness peak because it serves a “scientific” purpose. No agency has dared attempt to push the law to so ludicrous an outcome, although the NPS van tours came very close. They served, according to NPS, recreational, educational, and historical purposes.
13. When I administered park wilderness I judged that activities deemed “necessary” in them, besides tamarisk removal, included construction of trails or hardened campsites (to confine impacts of human use to small locations); installation of repeater sites (to provide rangers with means of communication while on wilderness patrol); and installation of monitoring equipment for natural resource parameters (for research on the physical attributes of wilderness—water, air, biologic processes, etc.). Not all would agree with my judgment, and there is room for vigorous debate.
14. P.L. 101-628; 104 Stat. 4478.
15. The court noted that the Wilderness Act is “within and supplemental to the purposes for which ... units of the national park and national wildlife systems are established and administered...” (16 U.S.C. 1133(a)). The court further noted that “wilderness areas

shall be devoted to the public purposes(s) of ... conservation..." (16 U.S.C. 1133(c)). One of the essential purposes of Kofa is the conservation of desert bighorn. Some may misapply these provisions as automatically waiving the Wilderness Act prohibitions. They do not and the Ninth Circuit did not. The Wilderness Act text that describes the several "public purposes" of wilderness is conditioned by the phrase "except as otherwise provided in this Act." The very next provision of the act prescribes the prohibitions.

16. Another premise that often creeps in to minimum requirement determinations (as it did at Kofa) is to mistakenly believe that an action that an agency *alleges* to have lesser "impacts" therefore satisfies the minimum requirements test. "Lesser impacts" are not equivalent to "minimum requirements." The teeth of the Wilderness Act are the nine prohibited acts and the limited exceptions it allows to them. The Wilderness Act does not contain a "lesser impact" exception to the prohibited acts. The Wilderness Act prescriptions *are* the impacts. To reason, for example, that supplying a project in wilderness by landing an aircraft (prohibited by the Wilderness Act) has less "impact" than a string of mules (which does not trouble the Wilderness Act in the least) and therefore must be the "minimum requirement" represents a common and oft-repeated *non sequitur*. But that discussion we save for another day.
17. Again, the Wilderness Act prohibits nine specific things but only the latter seven may avail themselves of the "minimum requirement" exception.
18. Kofa National Wildlife Refuge is a unit of the national wildlife refuge system. The National Wildlife Refuge System Administration Act of 1966 is the Organic Act of the US Fish and Wildlife Service. As amended in 1997, the act contains a "Savings Clause" that states: "Nothing in this Act shall be construed as affecting the authority, jurisdiction, or responsibility of the several States to manage, control, or regulate fish and resident wildlife under State law or regulations in any area of the System. Regulations permitting hunting or fishing of fish and resident wildlife within the System shall be, to the extent practicable, consistent with State fish and game laws, regulations, and management plans" (16 U.S.C. 668dd(m)). Courts, most recently the Tenth Circuit (*Wyoming v. United States*, 2002) hold that the clause does not wrest from USFWS power to regulate management or hunting of wildlife. While this issue was neither raised nor discussed in the Ninth Circuit Kofa decision, the Ninth Circuit certainly assumed that the alternative of freezing State translocations of sheep, or reducing hunting take by Arizona-licensed hunters, were within the realm of alternatives open to, and within the power of, USFWS.
19. In the interest of full disclosure, the author served as the first assistant park superintendent at the Mojave. Also, the author serves on the board of the advocacy group PEER (Public Employees for Environmental Responsibility), a successful litigant against NPS for wilderness mismanagement. PEER is not a party to the Ninth Circuit Kofa decision.

Frank Buono, P.O. Box 3835, Sierra Vista, Arizona 85636-3835; fwbuono@earthlink.net

A Model Process for Developing Adaptation Options for Natural Heritage Areas in an Era of Rapid Climate Change

*Paul A. Gray, Christopher J. Lemieux, Thomas J. Beechey,
and Daniel J. Scott*

Introduction

CLIMATE CHANGE IS IMPLICATED IN A VARIETY OF COINCIDENT IMPACTS, including perturbations to temperature and precipitation regimes as well as an increase in extreme weather events, which in turn alter ecosystem composition, structure, and function (IPCC 2007a, 2007b; Lemmon et al. 2007; Julius and West 2008). For the practitioner, climate change presents a series of challenges to effective planning and management of natural heritage areas (NHAs): (1) it is risky to make medium-to-long-term decisions that assume a stable climate; (2) every species and ecosystem will respond to climate change in a unique way; (3) there will be new and potentially increased threats to human health and well-being; (4) every NHA organization will need to plan to manage for a range of potential impacts with a corresponding range of adaptation strategies; (5) the concept/ideal/target of sustainability will require re-evaluation; and, (6) making decisions about the protection and use of natural assets in future climates may require new, more flexible governance techniques, including increased public participation in decision-making.

Adaptation is important because climate change is already affecting NHAs (see Baron et al. 2008; Lemieux et al. 2011; Mawdsley 2011), temperature regimes will continue to rise during the 21st century and beyond (see Anderson and Bows 2008; Rogelj et al. 2009), and a proactive approach will be more effective and cost-efficient in eliminating or reducing potential for irreversible damage (e.g., loss of habitat) and enhancing opportunities for mitigative actions (Stern 2007). Accordingly, many NHA organizations will embrace an adaptive approach to management to improve their chances of meeting long-term objectives that include the perpetual protection of representative elements of natural and cultural heritage. This article explores a model process to help NHA practitioners develop and/or implement an adaptive approach to management in a rapidly changing climate.

