Chapter 6:

Institutionalizing a Structure for Fire Management

During the late 1970s, the National Park Service experienced significant upheaval that refocused its mission in new ways. Changes at the top that began with the appointment of Ronald Walker as NPS director in 1973 continued, with a rapid succession of directors following throughout the decade. Gary Everhardt, an engineer by training and former Superintendent of Grand Teton National Park, succeeded Walker early in 1975. A genial, calm, and cautious man, Everhardt found the director's post to be more intense than any previous management he had experienced. He left within two years, succeeded in 1977 by William Whalen, the superintendent of one of the premier urban national parks areas, Golden Gate National Recreation Area. Whalen himself was replaced not three years later, in May 1980. In this span of eight years, three directors led the NPS. No prior director, with the exception of Arthur E. Demaray, a long-time associate director who was appointed as director for nine months prior to his retirement in 1953 in a gesture of appreciation for his long service, served less than eight years. In the view of much of the NPS line staff and many observers, the top post in the NPS had become politicized, a demoralizing turn of events that dramatically altered more than a half century of apolitical leadership of the National Park Service.[1] This lack of continuity at the top hurt fire management at precisely the moment it moved toward institutionalization within the Service.

The turbulence that existed within the fire program stemmed from a number of structural issues. Despite the passage of NPS-18, the original NPS fire policy, the Service lacked a unifying presence. Implementation of NPS-18 lagged behind its philosophical statement, as experimentation continued to proliferate throughout the system, as energetic and enthusiastic fire managers applied their ideas to individual parks. Many surprises resulted, both from planned fires and natural ones. The NPS discovered that when every park needed a fire management plan, the question of applicability loomed large in many settings. The instability at the top of the National Park Service reflected a parallel instability in fire management. Despite valiant efforts to design and implement fire policy for the entire park system, the efficacy of the newly designed process remained tenuous.

Enactment of NPS-18 did create a new confidence among those who advocated the use of fire, for adoption of the policy signified the passage of their ideas from outlying vision to core NPS value. It built a structure for the use of fire that took the practice from the fringe and brought it into the center of NPS management policy. NPS-18 became the center of the process of institutionalizing fire management in the National Park Service. A series of management protocols developed, many in response to specific park situations. The emphasis on planning grew dramatically, and the NPS could feel that it had outlined patterns of fire management that made sense and reflected Service values and the growing body of science that supported them. Yet a vast difference remained

[1] Ronald Foresta, *America's National Parks and Their Keepers* (Washington, D.C.: Resources for the Future, 1984), 89-91; William Everhart, *The National Park Service* (Westport, CT: Greenview Press, 1985), 153-54.

between the embrace of policy as a philosophy and its outline of implementation and the ability to apply it on the ground.

Even as NPS-18 was enacted, congressional action provided support for the major transformations in NPS management that followed the Leopold Report. The Redwood National Park Expansion Act in 1978 placed a new premium on resource management. Once resource management had housed fire management, the rubric under which the prescription to use fire hid in an era when suppression advocates still dominated NPS policy. The new set of ideas contained in resource management competed for predominance with the traditional concept of complete suppression within the NPS, but without the comparatively large base of resources then devoted to fire control. In the fifteen years that followed the Leopold Report, fire management won out over complete suppression as a philosophy, even as suppression remained a viable response in many types of situations. The National Park Service followed a vision that dictated a new change in strategy. Done properly over time, in an ideal world, natural and prescribed fire would, it was believed, obviate the need for most suppression activity.

This change furthered the centrality of the use of fire in NPS management. From roots in resource management, natural and prescribed fire became a primary tool of the NPS's effort to manage fire on its lands. The shift in emphasis was significant. Fire management superceded fire control – the ideal of complete suppression – as the main avenue of response to blazes. The use of fire and resource management became uncoupled, allowing a broader vision of the applicability of fire than could have been conceived as a resource management tool. As resource management ascended as a goal of the NPS mission in 1978, this new significance meant much less to fire management than it might have a decade before. The terms of the battle about the virtues of fire control shifted inside the NPS: Suppression proponents diminished both in number and influence, leaving the way for fire management to move to center stage in NPS fire policy.

Yet conditions were rife for change in the National Park Service. The fact that a piece of congressional legislation instructed the NPS on its mission was a telling sign of a government agency that had lost its direction. Those who saw disarray in the NPS pointed to the turnover at the top and to greater congressional interest in the Service mandate as evidence of a weakening federal agency. The new mandate ordered the NPS to redefine approaches to its management obligations. Fire had been a catalytic factor in that process since the change in the Green Book in 1968. The institutional transformation of the Service furthered changes in fire management and cemented the context in which they occurred.

