

On the Path to Understanding:

125 Years of Social Science Research in America's National Parks

James H. Gramann, guest editor

Charting a Path: A Critical History of Social Science in America's National Parks

James H. Gramann

Introduction

THE YEAR 2018 REPRESENTS THE 125TH ANNIVERSARY of the first documented social science research in America's national parks. But few people know the origins of national park social science. Who conducted the first research? How did park social science evolve? Where should it be heading? The thematic articles in this issue address these questions.

As it matured in academic circles in the 19th century, American social science sought to harness the power of social statistics and historical research to discover underlying principles of progress. A major goal was to develop a general theory of what was widely perceived to be American exceptionalism. The country's leading academic social scientists hoped that their graduates would enter government service, contributing to an educated leadership and an expert civil service that could apply the laws of social progress to governance.¹ As it turned out, the graduates of university social science programs more often found employment in academic and social-service professions than in the federal bureaucracy. Perhaps as a result, the tools of social science—notably, social statistics and surveys—diffused into government, but with little of the academicians' theoretical underpinnings. Today, much of the social science conducted in national parks remains applied, although academic cooperators sometimes piggy-back theoretical concerns onto this work. But even the most pragmatic social science rests on theoretical foundations. For example, many studies of visitor enjoyment in national parks

The George Wright Forum, vol. 35, no. 1, pp. 12–21 (2018).

© 2018 George Wright Society. All rights reserved.

(No copyright is claimed for previously published material reprinted herein.)

ISSN 0732-4715. Please direct all permissions requests to info@georgewright.org.

are based on expectancy theories of recreation satisfaction that were developed over years of research by university and federal social scientists.

The beginnings

Not surprisingly, the first social science conducted in a national park reflected the federal government's emphasis on applied research. In 1893, Lieutenant Hiram M. Chittenden, an army engineer working on the road system in Yellowstone National Park (Figure 1), mailed a questionnaire to guests of the park's hotel at Mammoth Hot Springs. Chittenden's self-styled "statistical analysis" was motivated by a proposal from businessmen in Washington state to build an electric railway connecting Yellowstone's major attractions. Electricity for the train was to be generated by dams constructed at "suitable" locations on streams and waterfalls in the park. At the time, travel in Yellowstone was mostly by stagecoach, and dusty roads were a constant problem. During the summer of 1893, the concessioner at Mammoth—working with the Washington group—had collected signatures from hotel guests on a petition supporting the railroad. Because Chittenden believed that this did not represent the "actual opinion upon the subject," he drew one name from the hotel's guest register for each day of the season, attempting to represent geographical diversity, and mailed a questionnaire to each person in his sample. Of 120 questionnaires sent out, 100 were returned. The survey included three questions: "(1) What was the principal drawback to the enjoyment of your tour of the Park? (2) From the experience of your own tour would you advise your friends to visit the Park? (3) Assuming that there were a complete system of thoroughly macadamized or graveled roads in the Park, so constructed as largely to eliminate the mud and dust nuisance, and in which there should be no hills so steep that teams could not ascend them at a trot; and assuming also that there were a well-equipped electric railway covering substantially the same route, by which method would you prefer to



Figure 1. In 1893, during his first tour of duty in Yellowstone, US Army engineer Lieutenant Hiram M. Chittenden conducted the first documented social science in a national park. Photo courtesy Yellowstone National Park.

make a tour of the Park: by coach or by car?"² On this last question, Chittenden reported that respondents overwhelmingly favored stagecoaches, 147 to 29. (The 176 responses exceeded the sample size because other members of the respondents' travel groups volunteered answers, which Chittenden included in his tally.)

Bills authorizing the railway were introduced in Congress in 1894 and 1895, but died in committee.³ The House report included adverse comments from the secretary of the interior and from Captain George Anderson, Yellowstone's military superintendent.⁴ Given the command structure in Yellowstone during its military years, it's likely that Anderson knew of Chittenden's survey, and the results informed his response to Congress, along with his staunch opposition to other railroad proposals for the park.