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An adaptive management process

A fundamental question facing every organization responsible for NHAs in a rapidly changing climate is whether or not it is adaptive in its decision-making and actions. The essence of adaptation is to “*learn while doing*” (Lee 1999). As such, adaptation is characterized by actions that reduce or eliminate negative impacts and increase the likelihood and magnitude of preferred outcomes. While humans have used adaptive behavior to survive, create, and maintain civilizations for thousands of years, it was not until the 1970s that a few strategic, forward-thinking scientists (e.g., Walters and Hilborn 1976; Holling 1978; see also Hilborn 1992; Walters 1997) formally advocated and described the use of experimentation to improve analyses of policy options and decision-making in a rapidly industrializing world (in which the allocation of natural assets had significant implications for survival and quality of life). Subsequently, and in recognition of the fact that humans cannot predict the future and always will need to respond to surprises and unforeseen events, a sizeable literature about learning-oriented decision-making techniques—ranging from reactive decision-making, to iterative decision-making, to decision-making on the basis of active experiments and comparative analyses—was created (e.g., Smit et al. 1999, 2000; Burton et al. 2002; Smit and Pilifosova 2003; Adger et al. 2005; Smit and Wandel 2006; Burton 2008).

Given the magnitude of ongoing social, cultural, economic, and ecological change, no single decision-making tool, technique, or system will equip practitioners to address all of the emerging threats to ecosystem function and human health and well-being. In fact, given the variety of uncertainties and cumulative impacts associated with climate change, a truly adaptive organization will ensure it has access to all available learning-oriented decision-making tools and techniques. While there is widespread agreement that preparing for and responding to climate change is necessary and includes the development and integration of risk management strategies into current and new programs, climate-sensitive, adaptive decision-making processes are only now being designed and tested by NHA organizations (see Lemieux and Scott 2011 and Weeks et al. 2011 for examples). The framework described in this paper represents one model that NHA organizations can use to strategically design and plan their way forward (Figure 1).

Step 1: Determine and establish organizational readiness to adapt

Organizational readiness is a unique combination of institutional structure and function, financial resources, knowledge, practical experience, and adaptive decision-making with which practitioners can manage for climate change. An organization can determine its readiness for adaptation by evaluating how it is positioned to deliver integrated place/time-based, community-empowered, and knowledge-driven programs (Gray et al. in preparation; Figure 2).

Figure 3 is a framework to help organizations evaluate their readiness to adaptively manage for climate change. The three categories and 10 themes are not mutually exclusive, and where possible, it is recommended that they be explored and evaluated in concert with each other. For example, an organization could develop questions and complete a “readiness assessment” tailored to meet its particular circumstances. Answering these types of questions could provide NHA practitioners with a sense and understanding of the strengths/capabilities and weaknesses/gaps requiring attention (Table 1).

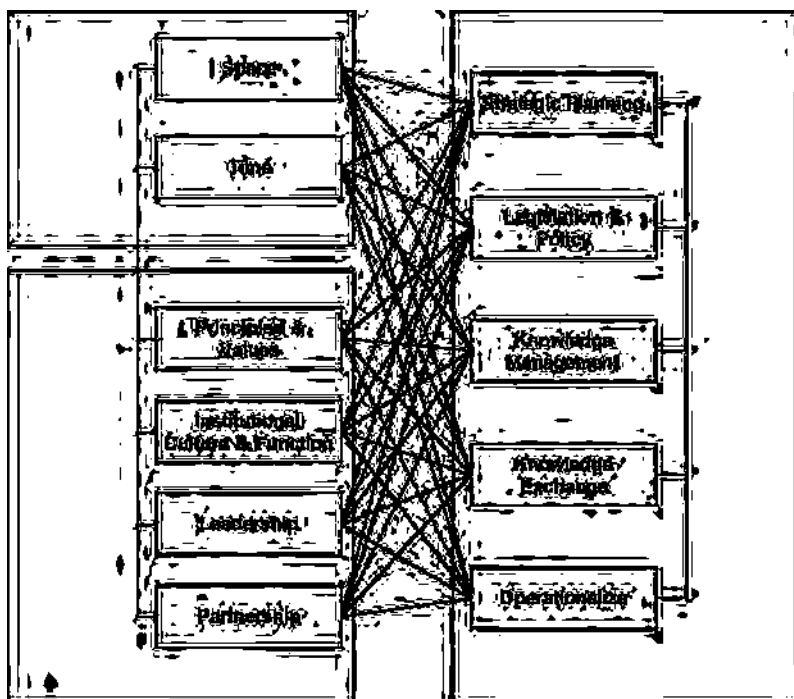


Figure 3. A framework to help organizations assess their readiness to manage for climate change (Modified from Gray and Davidson 2000 and Environment Canada 2000).

Category #1: Place/time-based (contextual scales).

- Theme 1: Describe ecosystems and other types of planning areas such as park boundaries in space and time.

Category #2: Community-based (enable a coordinated societal response).