The National Park Service faced a different set of constraints than did its peer federal agencies. The NPS had embraced fire management ahead of agencies such as the Forest Service, which followed a more circuitous path to fire management. The USFS hid its shifting emphasis toward fire under the loose category of wilderness management, using the mandate of the Wilderness Act as a way to institute a revolution in policy. "I had clearly in mind in 1971 that we needed to get fire into all of our ecosystems," Orville Daniels, USFS supervisor of the Bitterroot National Forest, recalled in 2000, "and that the best place to start was wilderness."[2] In effect, the Forest Service acquiesced to the

[2] Quoted in David Carle, *Burning Questions: America's Fight with Nature's Fire* (Westport, CT: Praeger Press, 2002), 177; Stephen J. Pyne, *Fire in America: A Cultural History of Rural and Wildland Fire* (Princeton: Princeton University Press, 1982), 293-94.

ideals the National Park Service first put forward in 1968. Long the leader in fire suppression, it now ceded the lead philosophical position in fire management to Department of the Interior agencies, chief among them the National Park Service. The actual rise of the NPS and the Forest Service slide was a much longer process.

The idea of the national parks as "vignettes of primitive America" and the emerging effort to define designated wilderness under the Roadless Area Review and Evaluation process, colloquially referred to as RARE I and RARE II, accentuated the changes and made the NPS's position even more tenable.[3] The shift was called "process preservation" – protecting the ecological processes, not the scenery. This was an important shift on several counts that directly clashed with the Service's concern about visitor experience, as it posed a particular threat to the vistas visitors craved. The widespread preoccupation with the idea of "natural" lands – as a social construct rather than an environmental condition – easily included the use of fire. As a "natural" element, fire readily fit prevailing sentiments. Its inclusion as a force that shaped nature mirrored scientific and popular ideas about how to best manage precious national lands and resources.

In the choice among types of fire, "prescribed natural fire" – fire ignited by lightning in areas the Service designated as zones in which fire was allowed to burn – was widely seen as the most desirable. Natural in origin, such fire expressed the values of the era: that national parks were products of natural processes and human intervention only muddled their ecological purity. Wilderness provided the template for "natural." This perception was of a piece with the times, idealistic rather than pragmatic, yet it had powerful influence on policy. The emphasis on "natural" changed the National Park Service; it contributed greatly to acceptance of the idea of natural fire inside the NPS and in the larger conservation community.

During the rush to embrace natural fire, National Park Service efforts to keep control of this process relied on the developing management structure. NPS-18 became the baseline policy document that served as the best hedge against idiosyncratic use of fire. It reversed the trend toward local autonomy that had been the hallmark of the Green Book, effectively reinstating a centralized management style reminiscent of the era of the NPS's first fire professional, John Coffman. Even with the new rules, NPS superintendents retained the autonomy that had characterized the Service since its founding. "A superintendent, particularly if he is some distance away from [the regional office] and is somewhat isolated, he really runs that place and can do as he damn [well] pleases and usually does," observed long-time NPS veteran Roy Appleman in a succinct assessment of the office's power.[4] In most circumstances, such power translated into effective local management. In the case of fire, local management could not only be insufficient to grapple with the issue's potential dimensions, lack of centralized control could be dangerous, extraordinarily expensive, and transformitively destructive as well.

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[3] USDA Forest Service, RARE II: *A Quest for Balance in Public Lands* (Washington, D.C.: U.S. Government Printing Office, 1978); M. Rupert Cutler, "National Forests in the Balance," *American Forests* (May 1978), 1-5; M. Rupert Cutler, *Western Wildlands: A Natural Resource Journal* 5 (Summer 1978); Tim Mahoney, "RARE Draft EIS Sparks Heavy Input from Conservationists," *Wilderness Report* 15 (September 1978); David Crosson, "RARE Results Final 'An Acute Disappointment,'" *High Country News*, January 12, 1979.

[4] Roy Appleman, interview by S. Herbert Evison, February 10, 1971, S. Herbert Evison Papers, CONS31, FF5, Denver Public Library, Denver, CO, 30.

Following the NPS policy manual, the creation of the Service's Branch of Fire Management, located at the Boise Interagency Fire Center, and enforcement of the requirement that each park develop a fire management plan showed a new intensity in the approach to fire. If local autonomy was going to survive, it would do so under specific strictures and in accordance with plans and programs that had been reviewed and accepted up the chain of command.

