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Using the best available science: An excerpt from National Parks Forever: Fifty Years of Fighting and a Case for Independence

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# USING THE BEST AVAILABLE SCIENCE

AN EXCERPT FROM  
*NATIONAL PARKS FOREVER:  
FIFTY YEARS OF FIGHTING AND A CASE FOR INDEPENDENCE*

**JONATHAN B. JARVIS  
T. DESTRY JARVIS**



The very foundation upon which the National Park Service is built [is] the preservation of the native values of wilderness life. For it is this ideal above all else which differentiates this service from its sister services in government.

— George Meléndez Wright, *Fauna Series No. 1 (National Park Service, 1932)*

**Through much of its first hundred years, NPS field managers as well as directors were focused on building up a constituency for the parks** through visitor experiences and associated educational writings to reach ever more of the American people. These early leaders, like Directors Mather and Albright, began by actively recruiting the railroad and stagecoach companies to promote park visitation. With the advent of the private automobile, and especially after World War II, visitation soared, and expansive service facilities and roads were added to the parks. Most early parks, in remote corners of the Western public lands, were not being encroached upon by mining and timber cutting at their boundaries, or by growth in nearby gateway communities, as they are today. Air and water pollution in these remote locations was not yet a serious problem, and native wildlife, especially the “charismatic megafauna” like elk and deer, birds and beaver, were more abundant and viewable by visitors than elsewhere.

Essentially the parks’ ecological integrity was not a dominant management issue. By the 1960s and 1970s, this situation was rapidly changing—air and water pollution were serious, wildlife numbers were in decline, toxic wastes were washing in, acid rain was falling, and soaring visitation was in serious need of active management. The service needed a change in its management priorities as well as in its internal culture, which tended to put “use” ahead of “preservation.”

From the inception of the national parks, park superintendents often have had neither sufficient scientific data to inform decisions nor the scientifically trained staff to interpret what data they had. Politics did not enter into the policy decision-making process in any meaningful way when it came to application of sciences in the parks, but there was a basic lack of research and professional resources management to inform management decisions. However, beginning in the 1970s, and accelerating in the 1980s, abrupt natural resources policy changes

resulted from changes in administration and especially their Secretaries of the Interior.

Several Secretaries—James Watt, Gale Norton, and David Bernhardt in particular—have actively sought to suppress, ignore, or rewrite science to support their politically driven resource development or ideological philosophies. Secretary Watt was known for stating, during his morning prayer meetings, that there was no need for conservation, since Jesus was returning soon and the world of humans on Earth would end. In 2019, Secretary Bernhardt authorized the practice that allowed hunters in Alaskan national preserves to kill female bears and their cubs in their winter dens, based on the unscientific theory that such killing would improve caribou shooting for sport hunters. While some would argue this is a traditional practice of the Native Alaskans, it was done only during times of starvation when a native hunter would enter a bear den with torch and spear. That is a far cry from a modern hunter outfitted with a flashlight and a gun.

An excerpt from “Using the Best Available Science,” Chapter 4 of *National Parks Forever: Fifty Years of Fighting and a Case for Independence* • University of Chicago Press, 2022  
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Jonathan B. Jarvis served in the National Park Service for four decades as ranger, biologist, superintendent, and as the 18th director of the agency in the Obama administration. He also serves as the chairman of the Editorial Board of *Parks Stewardship Forum*. T. Destry Jarvis has been a conservation leader for over five decades in the National Parks Conservation Association, Student Conservation Association, National Recreation and Park Association, and the International Council on Monuments and Sites. He served eight years in the National Park Service and the Department of the Interior in the Clinton administration as NPS assistant director. The book details their combined 90 years of experience with protecting the national parks, told in two parallel and complimentary voices.

OVERLEAF Drakes Estero, Point Reyes National Seashore NPS/SARAH CODDE



Geoscientist intern excavating fossils at Fossil Butte National Monument, Wyoming. NATIONAL PARK SERVICE GEOSCIENTISTS-IN-THE-PARKS

But the idea that the NPS could revert to managing the national parks with its earlier, simple policies began to change rapidly in the 1960s. An initial push toward more scientific work came as a result of the First World Conference on National Parks, held in Seattle in 1962. A fifteen-member, eight-nation committee at that conference produced a report, *Management of National Parks and Equivalent Areas*, that concluded “few of the world’s parks are large enough to be in fact self-regulatory ecological units; rather most are ecological islands subject to direct or indirect modification by activities and conditions in the surrounding areas.” It further determined that “management based on scientific research is, therefore, not only desirable but often essential to maintain some biotic communities in accordance with the conservation of a national park.”