As with Chittenden's study, much of the social science information collected by the National Park Service (NPS) after its creation in 1916 described park visitors. Initially, the major source of this information was a detailed form completed for each group entering through the parks' "check stations." These forms recorded such things as visitors' names, addresses, and modes of travel. For example, on July 26, 1920, Mr. R. Floodas of Pocatello, Idaho, arrived at Yellowstone's west entrance in an Oakland (a make of car). Two passengers and one Airedale accompanied him. He carried a firearm and paid an entrance fee of \$7.50.⁵ In fact, Yellowstone's 1921 travel report boasted that visitors to the park came from every state of the union and 13 foreign countries, "showing the tremendous National popularity of the Yellowstone."⁶

Such information had political value. It documented the growing attraction of national parks and underscored their patriotic role in encouraging citizens to "see America first." Visitation statistics also demonstrated to Congress that the parks were indeed national, justifying public investment in park roads, picnic areas, and auto-accessible campgrounds. In fact, by 1926 Yellowstone also recorded the occupation of visitors. According to Superintendent Horace Albright, the names and addresses of farmers (the most common occupation) were shared with the agriculture departments of Montana and Wyoming because both states hoped to recruit more farmers as residents. Today's privacy laws notwithstanding, this illustrates an early awareness of the value of park visitation data to neighbors and its role in building political support for the parks.⁷

In modern terminology, the use of check station data was a form of social monitoring, and it remains an important applied social science activity in national parks. Social monitoring is valuable for several reasons. In 1958, Assistant NPS Director Elvind Scoyen underscored the importance of visitation tracking for internal budgetary purposes and for regional promotion by common carriers, commercial enterprises, chambers of commerce, and civic groups.⁸ Social monitoring also informed park planning by documenting changing trends in visitation. For example, after World War II travel trailer use by the public increased rapidly, but many parks lacked good statistics documenting this trend. One exception was Yellowstone, which began monitoring trailer use in 1941. By 1946, the number of trailers towed by visitors had almost tripled, from 1,479 to 4,022.⁹ At Big Bend National Park, the superintendent asked the park's concessioner for more detailed counts of trailer numbers at that park's facility at Panther Junction, including lengths of stay and how many groups were turned away

because of “full house” conditions.¹⁰ Such information quantified an important trend and demonstrated the need to plan for an increasingly popular form of vacation travel.

Occasionally, visitor counts took unexpected turns. In 1924, the interior secretary’s office trumpeted the fact that all travel records for Yosemite National Park had been broken on the Fourth of July weekend, when 32,223 visitors arrived at the park in 960 private cars. But quick arithmetic in the superintendent’s office showed that each car must have carried 33.6 passengers! In fact, the original report was off by a factor of ten. A correction was sent to Washington, D.C., but only after the secretary’s press release had been issued.¹¹

As visitation increased, detailed record-keeping at park entrances proved impractical. By 1953, all parks had ceased collecting such data from arriving parties, including information on states and countries of origin. (This practice continued at campground registration stations, however.¹²) The earlier method was replaced by today’s traffic-counting system. Traffic counters record visitor numbers but not characteristics, although some parks conduct spot surveys to determine the number of persons per arriving vehicle. Despite this, counting mistakes occasionally occur. Anomalous numbers are flagged by computer routines in a central office and double-checked with field sources. Even so, accurate tabulations using traffic counters depend on several factors, including the person-per-vehicle ratio. At many parks, these ratios—which in less congested times were collected routinely—have not been updated in years.

Beyond visitor counts

The early social science in national parks was not limited to descriptions of the number and characteristics of visitors. In 1929, using contact information from check stations, Yellowstone mailed questionnaires to groups arriving by automobile and rail asking for evaluations of government and concessioner services.¹³ Other pioneering research delved into visitors’ motives. Yosemite offers a notable example. When NPS ranger Lemuel (Lon) Garrison transferred to Yosemite in 1935 from Sequoia National Park, he found it crowded with people and vehicles. Private cars were officially admitted to Yosemite in 1914, and by 1929 annual visitation approached half a million, with most of it concentrated in Yosemite Valley. Park planners dubbed the five auto campgrounds in the valley the “Yosemite slums.” In the 1930s, with camper counts reaching 20,000 on Fourth of July weekends, the campgrounds reportedly had a settlement density twice that of Pittsburgh, Pennsylvania. To park staff, the clear result was a negative visitor experience.¹⁴ But why would campers voluntarily subject themselves to such conditions?