A certain amount of tension arose between the local and national levels. It centered on the planning process and the amount of land that was to be burned. Into the early 1980s, most intentional burning on NPS lands took place in Florida at Everglades National Park, and after its establishment, at Big Cypress National Preserve, established on October 11, 1974. These Florida parks moved into the mainstream as ecological values came to dominate the management of nature preserves. As two of the most heavily burned park areas in the national system, Everglades and Big Cypress shared the most comprehensive experience with fire. In 1982, Big Cypress staff completed an environmental assessment that allowed human-induced and natural fires to burn under predetermined conditions and initiated burning to meet management objectives under specified described circumstances. The plan extended historic practice at Everglades and reflected a decade of experience at Big Cypress. The conditions in Florida and regional cultural history made the use of fire a common and accepted practice, fraught with none of the baggage of the drier western parks. The practice was so common in the region that the state's regulatory process seemed to encourage rather than restrict burning. By the end of the 1980s, the State of Florida certified burn managers – some of them private citizens – to conduct prescribed burns; these people were not liable for damage caused by a prescribed fire as long as they followed state guidelines.[5]

Elsewhere, prescribed burning remained problematic. In many instances, prescriptions – the predefined conditions under which fire was allowed to burn – were loosely or poorly defined. Despite the Service's emphasis on planning, there were no national standards or models on which superintendents could rely. As a result, prescribed burning programs proliferated with too little planning and without clearly defined parameters. The circumstances sometimes made chaos of policy.

The challenge of fire continued to defy bureaucratic definition, and during the late 1970s, examples illustrated the problems that could stem from the transition to the new policy and the consequences of long-time suppression. Even advocates such as Bruce Kilgore, who was honored in 1974 by USFS Chief John McGuire for his contribution to fire ecology and "bridg[ing] the gap between fire research and the application of research findings to on-the-ground management," were tested by the circumstances. Controlled fire was one dimension; it was easy to argue that the public would accept fire if it was explained to them wholly and openly, as Kilgore argued in 1974.[6] It was much harder to achieve that goal when fire threatened not only national parks but the areas surrounding them.

Across the national park system, fire management planning moved to the forefront. Even before NPS-18, new fire management plans flourished. In response to Special Directive 79-5, an astonishing number of plans were written in late the 1970s and

[5] Environmental Assessment: Fire Management, Big Cypress National Preserve, March 1982, Technical Information Center, Denver Service Center, D-21A, 4-8; Carle, *Burning Questions*, 216-17.

[6] Carle, *Burning Questions*, 180-81.

early 1980s at all manner of park areas. Parks as diverse as Mammoth Cave National Park and Antietam National Battlefield constructed fire plans. George Rogers Clark National Memorial, a 24.3-acre manicured greenspace around a 1920s memorial in downtown Vincennes, Indiana, produced a one-page fire management plan, "with reasons for its brevity clearly stated," observed Superintendent Robert Lagemann. "The potential for wildfires at this park is minimal," the plan's author, Park Ranger Robert Holden, noted. "A fire of any consequence occurring on the grounds would be responded to by the City of Vincennes Fire Department."[7] Despite such truncated responses, NPS officials devoted a considerable array of resources to complying with NPS-18 at parks with little in the way of a history of fire. Critics suggested this was a one-size-fits-all model, the result of a struggle for control of the fire management process. A harsh and perhaps overwrought judgment, this perspective correctly pointed to the investment of resources in fire plans at parks with insignificant resources as a cause of a shortage of resources for fire at parks with long and complicated histories.

The new emphasis on fire plans produced a higher caliber of document than had ever before been possible in the National Park Service. Leading scholars played an instrumental role; in many ways, the concepts in the plans stemmed from their research and articulated the objectives their work fostered. A reciprocal energy linked the scholars to the Service in the new fire management plans. In some cases, scholars took the lead in developing the plans. At Pinnacles National Monument, James K. Agee and Harold H. Biswell coauthored the park's first comprehensive fire management plan. The two presented the plan at the first Conference on Scientific Research in the National Parks in New Orleans, Louisiana, in November 1976. Their document assessed the evolution of fire practices at the 14,500-acre monument, showing the ecological consequences of suppression and the need for a program that used fire as a tool. Sophisticated in approach and cognizant of contingencies, Agee and Biswell's plan set the standard for the NPS. Agee continued research there for more than two decades.[8]

Following the lead of scholars such as Biswell, Agee, and Jan van Wagtendonk, the parks with the most difficult fire histories developed fire management plans of remarkable flexibility and versatility. Glacier National Park's document revealed a complicated evolution of its fire planning. The 1977 fire management assessment provided the most comprehensive analysis of conditions in the park's history. Embracing the idea that fire was a natural force, the park sought strategies that would "perpetuate Glacier's wilderness, with the greatest safety for residents, visitors, and non-park property."[9] Following the organizational model that developed in response to the

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[7] Superintendent to Regional Director, October 18, 1979; "Fire Management Plan," (George Rogers Clark National Memorial) n.d., Denver Service Center, Technical Information Center, 440/D-20; Leon Liscomb, "Draft: Fire Management Plan, Mammoth Cave National Park, June 1978, Denver Service Center, Technical Information Center, 135/D-79; Gordon Olson, "Draft: Fire Management Plan, Antietam National Battlefield, Sharpsburg, Maryland, FY 1984," Denver Service Center, Technical Information Center, 302/D-26, 1-3.