It was in large part as a result of this international conference that DOI Secretary Stewart Udall convened the first NPS Advisory Board on Wildlife Management, chaired by Dr. A. Starker Leopold. This advisory board presented the aforementioned Leopold Report on March 4, 1963, which noted that “on the whole, there was little major change in the Park Service practice of wildlife management during the first 40 years of its existence.” And at that point, the NPS had been deeply engaged for nearly a decade in its most extensive and rapid facility construction period, Mission 66, building miles of road and hundreds of buildings, including visitor centers and staff housing. Until the Leopold Report, the focus of NPS leadership and policy was on visitors, tourism, and recreation, largely on the (unsubstantiated) theory that nature would take care of itself but visitors needed facilities and services.

By the early 1960s, wolves and mountain lions were gone due to an active shooting campaign, and Yellowstone was overrun with and overgrazed by elk. The NPS responded by shooting more than 4,000 elk in one winter alone. What began to change all that was the public outcry over the ongoing NPS policy that favored the “good” species (e.g., elk) over the “bad” species (e.g., wolves). In Yellowstone, for example, the NPS (and all other federal land management agencies) had pursued for decades a policy of shooting and trapping predators, especially wolves and mountain lions. The goal was to increase the population of elk, which visitors loved to view and others loved to hunt as they moved outside park boundaries.

**Given responsibility for an aggressive legislative program to fulfill long-identified needs of the NPS,**

my staff and I took the unusual step of preparing a large package of proposed bills and amendments that we titled “The Spirit of Vail: A Legislative Program for the 103rd Congress.” Included in this proposal was the long-recommended statutory mandate for science-driven decision-making in the NPS. With minor exceptions, none of these legislative proposals moved ahead in 1993–1994.

The main reason there was no action on the NPS science mandate proposal is that DOI Secretary Babbitt was seeking legislation to establish a new agency, the National Biological Survey, that would absorb all of the biological research functions of agencies in the department and from the NPS, the US Fish and Wildlife Service, and the US Geological Survey (USGS) in particular. At that time, the NPS had just over a hundred research-grade scientists. Virtually all were transferred to the new agency as a way to staff it, because opposition in Congress to this new agency was such that Babbitt was unlikely to get funding for entirely new research funds and positions. When the Republicans took over both houses of Congress after the 1994 elections, any hope of getting legislative approval for the new agency ended.

Instead, Secretary Babbitt established a new Biological Resources Division within the USGS by secretarial order, which he could do without congressional approval and that still resulted in transfer of NPS scientists to the USGS. What this reorganization failed to take into account was the difference between basic science research—the USGS mission—and applied research—the need of land management agencies. While both are important to expanding biological knowledge, the NPS needed readily available applied research, termed “usable knowledge” by NPS Chief Social Scientist Dr. Gary Machlis, to answer management questions and implement management decisions through its natural resource management specialists. For a time after this transfer of NPS science personnel, the NPS largely lost this critical scientific support capability. A few research scientists managed to remain within the NPS but had to shift into resource management.



Aquatic invasive species program, Yellowstone National Park. NATIONAL PARK SERVICE/BRETT SEYMOUR, SUBMERGED RESOURCES CENTER

Over the two years that the “Gingrich Revolution” controlled the legislative agenda in Washington, my time was largely taken with opposing their effort to establish a “park closing commission.” The bill, HR 260, would have created a new commission appointed jointly by Congress and the administration to review the units of the national park system and recommend ones that ought to be deauthorized. This bill appeared to target small historical parks, large urban national recreation areas, and other sites that, in the opinion of Republican leaders, did not support a healthy tourism economy. Fortunately, this idea never gained enough support to be enacted, but it took a great deal of energy and time to defeat.