- Theme 2: Use appropriate principles, establish and maintain trusting relationships, engage people, and account for natural asset values.
- Theme 3: Ensure institutional culture and function can foster an adaptive approach to decision-making.
- Theme 4: Promote informed leadership.
- Theme 5: Create and support the partnerships needed for decision-making.

Category #3: Knowledge-driven (implement the best mix of tools, techniques, and systems planning).

- Theme 6: Embrace an ecologically oriented approach to adaptive management by thinking and planning strategically for the long-term.
- Theme 7: Implement “climate-ready” policy, legislation, and regulation that contribute to the attainment of NHA area management objectives.

- Theme 8: Gather knowledge through research, inventory, monitoring, and assessment to support strategic decisions that reduce the impacts of surprises.
- Theme 9: Communicate and share knowledge through education and extension.
- Theme 10: Operationalize adaptation, including development of new science and information technology to enhance delivery of an adaptive approach to management.

Step 2: Engage people

NHA management benefits from the active engagement of people with a range of values and interests who can work together in trusting relationships based on the principles of sustainable living (Sparkes 2004), including adaptive decision-making. If society trusts in the ability

Table 1. A sample of questions that natural heritage area (NHA) practitioners can use to assess organizational readiness to adapt to climate change.

Theme	Question
Mandate	What key issues will be addressed by your organization through application of an adaptive approach to management?
Spatial Factors	What scale(s) of ecosystem mapping and monitoring are available and how do mapping and monitoring programs support adaptive management in NHAs?
Temporal Factors	What time frames (e.g., frequency and duration of measurement) are needed to monitor the known and potential impacts of climate change on ecosystem composition, structure, and function in and adjacent to NHAs?
Principles	How do the principles used by your organization support its commitment to adaptive management in NHAs?
Engagement, Trust and Participation	How does your organization inspire and build trust in the community?
Values	How does your organization support research to determine how the known and potential climate change conditions impact the distribution and abundance of ecological goods and services, and associated cultural, social, and economic conditions?
Institutional Culture and Function	How is your organization structured to work collaboratively with other organizations to manage for climate change in small to large ecosystems?
Leadership	Does your organization support an internal process that provides staff an opportunity to understand critical issues like climate change, and, based on this understanding, support efforts to manage for uncertainty in the best interests of the public?
Partnership	How does your organization work to optimize involvement by clients and partners in decision-making (from conception to completion)?
Strategic Planning	How does your organization's strategic plan support ecologically meaningful management in a rapidly changing climate?
Legislation and Policy	What are the underlying values of nature on which NHA policy and legislation is based, and how will these values change in response to climate change?
Knowledge and Information Management	How does your organization's knowledge management system support climate-related data and information for use in adaptive management?
Knowledge Exchange	How do the communication tools and techniques used by your organization address adaptive management in a rapidly changing climate?
Operationalize	How does your organization establish and measure targets for sustainability, and are they relevant in a rapidly changing climate?

ty of NHA organizations to engage citizens on an ongoing basis and in the cultural and scientific knowledge used to inform decisions, then the chances of successfully implementing truly adaptive decision-making are improved. A “climate-ready” constituency is characterized by clients who are capable of participating in a variety of planning and management programs, and who are comfortable with the processes created to monitor and to adjust decisions as required. Participation can range from informal and easily organized information and feedback sessions to sophisticated co-management agreements.

Step 3: Establish baselines for selected natural assets

To detect and manage for change, an organization must establish a starting point (baseline) in-time-in-space and describe the status or condition of the NHAs using ecological, cultural, social, and economic indicators (e.g., Stoddard et al. 2006). For example, past and current fire frequency and intensity patterns could be used to detect change and re-evaluate fire management strategies. Or, user demand for access to NHAs could change as a result of longer summers and extended shoulder seasons. For example, Scott et al. (2005) used the following climatic thresholds for climate change impact indicators: the number of days with 15 cm of snow as an indicator of Nordic ski conditions and the number of days warmer than or equal to 23°C as an indicator of recreational swimming opportunities.