Garrison held a psychology degree from Stanford University, and in 1937 and 1938 he surveyed more than 2,000 campers in Yosemite Valley hoping to discover information about their motives that might be used to encourage greater use of campgrounds outside of the valley. As he planned his research, Garrison consulted with his former professors at Stanford. This was an early example of university involvement in national park social science.

In contrast to the views of park planners, Garrison discovered that many visitors felt that the Yosemite Valley camps provided an enjoyable experience. Half of the campers said they preferred campgrounds that were “near the center of things” with many things to do. Al-

though the other half said they preferred a quiet and isolated campground, they still camped in Yosemite Valley. Garrison concluded that “those who prefer a quiet campground don’t know what they mean.” (Garrison also considered the possibility that visitors and park staff might have different perceptions of “quiet and isolated.”) Garrison went on to add, “It might be possible to increase the quality of use by a well thought out and aggressive educational campaign.” But to his disappointment, the camper survey was disregarded. Garrison later wrote that his report quickly disappeared “like a hard-boiled egg dropped into a bowl of soft mashed potatoes.”¹⁵

Valuing national parks

Economic research also played a key role in early park social science. When Yellowstone was established in 1872, supporters argued that it would pay for itself through income from concession leases, at least after costly roads and other infrastructure were completed. In effect, the economic value of the park to the nation could be measured by its operational surplus. Some national parks did report surpluses, including Yosemite in 1907 and Yellowstone in 1915 and 1916.¹⁶ But from the 1920s onward, federal appropriations outstripped park earnings, and deficits grew dramatically. By this accounting, the national parks had no economic value. Perhaps as a result, by the late 1940s the discussion of the parks’ economic importance shifted from their revenue generation to the income and employment realized in communities whose financial lifeblood flowed from a popular vacation destination on their doorsteps. A study conducted for Yellowstone after World War II illustrated this economic-impact approach to valuing parks. It employed a research strategy still in use today, calculating the contribution of park employment and visitor spending to the economy of the surrounding counties.¹⁷ Research such as this proved popular with park managers who used it to build support from local communities, state officials, members of Congress, and others concerned with the dollar value of travel to national parks.¹⁸

A common equation employed by NPS today is that for each dollar appropriated to the national park system by Congress, about ten dollars are returned to the economies of surrounding regions. However, this is not a complete accounting. As Adam Smith wrote in 1776, even as he defended public parks, they are causes of expense as well.¹⁹ Thus, a full accounting also would include the cost to local communities for the provision of infrastructure and services that park visitors require. At the same time, contributions from visitor and employee spending omit additional benefits of national parks that can be quantified economically. These include the income to local contractors and suppliers who service parks as well as bequest values and ecosystem-service values.

Workforce surveys

In 1918, concern grew in the Department of the Interior that thousands of federal workers in Washington, D.C., had interrupted their education when they accepted employment in the National Park Service and other Interior bureaus. In cooperation with local universities, the department considered offering tuition-free or low-cost evening classes, believing that many workers would welcome the chance to use some of their free time “in increasing their use-

fulness and efficiency in the Government service, and thus fitting themselves for promotion, and in furthering their own intellectual development.”²⁰ A committee led by the department’s Bureau of Education distributed a 17-item questionnaire to employees in the Washington area to determine their educational levels and the courses and schedules of greatest interest. Although the response was largely positive, it’s unclear that the courses ever were offered.

Other workforce surveys distributed by the Washington office gathered information on park operations. Sometimes this was done as input into planning uniform data-collection systems, such as that for visitor counting.²¹ A related use employed park staff as data collectors, for example by supplying them with forms for recording systematic observations of campground characteristics and use patterns without interviewing visitors themselves. As one administrator wrote in 1962, this allowed NPS “to pluck a maximum of feathers with a minimum of squawking.”²²

Workforce surveys continue to be an important adjunct to NPS’s social science activities. Those completed by federal employees as part of their work responsibilities not only supply useful information on such topics as commuting patterns and job satisfaction but, unlike “information collections” from the public, do not require prior approval by the Office of Management and Budget.