[8] James K. Agee and Harold H. Biswell, "The Fire Management Plan for Pinnacles National Monument," presented to the First Conference on Scientific Research in the National Parks, New Orleans, Louisiana, November 9-14, 1976, Denver Service Center, Technical Information Center, Denver CO, 114/D-38, 9-13; James Agee interview, June 10, 2004.

[9] Jane E. Kapler, "Glacier National Park, Assessment: Fire Management, February 1977, Denver Service Center, Technical Information Center, Denver, CO, 11/ D-1143, sections 110-130, 271-345.2. The document is not paginated.

requirements of the National Environmental Policy Act of 1970, especially the environmental impact statement process, fire management plans expressed the preferences of managers in the language of alternatives. After describing the problem and the conditions under which management took place, parks offered alternative management plans and their expected consequences.

At Glacier in 1977, the park proposed four alternatives: continuing total fire suppression, allowing all fires that did not threaten human safety to burn, allowing selected lightning-induced fires to burn, and introducing fire by artificial ignition. The first two alternatives were clearly extreme. In the almost seventy years of history at Glacier National Park, total suppression had never successfully been achieved under any circumstances. "Although it seems very unlikely to us now, fire suppression techniques may become effective enough to eliminate large fires even in times of severe drought," Forest Technician Jane Kapler, the report's author, conceded. This prospect remained so remote that the NPS did not consider total suppression to be a viable alternative. The idea of allowing all fires that did not threaten human safety to burn was a dangerous possibility that returned fire into a bureaucratic category. Again, the model suggested administrative dominance of fire, a prospect that defied experience. The inability to allow human-induced fire to burn near developed parts of Glacier and the lack of data about historic natural fire patterns made this alternative unappealing.[10]

The caliber of alternative management plans varied. While Glacier National Park produced a remarkably sophisticated and comprehensive analysis of its fire situation, many other parks lacked the combination of resources and sense of necessity to invest as completely in designing a fire program. The plan that resulted from the Glacier assessment, approved in June 1978, articulated conditions under which prescribed natural fire and artificial ignition would be utilized as part of the park's regime. The four alternatives were reviewed and rated. Allowing every fire to burn was clearly impossible, if for no other reason than the inordinately high frequency of fires that would result. Complete suppression was beyond the park's reach; it was also counterproductive to offering visitors a glimpse of the landscapes they might have encountered as early American pioneers. The only alternatives that provided answers to Glacier's fire problems permitted both the use of natural fire and ignited fire along with suppression. The plan targeted "certain critical sites" such as ponderosa pine stands for prescribed fire as a component of "maintaining a sound, natural ecosystem." It permitted natural fire where "values at risk [were] minimal." Yet the plan carefully deferred to the expectations of its neighbors. "Any action other than total suppression," the report read, "requires a review and endorsement by a Fire Management Review Team." This effort to assuage public concern reflected the realities under which the National Park Service operated and that some park plans failed to address.[11]

The planning process triumphed at Glacier National Park. With the acceptance of the fire management plan, one of the most difficult fire parks in the system had a flexible administrative structure for addressing fires. The plan allowed park officials a tremendous amount of leeway in decision-making, with the powerful emphasis on those decisions that had become the hallmark of fire management. The new values – those of

[10] Ibid., 312.5, 323.4.

[11] Glacier National Park, "Forest Fire Management, Glacier National Park, West Glacier," Montana, June 2, 1978, Denver Service Center, Technical Information Center, 117/D-298, 1-3.

the use of fire – became the rule rather than the exception. A new era indeed had arrived. The National Park Service had developed a fire management structure that seemed as able as suppression had once been to address the problems of fire at a major park.