Step 4: Assess current vulnerability to climate change

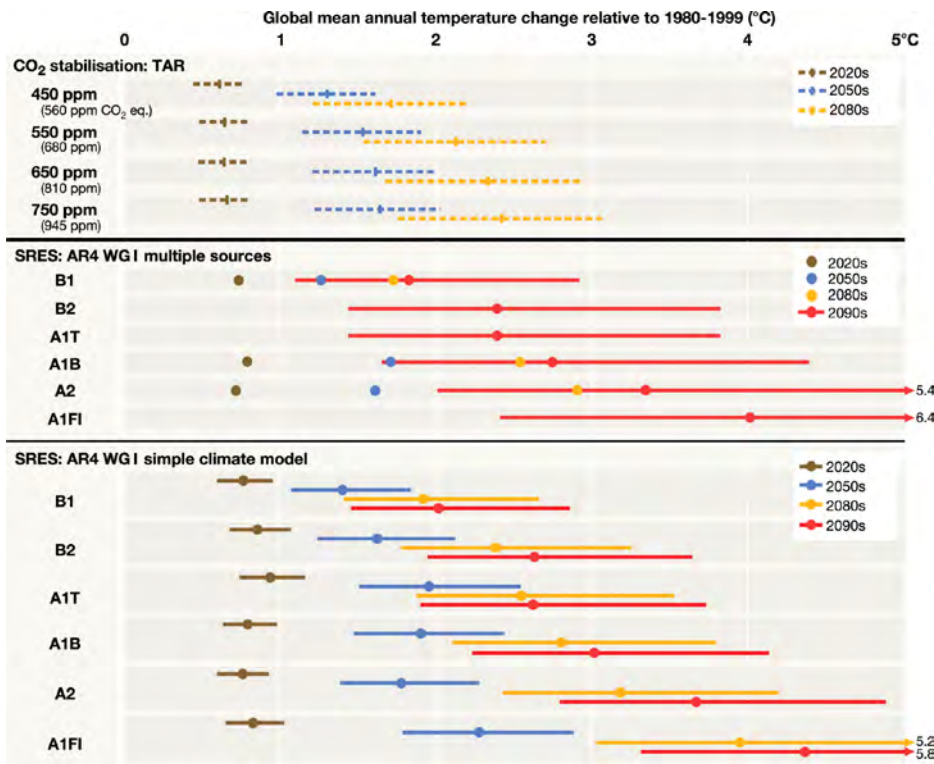
Vulnerability is a statement about the degree to which a natural or social system is susceptible and unable to cope with the effects of climate change (IPCC 2007a). The metric can be qualitatively or quantitatively based on “exposure” (e.g., the nature and extent of climate change), the “sensitivity” (i.e., the degree to which a species or an ecosystem will be affected by change), and adaptive capacity or the ability to cope with change (Glick et al. 2011). Ecological adaptive capacity can be described with parameters such as behavioral plasticity, species physiological tolerance levels, and species dispersal capabilities. Human adaptive capacity can be characterized as the ability of a social organization or an individual to cope with the change through decision-making and the application of tools and techniques. In the absence of quantifiable scientific studies, expert opinion can be used to rank exposure and sensitivity to climate change. For example, sensitivity and adaptive capacity can be evaluated, ranked (e.g., high, medium, and low), and described graphically to complement the decision-making process (e.g., Alberta Sustainable Resource Development 2010).

Scott et al. (2005) examined historical patterns of climate change in Canada’s National Capital Region (in and adjacent to Ottawa). They reported that since the 1940s climate change had been significant enough for the National Capital Commission to adapt winter and summer programs to the new realities of a warmer climate (e.g., winters are now 1.5°C warmer than in the 1940s). For example, the timing of Ottawa’s annual winter festival, “Winterlude,” was changed from a consecutive 10-day period to a three-weekend event to increase the probability of suitable weather during some part of the event. In addition, many attractions were moved from ice to land locations, refrigerated trucks were provided for the ice sculpture contest, and organizers collaborated with local museums to provide non-climate-dependent activities.

Step 5: Develop scenarios to project climate change

Planning and management responses to global warming require an understanding of how our climate may change. Models project an increase in air temperature, but given the uncertainty of human behavior and associated greenhouse gas (GHG) emission rates and volumes, we do not know by how much. This is an important issue because it creates uncertainty about how to plan for the future. For example, if countries elect to increase reliance on fossil fuels, GHG emissions will increase faster than if the countries collectively elect to reduce their use of fossil fuels, introduce more renewable energy into the mix, and integrate energy conservation measures into their economies. Accordingly, climate models and emission scenarios based on different types of human behavior are a useful tool to engage people in strategic discussions (e.g., “what if” questions) and decisions about potential future climates, associated vulnerabilities, vision-based targets, and adaptive responses (Figure 4). Generally, experts recommend that organizations use a range of climate models and scenarios of human behavior to create mental pictures of the potential conditions that may require adaptive responses.

Figure 4. Global mean temperature change (oC) associated with examples of SRES scenarios (Special Report on Emissions Scenarios by Nakicenovic et al. 2000) describing the impacts of different types of human behavior through the 21st century. Source: IPCC 2007b, 66.



Step 6: Assess vulnerability of natural and socio-economic assets to climate change

As in Step 4, the vulnerabilities of selected natural and cultural assets to climate change are assessed. In this case, however, projections of future climates are used to provide a basis for thought experiments during which participants ask all sorts of “what if” questions about how the condition and status of natural and cultural assets could be affected by different climatic conditions. For example, what will happen to water levels in a park’s wetlands if the average annual temperature increases by 2°C, evapotranspiration increases by 15%, and average annual precipitation decreases by 10% by 2090? Exploring the potential future vulnerability of ecosystem composition, structure, and function to climate change is an integral part of the adaptive process. From a natural systems perspective, the future may unfold linearly as a continuation of past and ongoing change, such as increasing average annual temperatures, or non-linearly in the form of abrupt change resulting from an extreme weather event or the breach of an ecological threshold that causes an ecosystem to radically change or “flip” from one type of system to another (e.g., from a forest underlain with permafrost to a wetland).

Climate change has important implications for nature-based recreation as well because visitor use is strongly correlated to climate and the types of activities that are available. Climate influences the physical resources (e.g., water levels, snow cover, and wildlife species) that provide the foundation for outdoor recreation (e.g., boating, Nordic skiing, birdwatching), defines when specific activities can take place (e.g., beach use and swimming), and influences the level of visitor satisfaction (Jones and Scott 2006a, 2006b). Often, potential vulnerability is explored by assessing how a changed climate will impact natural and social indicators. For example, Scott et al. (2005) used indicators to assess change in the thermal comfort of park visitors and optimal temperatures for Nordic skiing conditions.