Resident peoples

With some exceptions, NPS-sponsored research engaging populations living in or adjacent to national parks has been less common than other social science research. This is true despite the fact that many impacts on park resources originate beyond their boundaries. However, one early example of research involving resident peoples occurred at Shenandoah National Park. Authorized by Congress in 1926 and dedicated ten years later, Shenandoah was carved out of a settled landscape in the Blue Ridge Mountains of Virginia. At the time, the only guide for national park creation was the “Yellowstone model.” This required that national parklands be free of most residents. Thus, a priority of the Department of the Interior in the early 1930s was to relocate people living inside the new park’s authorized boundaries. Prejudices of the day supported this action. National Park Service Director Horace Albright reflected prevailing attitudes when he wrote, “I maintain that the mountain people of low intelligence will have to be removed before we will open the road for general use. First, because many of these people are dangerous if they take a dislike to officers of the park or tourists and may do them bodily harm or kill them. Second, because they are inclined to be beggars and will be a nuisance even if they are not dangerous. Finally, Albright said, “their living conditions are so terrible” that they would bring NPS “unfavorable criticism” if too many visitors saw them.²³

Several studies of Shenandoah residents were conducted in the 1930s. One, by teacher Miriam Sizer, has since been largely discredited because of her obvious personal biases, but it included a recommendation that was to have far-reaching effects. In 1928, Sizer taught for two months at a one-room school located in the Skyland area of the future park. Because of her experience, she was hired by the commonwealth of Virginia to study the people of that region. A former instructor of adult “Americanization” classes in Norfolk, Sizer disparaged the mountain school for lacking an American flag, criticized her students and their parents for

not knowing the song *America*, and described the mountain people as “steeped in ignorance, wrapped in self-satisfaction and complacency, possessed of little or no ambition.”²⁴ But Sizer recommended repeatedly that residents be assisted in resettling to favorable locations outside the park.²⁵ Another study, an “Evacuation and Subsistence Homesteads Survey,” was supervised by realtor L. Ferdinand Zelker in 1932. According to historian Darwin Lambert, it provided the first fairly accurate picture of Shenandoah residents, including the findings that, although poor, the majority were of bright or average “mentality,” and that more than half had no equity in the land on which they lived, being tenants or squatters. These results were used by a committee headed by Virginia Tech rural sociologist B.L. Hummel to plan homestead communities for displaced residents outside the park. This was another early example of university involvement in national park research. Although the resettlement plan encountered legal and financial obstacles, park records indicate that, by 1938, 175 mountain families had been relocated to homestead communities. Others were evicted and their homes burned, while many left on their own. Life estates were granted to 42 elderly residents.²⁶

As construction of resettlement communities began, home economist Mozelle Cowden was hired as a “family adjustment specialist” to study the people of the region and to identify park families who would be good candidates for homesteading. According to Lambert, her job was to know the mountain people more thoroughly than they knew themselves. Cowden worked in this position until 1943, sometimes intervening on behalf of residents with park authorities.²⁷ In fact, the efforts of Hummel and Cowden can be seen as a predecessor of today’s applied anthropology in NPS, which examines connections between groups traditionally associated with parklands and the landscapes they consider essential to their cultural identity.

Contemporary trends and needs

The methods employed in the national parks’ early social science have been greatly refined since Chittenden’s pioneering survey. However, some aspects endure. Surveys remain a key social science tool, and early topics, such as transportation, crowding, visitor motives, valuation, and workforce issues continue to be relevant. Research on resident peoples is especially important in Alaska, where subsistence use of national parklands is vital to cultural identity, but it’s increasing in other regions as well. Monitoring visitor numbers and characteristics remains strategically and politically useful, and universities and other partners continue to contribute to park social science through cooperative research agreements.