Yet planning was only half the equation. Even after two University of Montana professors, James R. Haback and Robert W. Steele, received a $49,943 grant for a three-year fire ecology study in 1980, Glacier National Park was unable to undertake any proposed prescribed burns. The possible season for burning was always extremely short at Glacier, and in 1980, the ground cover was only dry enough to carry fire during one week. "Unfortunately we were thwarted by a series of crises over which we had no control," acting superintendent Joe Shellenberger told Haback. The park endured a grizzly bear crisis that year that required the deployment of all available park personnel. Three fatal maulings were reported inside the park, the last just prior to the scheduled burn. Two female grizzlies were trapped inside Glacier; another was caught outside its boundaries. Nine grizzlies were counted in the West Glacier-Apgar area. "There was simply no one available to conduct a fire management burn," Shellenberger informed the disappointed professor. Even though the research was "of some urgency," the project was temporarily derailed by the situation and other management issues. Two years later, supported by the research of Ron Wakimoto at the University of Montana, Missoula, and Bruce Kilgore, during a four-year stint as Research Project Leader at the U.S. Forest Service Northern Forest Fire Laboratory in Missoula, Glacier National Park did finally prescribe-burn a ponderosa pine forest in the North Fork of the Flathead drainage in September 1983.[12]

Yosemite, which had become the Service's premier fire management park as a result of the efforts of van Wagtendonk and others, also developed preeminent fire planning. By the late 1970s, van Wagtendonk's work had laid the basis for a revolution in the park's planning. In papers such as "Fire Management in the Yosemite Mixed-Conifer Ecosystem," he outlined the achievements and the consequences of fire management, showing how Yosemite had measured its prescriptions for fire and how science changed the parameters of such planning. This work was reflected in the park's 1979 fire management document, "Natural, Conditional, and Prescribed Fire Management Plan." "The forest has become increasingly susceptible to catastrophic wildfire as both living and dead fuel loads continue to increase," the plan stated. "The absence of the open park-like forest described by early explorers in the Yosemite region has resulted in the visual impairment of the natural scene, and consequently has decreased the value of the Park experience for many visitors." This statement of the problem nicely summarized the need for scientific management, merging it with the visitor experience.[13]

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[12] Acting Superintendent to Jim Haback, January 2, 1981; MAB Coordinator, WASO to Regional Chief Scientist, Rocky Mountain Region, March 31, 1981, Glacier National Park, Fire Collection 1910-1984, 306-11; Bruce Kilgore, "Evaluating Direct Response to Understory Burning in a Pine-fire-larch Forest in Glacier National Park," Robert C. Lucas, compiler, *Proceedings – National Wilderness Research Conference: Current Research* USDA Forest Service General Technical Report INT-212 (Missoula: USDA Forest Service, 1986), 26-34.

[13] Jan W. van Wagtendonk, "Fire Management in the Yosemite Mixed-Conifer Ecosystem," Symposium on Environmental Consequences of Fire and Fuel Management in Mediterranean Ecosystems, Palo Alto, California, August 1-5, 1977, 459-63;Yosemite National Park, "Natural, Conditional, and Prescribed Fire Management Plan, 1979," Denver Service Center, Technical Service Center, 104/D-845, 3.

The idea of conditional fire management – seasonal adjustment of which areas would be allowed to burn – allowed a new dimension in fire planning. At Yosemite, the fall months allowed greater management leeway, and under clearly described conditions, measured against a score of 50 on the Burning Index after September 1, conditional units that encompassed lower and upper mixed-conifer and red fir would be allowed to burn. Conditional fire management would terminate on December 31 each year to eliminate fires that carried over to the following spring. The plan allowed park officials to institute prescribed burns in the conditional areas under the same conditions.[14]

The Yosemite plan devoted a tremendous amount of energy to clearly defining the boundaries between conditional and natural fire. Prescribed burning units were already common in the NPS and their boundaries were clear. The innovation supporting the idea of a conditional zone – when it was precisely that boundary between allowing a burn and suppression upon which the board of review focused as the source of mismanagement at the Ouzel fire in Rocky Mountain National Park in 1979 – became even bolder in this context. The description of the boundaries, so precise that it seemed like a metes and bounds survey for measuring land, contained a detailed and accurate assessment of fire boundaries that exceeded the norms previously established for prescribed burns.[15] The plan attempted to introduce a level of planning supported by science that had not yet been seen elsewhere in the park system.

This strategy affirmed complete confidence in the management of fire by science. At Yosemite, managers did not doubt the efficacy of fire management. Increasingly at the center of the fire management revolution, Yosemite showed the most direct influence of Biswell and his students. Its plan was unambiguous, articulate about the science behind fire, but seemingly purposefully tone deaf to the larger issues that concerned fire management. Yosemite planners produced one of the most advanced documents in the system, but it contained little recognition of the problems of managing fire in a public context.