Step 7: Identify adaptation options

Given the increase in air temperature that has occurred in the last 100 years, an increase of another 1°C or more has significant implications for the composition and patterns of natural and cultural assets in NHAs. Installing or enhancing adaptive capacity to respond to this change, therefore, will be important to NHA managers. Likely, successful adaptive responses will involve combinations of new and existing adaptation techniques aimed at reducing or eliminating vulnerability and/or enhancing opportunities that may result from climate change. For example, NHA networks that include core areas, connecting linkages, and buffers provide a hedge against uncertainty by increasing ecosystem resilience. Moreover, NHA practitioners who acquire expertise in ecosystem rehabilitation techniques that will be useful as new climates emerge will likely be more successful.

Many techniques are available to identify and to evaluate adaptation options, including: scenario planning (Peterson et al. 2003), emerging issues analysis, multi-criteria analysis, and, idea-generating procedures using workshops, focus groups, and policy Delphi surveys (see Linstone and Turoff 2002 and Donohoe and Needham 2009 for reviews). Each technique has strengths and weaknesses depending on the required outcome, location, available resources, and clients involved in the process. For example, the US National Park Service (NPS) Climate Change Response Program is exploring scenario planning as a tool for park

planning and management in an era of uncertainty (NPS 2010). The objective of scenario planning is to develop and test decisions under a variety of plausible futures. Since 2008, NPS has sponsored several training workshops to educate staff and partners on the utility of climate change scenario planning in support of adaptive management (see Weeks et al. 2011).

In a similar exercise, Lemieux et al. (2008) and Lemieux and Scott (2011) used a three-round policy Delphi survey to identify and evaluate climate change adaptation options available to a Canadian NHA agency, Ontario Parks. A policy Delphi is an iterative group-oriented idea-generating procedure used to identify the strongest possible opposing views on the potential resolutions of a policy issue (de Loë 1995; de Loë and Wojtanowski 2001; Donohoe and Needham 2009). The approach permits a diverse group of experts to interact anonymously on a subject or issue and provides a structured method for assembling ideas and recommendations. By design, participants are provided the freedom to present and challenge alternative viewpoints and to think reflectively and independently between iterations. On the other hand, the electronic version of the approach requires access to computers and the Internet, some computer expertise, and a commitment by respondents to spend a few hours of time responding to the questions.

In Round 1, questionnaires were electronically sent to experts to identify adaptation options in response to questions, while Rounds 2 and 3 (see Step 8, below) were used to evaluate the institutional feasibility of options. Lemieux et al. (2010, 2011) and Lemieux and Scott (2011) prepared a portfolio of adaptation options in response to a suite of seven questions about the role of NHAs in adapting to the impacts of climate change (Table 2).

To effectively respond to the challenges of climate change, NHA managers will assemble and assess adaptation options from a variety of sources, including literature reviews, on-site user surveys, scenario planning, workshop proceedings, and policy Delphi surveys. Currently, a number of portfolios with adaptation options are available to NHA practitioners (e.g., Scott and Lemieux 2005; Welch 2005; Julius and West 2008; Heller and Zavaleta 2008; Lemieux et al. 2011; Baron et al. 2009; West et al. 2009; Lemieux and Scott 2011; Mawdsley 2011) that can be used in support of new or ongoing adaptive management programs.

Step 8: Evaluate and select adaptation options

Adaptation options can range from broad strategies such as a commitment to an ecosystem approach to management at the landscape level of planning to site specific strategies that include engineering solutions for specific features or functions such as wetland rehabilitation or stormwater management. It is anticipated that adaptation options will collectively reduce threats across the spectrum of large to small ecosystems in and outside of NHAs by enhancing ecosystem resilience and the adaptive capacity of human decision-making processes, and providing new adaptive techniques. More often than not, the list of potential adaptation options will be larger than it should be, and some streamlining (and associated trade-offs) will be required to meet the specific realities faced by NHA practitioners. There are many techniques available to help NHA practitioners isolate the most important and relevant adaptation options, including expert judgement, cost-benefit analyses, and cost-effectiveness