But other things have changed in the 125 years since Chittenden’s original inquiry. These changes are producing new social science needs in the national parks. One need is for social science informed by historical and contextual depth. A second is for more social science that examines issues transcending park boundaries.

A feature of much contemporary park social science is its cross-sectional design. Visitor surveys represent a snapshot at one brief point in time, often one or two weeks during a park’s peak season. Typically, this cross-sectional approach seeks explanations for what visitors think and do in present conditions. Common “proximate” explanatory variables include

age, race, income, and attitudes. But this is like trying to understand a tree from its foliage, while ignoring the roots and the soil in which it grows.

“Distal” causes are more distant in time and broader in social context. They represent the cumulative impact of historical forces and social conditions on the present. Understanding distal causes can improve understanding of a current problem, just as understanding a tree’s growth is improved by knowledge of its soil and roots. Historical depth and social context might also suggest additional actions to address a problem.

Consider the relatively low visitation by peoples of color to national parks. Commonly cited proximate causes are inequities in income and knowledge about parks. But this disregards the roots of the pattern by ignoring who participated in the conversation about national parks when the idea first appeared in the 19th century, and—more to the point—who was excluded from that conversation. A reasonable hypothesis is that the historical legacy of racial exclusion is reflected in today’s disproportionately white visitation to national parks.

Fee-free days and information campaigns respond to proximate causes. They are important in many ways but don’t represent a comprehensive approach to the problem. Distal causes also must be addressed. One approach to overcoming the weight of historical exclusion is to engage peoples of color by supporting their own grassroots efforts to create a culture of inclusion. Cultural peers are more likely to understand the full effects of exclusion and how to overcome it. These peers include the many dedicated participants in organizations such as the Outdoor Afro movement.

Regarding transboundary issues, more questions than answers exist; thus, the need for additional social science is clear. The problem is how to protect national parks when their borders are porous, and every day the world outside parks become less and less like the desired conditions within. A related issue is the increase in partnership parks that require collaboration on a landscape scale across many geographical and institutional divides.

Population growth not only disrupts natural systems, it fragments social systems as well. As human populations increase, they become more complex, more diverse, and segregated into specialized roles and functions. One effect is multiple jurisdictions and interests with differing and sometimes incompatible goals for a landscape. This leads to a loss of common ground as a basis for transboundary collaboration.

An important barrier that hinders transboundary collaboration is differences between stakeholders in core values. Another is distrust. Value differences include: (1) conflicts over symbolic values shaping community identity, for example, the Old West vs. the New West; (2) differences in economic values shaping land-use decisions, such as more development vs. limited development; and (3) disagreements over the importance of ecosystem values driving park management, such as the priority given to protecting wilderness character or wildlife habitat.²⁸

Distrust is multidimensional. One form is a general predisposition to not trust specific entities, such as the federal government, independent of context. Another is distrust of specific processes, such as public involvement, social surveying, or science, independent of sponsors. A third is distrust based on personal incompatibilities between potential partici-

pants in a collaborative process.²⁹ Many other collaboration barriers exist, but more social science research on how to overcome value differences and distrust is particularly important if national parks are to build partnerships across fragmented social systems.

In sum, when the future of park social science is examined against an ever-encroaching and more diverse world, we see new needs added to the science already in place. We require social science informed by history. We need more anthropological studies of collaboration processes and what can be learned from successes and failures. We need long-term monitoring of social change in and around parks, including changes in who park visitors are and in levels of trust and distrust among park neighbors and stakeholders. And, because NPS can't do this alone, we need more healthy partnerships to extend the capacity of park social science.

Thematic articles

The thematic articles in this issue expand on several points raised above. Pettebone and Meldrum outline a proposed socioeconomic monitoring program to systematically track descriptive data on park visitors at a national scale. The Interagency Visitor Use Management Framework described by Cahill et al. responds to the priority needs of managers by providing timely and relevant information on issues created by park visitation. The article by Richardson et al. more fully describes current economic valuation studies conducted by NPS. Talken-Spaulling and Watkins discuss applied anthropological research engaging peoples with long connections to ethnographic landscapes that predate the creation of parks. The article by Sharp et al. describes an innovative social science "Park Break" program that continues the productive partnership between parks and universities. Finally, Scott and Lee provide an in-depth discussion of park visitation barriers among peoples of color. Thank you to all of these authors for their insightful contributions to this special issue.