Sequoia and Kings Canyon National Parks also had been at the center of the revolution in fire practice, and the parks produced one of the most comprehensive and sophisticated studies of the first generation of fire plans. Divided into three parts, the plan defined and described the park's natural resources, fire management zones, and the role of fire in the park's history; described the fire management program; and articulated the operating plan for implementation. Sequoia and Kings Canyon's complicated fire history and the long history of record-keeping provided some of the best information in the NPS for evaluating the role of fire. Few other parks could produce a chart that showed fifty-five years of fire history, with the frequency of fire categorized by origin: natural or human. The decade-long history of prescribed natural fire provided another dimension that many parks lacked. By 1979, the park had started 155 fires, which together burned across 19,730 acres. While the total paled in comparison to Everglades, it far surpassed any other park in the system.[16]

Sequoia and Kings Canyon's plan developed the most revolutionary dimension in National Park Service fire policy: the idea of introducing fire to areas where suppression

[14] Ibid., 21-22.

[15] Ibid., 41-43.

[16] "Fire Management Plan, Sequoia and Kings Canyon National Parks, February, 1979," Denver Service Center, Technical Information Center, 102/D-300, I-1-3; IV-5-9.

had altered the natural fuel load and the composition of vegetation. The plan considered the option of allowing some human-caused fires to burn, a perspective easily regarded as a contravention of NPS-18, which required human-induced fires to be controlled to protect parks from unnatural ecosystem change and to prevent damage to property and lives.[17] Sequoia and Kings Canyon had always been at the forefront of introduced fire, but the new plan increased its emphasis on allowing all kinds of fire to burn.

The most powerful claim in the plan for innovation stemmed from the vast base of prescribed burn research that underpinned its contentions. No park had ever produced the level of research presented in the Sequoia and Kings Canyon plan. It offered a twelve-year controlled burning plan, designated by area and size, with proposed burned areas total acreage ranging from highs of 19,758 acres to lows of 4,471 acres. The research was persuasive; the park's explanations were thorough and based in science. The work of the first generation of fire ecologists came to fruition in the 1979 Sequoia and Kings Canyon fire plan.[18]

But in an unusual way, the model it created was not applicable to all parks. The fire problems of major fire parks such as Sequoia and Kings Canyon were enormous and merited the immense investment in resources they received, but their situation did not mirror most of the parks in the system. The NPS found itself in what was a characteristically uncomfortable situation: investing vast quantities of national funding in particular parks that were extreme examples of one problem. This approach was entirely necessary, for it would not do to allow huge fires to devour the nation's treasured parks. But it also created policy on the basis of atypical examples and as a result focused on issues that usually pertained to a small but significant number of parks.

Sequoia and Kings Canyon National Parks continued to serve as the model park for fire management plans. In 1982, the two parks put forward another fire management plan, again a state-of-the-art plan based in science and the park's experiences. It took the level of detail a step beyond the 1979 plan, adding an implementation structure that defined precisely the ways in which fire information would be collected and disseminated. In a philosophical statement that seemed to reflect the experience of the Ouzel fire, the plan articulated a stance that made caution a primary strategy: "No fire should ever be considered too small or harmless for monitoring and as a result ignored."[19]

The plan resulted in a controversy that stretched throughout the rest of the 1980s. As Sequoia and Kings Canyon permitted fire, they experimented in myriad ways. One of the boldest programs was burning around a number of Big Trees, a symbolic statement of immense proportions. A resident of nearby Three Rivers, California, Eric Barnes was outraged by the char left by prescribed fire on the Big Trees and complained to Senator Alan Cranston, D-Ca. Bruce Kilgore drafted the response, explaining the ecological advantages of such fire, and helped empanel a seven-scientist committee headed by Norman Christensen of Duke University. The park suspended prescribed burning while the committee studied the program. In 1987, Christensen's committee released its report, generally supporting the controlled burning program. In the committee's assessment, the

[17] Superintendent, Sequoia and Kings Canyon National Parks to Regional Director, Western Region, May 24, 1979, Denver Service Center, Technical Information Center, 102/D-330.

[18] "Fire Management Plan, Sequoia and Kings Canyon National Park," February 1979, V-1-V-30.

[19] "Sequoia and Kings Canyon National Parks, Fire Management Plan," June 1982, Denver Service Center, Technical Information Center, 102/D-330A, 119.

ecological value of fire superseded aesthetic considerations. The committee recommended two types of prescribed burns – restoration fires to reduce fuel load, and simulated natural fires, to mimic historic natural fire patterns.[20] Yet despite the affirmation of the parks' ideas, the experience taught NPS personnel an important lesson: public involvement was necessary if the Service was to find public support for its policies. Sequoia and Kings Canyon had engaged the public and explained what it was doing and why in open forums. Despite the example, too few national parks followed this lead.