Question	Response
What are the roles of protected areas in an era of climate change?	Continue to meet the conservation imperative because many NHAs encompass relatively undisturbed ecosystems, or parts of ecosystems, that contribute to the health of aircscapes, landscapes, and waterscapes and the people who depend on them.
Should ecological representation remain a key objective for protected areas establishment?	Representation should remain an important objective because physiographically based representation schemes (e.g., topography and landforms) can provide a relatively stable spatial context in which ecosystems and species will respond to changing climatic conditions.
Is there a standard suite of guidelines for protected areas design in an era of rapid climate change that can be used to maintain or enhance resiliency? (In other words, a resilient ecosystem can absorb climate-induced stress, re-organize while undergoing change, and retain the same or similar function in a rapidly changing climate.)	No, each jurisdiction is unique. Generally, however, organizations can design for complexity (protected areas and networks that encompass a range of biophysical characteristics are likely to be more resilient), redundancy (replication), multiple scales (protect small-to-large areas directly and indirectly under the auspices of a “greater ecosystem approach”), and encourage innovation, which could potentially include assisted migration.
What types of management direction and programs are required for protected areas in a rapidly changing climate?	<ul style="list-style-type: none"> • Recalibrate management objectives and develop alternative governance regimes that could include implementation of an adaptive management process, develop plans for “clusters” of natural heritage areas, and introduce innovative governance techniques such as co-management arrangements. • Use rehabilitation to reconnect fragmented landscapes and waterscapes, increase carbon storage capacity, and implement assisted migration if it is selected as a management option. • Help the public connect with their natural heritage. • Promote NHAs as providers of ecological goods and services that contribute to ecosystem health and the well-being of people. • Institutionalize an adaptive approach to management that includes recognition of the dynamic nature of ecosystem boundaries and biodiversity. • Establish transboundary partnerships designed to meet regional to local socioeconomic needs, maintain or rehabilitate ecosystem integrity, and conserve biodiversity. • Integrate natural heritage area networks into regional land-use planning.
What research, monitoring, and reporting capabilities are needed to manage for climate change?	<ul style="list-style-type: none"> • Use NHAs as sources of knowledge for decision-making because applied science and research can improve understanding of the response of ecosystems to climate change. • Use natural heritage areas as benchmarks of change because relatively undisturbed protected area landscapes and waterscapes make them a valuable resource for climate change monitoring. • Use adaptive management that favors learning about ecological and social dynamics.

Table 2. Examples of climate change issues in Canadian natural heritage areas (NHAs) and selected adaptive responses (modified from Lemieux et al. 2010, 2011).

analyses (Lim and Spanger-Siegrfried 2005). Selection criteria can include priority (e.g., along a continuum of very important to little importance), affordability, ease of implementation, and/or certainty of the adaptation option (e.g., highly certain to highly uncertain vulnerability) (e.g., Lemieux et al. 2008; Lemieux and Scott 2011).

Step 9: Implement adaptation options

Mainstreaming climate change into decision-making can be accomplished by ensuring an organization's commitment to address the issue is acknowledged and applied in strategic, management, and operational plans. For example, NPS, Parks Canada, and Ontario Parks staff have integrated climate change extension and education programs into park interpretative programs (see Lemieux et al. 2010; Bruff 2011), greened fleets and infrastructure, and in some cases embraced the "greater ecosystem approach" to management, which is particularly useful for establishing and maintaining "blueway" and "greenway" corridors across large landscapes and waterscapes.

In addition, an organization can create an implementation plan to guide practitioners in their efforts to systematically address questions related to mandate, internal/external support and responsibilities, access to financial and human resources, communications requirements, and ongoing participation (see ICLEI 2010; NPS 2010). Some of the questions created and answered in Step 1 will inform the climate change implementation plan as well.

Step 10: Monitor for change and adapt as needed

The climate change issue is confounded by significant uncertainty resulting from the type, timing, rate, and magnitude of ecological and social impacts (White 2004; Yohe et al. 2004), particularly when impacts are abrupt and non-linear (Lew 2010). NHA organizations improve their chances of successfully planning and managing their way forward if they support robust long-term, ongoing monitoring programs (and learn from case studies) that help staff to detect change and assess the success of decisions and related actions to respond to climate change impacts. Such analysis will, for example, help practitioners determine if an adaptive action has reduced or eliminated the vulnerability of an important natural or social asset to climate change. If the adaptation action is not working then managers are in a rational position to adjust the management regime.

Conclusion

Adaptive management is the convergence of a commitment to "*learn while doing*" (Lee 1999) leading to the maintenance of the long-term health of ecosystems in and adjacent to NHAs. While many current NHA management practices contribute to ecosystem resilience, decisions to protect existing NHAs and create new ones in a rapidly changing climate will also require adaptive and innovative approaches that draw upon evolving science; new information technologies, management tools and techniques; as well as an ongoing commitment by practitioners and their clients.

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References

- Adger, W.N., N.W. Arnell, and E.L. Tompkins. 2005. Successful adaptation to climate change across scales. *Global Environmental Change* 15: 77–86.
- Alberta Sustainable Resource Development. 2010. *The Climate Change Adaptation Framework*. Government of Alberta. Online at <http://www.srd.alberta.ca/MapsFormsPublications/Publications/documents/ClimateChangeAdaptationFrameworkManual-April%202010.pdf>.
- Anderson K., and A. Bows. 2008. Reframing the climate change challenge in light of post-2000 emission trends. *Philosophical Transactions of the Royal Society A* 138: 1–20.
- Baron, J.S., L. Gunderson, C.D. Allen, E. Fleishman, D. MacKenzie, L.A. Meyerson, J. Oropeza, and N. Stephenson. 2009. Options for national parks and reserves for adapting to climate change. *Environmental Management* 44(6): 1033–1042.
- Bruff, G. 2011. Communicating climate change at Pictured Rocks National Lakeshore. *Park Science* 28(1): 65.
- Burton, I. 2008. Moving forward on adaptation. In *From Impacts to Adaptation: Canada in a Changing Climate 2007*. D.S. Lemmen, F.J. Warren, J. Lacroix, and E. Bush, eds. Ottawa: Government of Canada, 425–440.
- Burton, I. E. Diringier, and J. Smith. 2006. *Adaptation to Climate Change: International Policy Options*. Arlington, VA: Pew Centre on Global Climate Change.
- Burton, I., S. Huq, B. Lim, O. Pilifosova, and E.L. Schipper. 2002. From impacts assessment to adaptation priorities: The shaping of adaptation policies. *Climate Policy* 2: 145–159.
- de Loë, R.C. 1995. Exploring complex policy questions using the policy Delphi: A multi-round, interactive survey method. *Applied Geography* 15(1): 53–68.
- de Loë, R.C., and D. Wojtanowski. 2001. Associated benefits and costs of the Canadian Flood Damage Reduction Program. *Applied Geography* 21: 1–21.
- Donohoe, H.M., and R.D. Needham. 2009. Moving best practice forward: Delphi characteristics, advantages, potential problems, and solutions. *International Journal of Tourism Research* 11: 415–437.
- Environment Canada. 2000. *Learning from Nature: Canada—The Ecosystem Approach and Integrated Land Management*. Sustainable Development in Canada Monograph no. 13. Ottawa: Environment Canada.
- Glick, P., B.A. Stein, and N.A. Edelson, eds. 2011. *Scanning the Conservation Horizon: A Guide to Climate Change Vulnerability Assessment*. Washington, DC: National Wildlife Federation. Online at <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2011/Scanning-the-Horizon.aspx>.
- Gray, P.A., and R.J. Davidson. 2000. An ecosystem approach to management: A context for wilderness protection. In *Proceedings: Wilderness Science in a Time of Change* (vol. 2).