Endnotes

1. Dorothy Ross. *Origins of American Social Science* (New York: Cambridge University Press, 1991), 63–70.
2. *Annual Report of the Secretary of War for the Year 1893, Vol. II, Part 6*, Appendix E E E, "Construction and Improvement of Roads and Bridges in the Yellowstone National Park, Report of Lieut. H. M. Chittenden" (Washington, D.C.: Government Printing Office, 1893), 4400.
3. "A New Scheme, A Bill Introduced at Washington for a Railway in the Park." *Anaconda Standard* (Anaconda, MT), September 30, 1893, 3.
4. Louis C. Cramton, *Early History of Yellowstone National Park and Its Relation to National Park Policies* (Washington, DC: Government Printing Office, 1932), 49–50, 67–68.
5. HRC [Yellowstone Heritage and Research Center], Box N-1, "Travel and Visitation," entrance permit.
6. HRC, Box N-1, Yellowstone National Park memorandum to the press, October 5, 1921.
7. NARA [National Archives and Records Administration–College Park, Maryland],

- Record Group (RG) 79, Box 001, “Minutes of Ninth National Park Conference, Washington, D.C., Nov. 15–20, 1926,” 150.
8. NARASW [National Archives and Records Administration–Fort Worth, Texas], RG 79, Big Bend Central Files (1943–1965), Box 6, “Travel Studies and Statistics,” Scoyen to all field offices, February 1958.
 9. HRC, Box N-3, “Travel and Visitation,” 1946 travel report.
 10. NARASW, RG 79, Box 6, Miller to Blakey, June 26, 1958.
 11. NARA, RG 79, Box 316, Lewis to Mather, July 19, 1924.
 12. NARASW, RG 79, Box 6, chief of visitor protection to all field offices, March 8, 1961.
 13. NARA, RG 79, Box 001, “Questionnaire for automobile and rail visitors for statement of experience while touring the park, 1929.”
 14. Lemuel A. Garrison. *The Making of a Ranger* (Salt Lake City, UT: Howe Brothers, 1983), 132–133.
 15. Garrison, 135, 305–310.
 16. John C. Ise, *Our National Park Policy: A Critical History* (Baltimore: Johns Hopkins Press for Resources for the Future), 619–622.
 17. Ise, 445.
 18. NARASW, RG 79, Box 6, Wirth to all field offices, November 20, 1962.
 19. William Lowry, *Preserving Public Lands for the Future: The Politics of Intergenerational Goods* (Washington, DC: Georgetown University Press, 1998), 5.
 20. NARA, RG 79, Box 366, “Evening classes for government employees, Oct. 8, 1918.”
 21. NARASW, RG 79, Box 6, Scoyen to all field offices, February 1958.
 22. NARASW, RG 79, Box 6, chief of statistics analysis (Alldredge) to superintendent, Big Bend National Park, “Campground and Camping Survey,” July 27, 1962.
 23. Quoted in Darwin Lambert, *Shenandoah National Park Administrative History, 1924–1976* (Washington, DC: BiblioGov Project, 1979), 225.
 24. NPS, “Miriam M. Sizer,” <https://www.nps.gov/shen/learn/historyculture/miriamsizer.htm> (accessed January 26, 2018).
 25. Lambert, 225.
 26. NPS, “Historical Overview,” <https://home.nps.gov/shen/learn/historyculture/historical-overview.htm>.
 27. Lambert, 227–246.
 28. Julia M. Wondelleck and Steven L. Yaffee, *The Challenge of Collaboration* (Washington, DC: Island Press, 2000), 47–68.
 29. Marc J. Stern and Kimberly J. Coleman, “The Multidimensionality of Trust: Applications in Collaborative Natural Resource Management,” *Society & Natural Resources* 28:2 (2015): 117–132.

James H. Gramann, Texas A&M University (retired), P.O. Box 63, Redmond, Oregon 97756; jimgramann@gmail.com