These new demands reflected the exuberance of the previous decade, tempered by the experience of fire management. Despite Bruce Kilgore's optimistic predictions that information and clarity would sway the public, any time fire threatened any park facility or town, the public, the press, and elected officials reverted to suppression as the preferred approach. The Service realized that fire science and strategy had to be tempered by living in the real world, and throughout the NPS, superintendents, regional directors, public relations people, and everyone else finally understood this. Fire managers had little choice but to address the realities faced by the NPS and every other federal land management agency in the 1980s.

But most parks could not invest resources in the level of planning engaged in by Glacier and Sequoia and Kings Canyon. In some circumstances, such a decision made sense. Urban parks, historic homes, and other similar parks had more to fear from building fires than wildfire; suppression of a lightning fire was a given in city environments, and some such parks lacked anything more than a front lawn. The so-called "park of the month club," the remarkable array of areas added during the 1970s at the behest of U.S. Representative Philip Burton of California, a great friend of the National Park Service but also a zealous manipulator of legislation to achieve his ends, created dozens of parks that differed greatly from earlier national parks areas.[21] Parks such as the Thomas Stone National Historic Site in Maryland, the Edgar Allen Poe National Historic Site in Pennsylvania, and the Tuskegee Institute National Historic Site in Alabama had neither the need nor the structure to produce a fire management plan of the caliber of Glacier National Park. Immediate suppression was necessary and expected at such parks; there was nothing to gain from allowing natural fires to burn and intentional ignition bordered on prosecutable pyromania.

Some parks produced surprisingly cavalier responses to the dictate to produce a fire management plan. A prominent example was the Custer Battlefield National Monument, later designated as Little Bighorn Battlefield National Monument. Where Agee and Biswell developed a seventy-page document for Pinnacles, and Glacier National Park expended more than 200 pages on a mere assessment, a prelude to a fire plan, Custer Battlefield assembled a four-page plan that showed no understanding or comprehension of the idea of fire management, the use of fire as a resource management tool, or any of the other innovations that had followed the revolution in NPS thinking about fire. In essence, the park submitted a plan that advocated suppression. It listed resources, fire equipment, details of a training program, explanation of its reliance on the

[20] Carle, *Burning Questions*, 184.

[21] John Jacobs, *A Rage for Justice: The Passion and Politics of Phillip Burton* (Berkeley: University of California Press, 1995), 300-07; Barry Mackintosh, *The National Parks: Shaping the System* (Washington, D.C.: U.S. Department of the Interior, 1991), 86-89.

BLM, and a description of the fire crews available both winter and summer.[22] Whether Superintendent Richard T. Hart simply did not track the changes in fire policy or whether Custer Battlefield's unique circumstances – its position as a cultural site and de facto cemetery – dictated a different vision, the fact remained: the fire management plan submitted in 1977 was more reminiscent of the era of suppression than of the decade since the introduction of prescribed fire.

Yet Custer Battlefield became a test case of the impact of fire on park cultural resources. In 1983, a fire swept up Deep Ravine and burned the park's grasslands. The 1876 battlefield had experienced fire suppression for a very long time – some accounts suggested it had not burned since the battle– and the complete burn of the historic section of the park provided the first opportunity to use modern archaeological techniques to reassess the battle's historic scene. NPS archaeologists spent the 1984 season on the newly cleared field, uncovering bullets, skeletal remains, metal fragments, and other remnants of the battle that redefined the historical understanding of what transpired. Their work developed a new scenario of the battle, one that more closely coincided with the accounts of Lakota and Cheyenne people than with the mythmaking of the moment and its subsequent popularization by Hollywood. A different understanding of Indians' use of weapons, of the flow of the battle, and of other dimensions of the story resulted.[23]

The Custer Battlefield fire and its impact on historical knowledge opened another area in which fire could be transformative. Although Mesa Verde National Park had experienced archaeological discoveries as a result of fires, the idea that fire could contribute to resource management had not been in the forefront of NPS thinking. The conceptualization of the value of fire had come almost exclusively from natural scientists. Despite the obvious advantages of fire for preservation, cultural resources had been an afterthought. The situation at Custer Battlefield provided a new appreciation for the role of fire in other types of NPS management situations.

In December 1981, NPS Director Russell Dickenson committed the Service to FIREPRO – an operations analysis and budget management process modeled on similar programs in other Department of the Interior agencies and in the Forest Service. It utilized a common process to enable land managers to systematically analyze and quantify fire management needs. This information provided a baseline for appropriate levels of personnel, training, equipment, and supplies to achieve resource management goals.[24] FIREPRO was the first National Park Service effort to address the financial demands of the new fire management structure.