- D.N. Cole and S.F. McCool, eds. RMRS-P-15-VOL-2. Ogden, UT: Rocky Mountain Research Station, US Department of Agriculture–Forest Service, 59–64.
- Gray, P.A., D. Price, T. Williamson, K. Hirsch, K. Isaac, M. Johnston, A. Ogden, M. Campagna, C. Ste. Marie, M.-E. Bonneau, K. Onoda, J. Edwards, and E. Qualtiere. In preparation. *Sustainable Forest Management in a Changing Climate: A Systematic Approach for Exploring Organizational Readiness to Adapt*. Canadian Council of Forest Ministers.
- Heller, N., and E. Zavaleta. 2008. Biodiversity management in the face of climate change: A synthesis of 20 years of recommendations. *Biological Conservation* 142: 14–32.
- Hilborn, R. 1992. Can fisheries agencies learn from experience? *Fisheries* 17: 6–14.
- Holling, C.S., ed. 1978. *Adaptive Environmental Assessment and Management*. New York: John Wiley and Sons.
- ICLEI [International Council for Local Environmental Initiatives]. 2010. *Changing Climate, Changing Communities: Guide for Municipal Climate Adaptation*. Online at <http://www.iclei.org/index.php?id=11710>.
- IPCC [Intergovernmental Panel on Climate Change]. 2007a. *Climate Change 2007: Impacts, Adaptation, and Vulnerability*. (A contribution of Working Group II to the Fourth Assessment Report of the IPCC.) Geneva: IPCC.
- . 2007b. *Climate Change 2007: The Physical Science Basis*. (A contribution of Working Group I to the Fourth Assessment Report of the IPCC.), Geneva: IPCC.
- Jones, B., and D.J. Scott. 2006a. Climate change, seasonality and visitation to Canada's national parks. *Journal of Parks and Recreation Administration* 24(2): 42–62.
- . 2006b. Implications to climate change for visitation to Ontario's provincial parks. *Leisure* 30(1): 233–261.
- Julius, S.H., and J.M West, eds. 2008. *Preliminary Review of Adaptation Options for Climate-sensitive Ecosystems and Resources*. (Report by the US Climate Change Science Program and the Subcommittee on Global Change Research.) Washington, DC: US Environmental Protection Agency.
- Lee, K.N. 1999. Appraising adaptive management. *Conservation Ecology* 3(2) [online]. <http://www.consecol.org/vol3/iss2/art3>.
- Lemieux, C.J., T.J. Beechey, and P.A. Gray. 2011. Prospects for Canada's protected areas in an era of climate change. *Land Use Policy*; doi:10.1016/j.landusepol.2011.03.008.
- Lemieux, C.J. and D.J. Scott. 2011. Changing climate, challenging choices: Identifying and evaluating climate change adaptation options for protected areas management in Ontario, Canada. *Environmental Management*; doi: 10.1007/s00267-011-9700-x.
- Lemieux, C.J., D.J. Scott, T.J. Beechey, and P.A. Gray. 2010. *Protected Areas and Climate Change in Canada: Challenges and Opportunities for Adaptation*. Ottawa: Canadian Council on Ecological Areas (CCEA).
- Lemieux, C.J., D.J. Scott, R.G. Davis, and P.A. Gray. 2008. *Changing Climate, Challenging Choices: Ontario Parks and Climate Change Adaptation*. Waterloo, ON: University of Waterloo, Department of Geography.
- Lemmen, D.S., F.J. Warren, J. Lacroix, and E. Bush. Editors. 2007. *From Impacts to Adaptation: Canada in a Changing Climate*. Ottawa: Government of Canada. Online at http://adaptation.nrcan.gc.ca/assess/2007/index_e.php.