It was, therefore, not until the next Congress convened in early 1997 that a promising opportunity arose unexpectedly to seek a science mandate for the NPS. Senator Craig Thomas (R-WY) became the chair of the National Parks Subcommittee with Senator Dale Bumpers (D-AR) as the ranking member. Working very well together in a bipartisan manner, they decided that it was time to reform the long out-of-date NPS concessions law. What became Title IV, National Park Service Concessions Management Improvement, of the National Parks Omnibus Management Act of 1998 was by far the most visible and controversial legislation affecting the agency in that Congress. As it turned out, their bipartisan support for concessions reform allowed the resultant omnibus bill to also include other long-needed reforms, including a science mandate.

By that time, I was serving as senior advisor to the assistant secretary for Fish, Wildlife and Parks, Don Barry. Secretary Babbitt tasked me, as the lead negotiator for the administration, to work with the Senate committee on its multititle NPS management bill. Working out the amendments and compromises necessary to get concessions reform done took many deliberations, hearings, markups, and discussions. While that was underway, I worked closely and quietly with key Senate professional staffers Tom Williams, David Brooks, and Dan Naatz on the bill language that became Title II, National Park System Resource Inventory and Management. I drafted every word of this section of the bill, which did not need its own hearing, just the internal agreement of Senators Thomas and Bumpers. It was enacted without amendment or even comment when the final omnibus bill was passed and signed by President Clinton as Public Law 105-391.

Section 202 states “The Secretary is authorized and directed to assure that management of units of the National Park System is enhanced by the availability and utilization of a broad program of the highest quality science and information.”

Section 203 states “The Secretary is authorized and directed to enter into cooperative agreements with colleges and universities ... to establish cooperative study units to conduct multi-disciplinary research and develop integrated information products on the resources of the National Park System, or the larger region of which parks are a part.”

Section 204 states “The Secretary shall undertake a program of inventory and monitoring of National Park System resources to establish baseline information and provide information on the long-term trends in the condition of National Park System resources.”

Section 206 states “The Secretary shall take such measures as are necessary to assure the full and proper utilization of the results of scientific study for park management decisions.”

Finally, the National Park Service had its statutory mandate for managing parks with science. By 1999, the NPS had responded to its new mandates with the “Natural Resource Challenge,” a multiyear program of budget and staffing increases intended to carry out this mandate.

Unfortunately for this and other park management matters, George W. Bush was elected president in 2000. With his administration began another eight-year cycle of opposition to NPS preservation policies, ignoring the role of science in park management, neglect of NPS management needs, and budget and staffing cuts that provided an excuse for policy changes and opposition to any new parks.

## **JONATHAN**

### **Another political approach was to attack the scientists.**

The oyster farm at Point Reyes National Seashore provides an excellent example of this challenge. Prior to the establishment of the national seashore in 1972, a commercial oyster farm operated in the estuary known as Drakes Estero. Much of the lands that were incorporated into the seashore were dairy farms and, when



Kemp's ridley sea turtle research at Padre Island National Seashore. NATIONAL PARK SERVICE



purchased by the federal government, the NPS granted leases to the owners to continue to operate, with the recognition that the farms contribute to the local agriculture community and were generally compatible with the history and stewardship of the seashore. Not so with the Johnson Oyster Company, which the NPS purchased and granted only a term permit with an end date with the full intent to remove it and restore the estuary to its natural state. This story is fairly well told in *The Oyster War* by Summer Brennan.<sup>1</sup> When in 2005 the historic owner sold the remaining five years of the permit to a local rancher, who announced his intent to keep the oyster operation going indefinitely, the NPS launched into a battle that involved science, politics, local activists on both sides, the Inspector General, the National Academy of Science, and the State of California agriculture agencies.

When the park staff attempted, rather clumsily, to prove that science demonstrated significant impact to the resources of the estuary, the science itself and the scientists who conducted the research as well as the park managers and myself as the regional director all became targets of attack. All of us were accused of and investigated for scientific misconduct, with the oyster farm supporters accusing us of intentionally misrepresenting the science. The peer-reviewed science of impact from the oyster farming on the resident harbor seals and the extent of the sea grasses came under direct attack by both a paid lobbyist and a local scientist with no qualifications in marine ecology. Under pressure from Senator Dianne Feinstein, NPS Director Mary Bomar called me weekly to ask that I remove the park superintendent, Don Neubacher. I refused every time and defended Don and his team of scientists. As a compromise to Director Bomar and Senator Feinstein, I commissioned the National Academy of Sciences to assemble a team and evaluate the science behind the oyster farm and its potential impacts to the resources of the seashore. The report, when eventually released, concluded that the oyster farm could be compatible with the biological activity of the estuary, but it ignored the standards set by the wilderness designation within a unit of the national park system. Staff at the academy revealed to me that the report was an “embarrassment” and one of the worst they had ever issued.