- Lew, A. 2010. Time as a major barrier to sustainable development. *Tourism Geographies* 12(3): 481–483.
- Lim, B., and E. Spanger-Siegfried, eds. 2005. *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures*. New York: United Nations Development Program and Cambridge University Press. Online at <http://www.undp.org/climatechnage/adapt/apf.html>.
- Linstone H.A., and M. Turoff, eds. 2002. *The Delphi Method: Techniques and Applications*. Newark: New Jersey Institute of Technology. Online at <http://is.njit.edu/pubs/delphi-book/index.html>.
- Mawdsley, J. 2011. Design of conservation strategies for climate adaptation. *Wiley Interdisciplinary Reviews: Climate Change* 2(4): 498–515.
- Nakicenovic, N., et al. 2000. *Emission Scenarios: A Special Report of Working Group III of the Intergovernmental Panel on Climate Change*. New York: Cambridge University Press.
- NPS [US National Park Service]. 2010. *National Park Service Climate Change Response Strategy*. Fort Collins, CO: National Park Service Climate Change Response Program.
- Peterson G.D., G.S. Cumming, and S.R. Carpenter. 2003. Scenario planning: A tool for conservation in an uncertain world. *Conservation Biology* 17(2): 358–366.
- Rogelj, J. B. Hare, J. Nabel, K. Macey, M. Schaeffer, K. Markmann, and M. Meinshausen. 2009. Halfway to Copenhagen, no way to 2°C. *Nature Reports* 3: 81–83.
- Scott, D., B. Jones, and H.A. Khaled. 2005. *Climate Change: A Long-term Strategic Issue for the NCC. Implications for Recreation-Tourism Business Lines*. (Report prepared for the National Capital Commission.) Waterloo, ON: University of Waterloo.
- Scott, D.J., and C.J. Lemieux. 2005. Climate change and protected area policy and planning in Canada. *Forestry Chronicle* 81(5): 696–702.
- Smit, B., I. Burton, R.J.T. Klein, and R. Street. 1999. The science of adaptation: A framework for assessment. *Mitigation and Adaptation Strategies for Global Change* 4: 199–213.
- Smit, B., I. Burton, R.J.T. Klein, and J. Wandel. 2000. An anatomy of adaptation to climate change and variability. *Climatic Change* 45: 223–251.
- Smit, B., and O. Pilifosova. 2003. From adaptation to adaptive capacity and vulnerability reduction. In *Climate Change, Adaptive Capacity and Development*. J. McCarthy, O. Canziana, N. Leary, D. Dokken, and K. White, eds. Cambridge, UK: Cambridge University Press, 877–912.
- Smit B., and J. Wandel. 2006. Adaptation, adaptive capacity, and vulnerability. *Global Environmental Change* 16: 282–292.
- Sparkes, J. 2004. Social capital as a dimension of ecosystem management. Paper presented at the Fifth International Conference on Science and Management of Protected Areas, 11–16 May 2003, Victoria, British Columbia, Canada.
- Stern, N. 2007. *The Economics of Climate Change: The Stern Review*. Cambridge, UK: Cambridge University Press.
- Stoddard, J.L., D.P. Larsen, C.P. Hawkins, R.K. Johnson, and R.H. Norris. 2006. Setting expectations for the ecological condition of streams: The concept of reference condition. *Ecological Applications* 16: 1267–1276.

- Walters, C.J. 1997. Adaptive policy design: Thinking at large spatial scales. In *Wildlife and Landscape Ecology: Effects on Pattern and Scale*. J.A. Bissonette, ed. New York: Springer-Verlag, 386–394.
- Walters, C.J., and R. Hilborn. 1976. Adaptive control of fishing systems. *Journal of the Fisheries Research Board of Canada* 33: 145–159.
- Weeks, D., P. Malone, and L. Welling. 2011. Climate change scenario planning: A tool for managing parks into uncertain futures. *Park Science* 28(1): 26–33. Online at <http://www.nature.nps.gov/ParkScience/index.cfm?ArticleID=475>.
- Welch, D. 2005. What should protected areas managers do in the face of climate change? *The George Wright Forum* 22(1): 75–93.
- West, J.M., S.H. Julius, P. Kareiva, C. Enquist, J.J. Lawler, B. Peterson, A.E. Johnson, and M.R. Shaw. 2009. U.S. Natural resources and climate change: Concepts and approaches for management adaptation. *Journal of Environmental Management* 44(6): 1001–1021.
- White, R. 2004. Managing and interpreting uncertainty for climate change risk. *Building Research and Information* 32(5): 438–446.
- Yohe, G., N. Andronova, and M. Schlesinger. 2004. To hedge or not against an uncertain climate future? *Science* 306: 415–417.
- Paul A. Gray**, Applied Research and Development Branch, Ministry of Natural Resources, 300 Water Street, Peterborough, Ontario, K9J 8M5, Canada; paul.gray@ontario.ca
- Christopher J. Lemieux**, Department of Geography and Environmental Studies, Wilfrid Laurier University, 75 University Avenue West, Waterloo, Ontario, N2L 3G1, Canada; clemieux@wlu.ca
- Thomas J. Beechey**, Canadian Council on Ecological Areas (CCEA), 91 Cooper Street, Cambridge, Ontario, N3C 2N5, Canada; tombeecjery@sympatico.ca
- Daniel J. Scott**, Department of Geography and Environmental Management, University of Waterloo, Waterloo, Ontario, N2L 3G1, Canada; dj2scott@uwaterloo.ca



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