In 2009, I was nominated to be the director of the National Park Service by President Obama, and the oyster lobbyists ramped up their opposition to my

confirmation. They launched repeated filings with the Inspector General, accusing me of scientific misconduct among other things. The investigations were carried out by the Department of the Interior, the White House, and the Senate and found no evidence of anything except a smear campaign by the oyster industry lobbyist.

Ultimately, after an exhausting battle over the science, the decision on the future of the oyster farm boiled down to one of law and policy: Would Secretary of the Interior Ken Salazar decide in favor of the National Park Service and support the removal of the farm, or decide in favor of the oyster farmer? There was enormous pressure to support the oyster farmer from members of Congress, including Senator Feinstein, who chaired the Interior Appropriations Committee in the Senate. Feinstein attempted to legislate the oyster farm’s continued existence but was backed down by Senator Jeff Bingaman (NM). I had invested a great deal of my reputation for good science and good policy in this case and was prepared to resign as director if the decision went the wrong way.<sup>2</sup> Secretary Salazar sought input from his senior staff and made the decision to remove the oyster farm. His decision was challenged all the way to the Supreme Court, which remanded it back to a lower court that upheld the NPS position for removal but told all parties to settle. The oyster farmer agreed to walk away, leaving millions of pounds of oyster shells, racks, and debris behind for the NPS to clean up. We accepted that decision, spent millions of dollars on the cleanup, and today the estuary is clean and thriving without the noise of boats or the impact of miles of oyster racks.

There were lessons here too, about the limitations and vulnerability of science in a hot political debate. There were scientists on both sides and unfortunately the debate at times turned very ugly. In addition, science by its very nature is a competition of theories, strengthened by debate, but in the arena of politics, the debate can be used to undermine good science that backs up a decision for the conservation of a park resource. As a result, it is important to note that science informs the decision but it often ultimately comes down to policy and law.

**WITHOUT USABLE KNOWLEDGE FROM SCIENCE,  
PARK MANAGEMENT IS LEFT TO THE UNINFORMED**

We would be remiss to not recognize, in spite of all the setbacks, that the NPS today has a robust inventory



Student assisting with avian research and management, Isle Royale National Park. NATIONAL PARK SERVICE

and monitoring program, many professional scientists hidden in the ranks, and dozens of restoration projects underway. But the heart of the setbacks always goes back to the political shift the NPS experiences with the change in administration, when the conservatives take over and view our national parks as nothing more than economic engines with little other intrinsic value. The new paradigm of using science to guide park management in light of climate change is even more politically imperiled. Parks resources are changing, moving, and

hardly static. This opens up the parks to political suggestions for more aggressive manipulation, such as the logging of trees that have died from warmer, drier winters.

For the agency to truly meet its mandate of “unimpaired for the enjoyment of future generations,” built upon the best available science, the National Park Service must be freed from the political whipsaw and given greater independence.

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## ENDNOTES

1. Summer Brennan, *The Oyster War: The True Story of a Small Farm, Big Politics, and the Future of Wilderness in America* (Berkeley, CA: Counterpoint, 2015).
2. Secretary Salazar told me afterward that he knew that I would resign if he made the decision to keep the oyster farm—but that he would have fired me first so that my threat to resign over a policy decision would not be a factor in his decision-making.



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#### On the cover of this issue

Climate change creates conditions conducive to larger, more frequent fires, particularly in the American West. As a result, historic structures and artifacts are at greater risk of fire damage. The Bent's Fort Fire started on the morning of April 12, 2022. Approximately 85% of the national historic site's 800 acres burned. Thanks to the efforts of fire crews, the reconstructed adobe fort was undamaged. | [NATIONAL PARK SERVICE](#)