FIREPRO sought to protect cultural and natural resources by assessing the level of risk to each and deploying resources based on that risk. It built on existing efforts such as the use of Activity Standards in the early 1970s and Zero Based Budgeting of the end of the decade to move the National Park Service toward management by objectives. The program treated the potential for wildland fire in proportion to its historic rate of occurrence, shifting the focus away from the ongoing development of fire plans for urban

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[22] Superintendent, Custer Battlefield National Monument, July 7, 1977; "Fire Plan," Denver Service, Technical Information Center, 381-D-31, 1-4.

[23] Douglas D. Scott and Richard A. Fox, *Archeological Insights into the Custer Battlefield* (Norman: University of Oklahoma Press, 1987), xi, 108-26.

[24] Memorandum, Director to Directorate and All Regional Directors, Subject: FIREPRO, NPS Normal Year Programming, December 22, 1981, Glacier National Park, Fire Collection 1910-1984, 306-11; Director to Park Managers, October 7, 1982, copy provided by Stephen J. Pyne.

parks and other places where NPS resources were not likely to play a major role in fire planning and response. FIREPRO established three levels of response, with level III denoting the highest level of occurrence and danger of repeated fires. The National Fire Danger Rating System Burning Index served as the measurement for assessing the levels. In essence, FIREPRO attempted to balance response through the division of resources ahead of a blaze rather than in its aftermath. This simultaneously stabilized the NPS fire budget and let parks plan for emergency situations without depleting their ordinary operations budgets.[25]

In the larger picture of federal fire management, FIREPRO helped the NPS catch up to the funding mechanisms and structures of other agencies. The Forest Service had been the leader in the movement, creating the perception that it could quantify the economic value of the lands it protected. FIREPRO let the NPS out of the box of the perennial lack of funding; at the same time, it redefined fire as a national phenomenon rather than a local or regional one. Partly FIREPRO was an attempt to create something like a national system where none existed, particularly useful as the NPS responded to the conceptual transformation of management embodied in the Leopold Report. Simultaneously, it was an attempt to secure more funds for NPS fire management and to explain and make significant such expenditures. The core account, called PWE 342, was designed to be used only for emergency funding, but the efforts of adept administrators created a situation in which national parks used these funds in lieu of their regular budgets. FIREPRO gave NPS fire management access to a new level of resources.

Fires continued to thwart the best efforts of planners, for the emergencies often fell well outside of the categories that the NPS could devise to contain them. In the summer of 1977, a fire at Bandelier National Monument, outside Los Alamos, New Mexico, called the question. In many ways, the situation at Bandelier was reminiscent of the Waterfalls Canyon Fire in Jackson, Wyoming, in 1974, but with an important difference. The nearby Los Alamos Scientific Laboratory (LASL), where the atomic bomb had been developed in the 1940s, remained a primary scientific research facility for the U.S. Department of Energy. Significant scientific laboratories, weapons development facilities, and hazardous materials abounded near the national park on the Pajarito Plateau, about thirty miles due northwest of Santa Fe, New Mexico. If residents of Jackson were disturbed by plumes of smoke in 1974, the health risks from a severe fire near Los Alamos were significantly greater.

A suppression regime had been in force in northern New Mexico since the New Deal. The combination of agriculture, development of the Los Alamos facility, and post-war growth of the region contributed to suppression of all fires on the plateau. By the 1970s, fuel loads were elevated throughout the area, triggering precisely the kind of situation Kilgore feared when he observed that a delay in addressing questions concerning fire created a situation where “in the long run, fuel accumulates and another manager at a later time faces an even tougher decision.” The vast increase in density of groundcover and the almost total halt of the natural cycle of ecological replacement that natural fire had long prompted increased the likelihood of a major fire at Bandelier or elsewhere in the Jemez Mountains. Testing at LASL compounded the general uneasiness

[25] FIREPRO, n.d., provided by Stephen J. Pyne, I-1, II-1-3.

of the people of Los Alamos and the rest of the plateau. The possibility of an accident at the Lab igniting a serious fire remained very real.[26]

While federal agencies did an excellent job of suppressing fires on the plateau, the region's fire history suggested that such successes could not last forever. NPS fire managers experienced dozens of similar situations that preceded difficult fires and they awaited any outbreak with dread. It arrived late on the afternoon of June 16, 1977, a spark from a cigarette or a motorcycle engine smoldered in a pile of leaves on the Mesa del Rito in the Santa Fe National Forest. "The fire was started by a couple of kids on motorcycles back up in the woods one day," NPS Fire Specialist John Lissoway recalled. "The wind was blowing, it was hot, in the middle of June. I think they were out there without a spark arrestor or smoking cigarettes."[27] It grew into the largest fire on the Pajarito Plateau in the twentieth century.

Known as the La Mesa Fire, this blaze illustrated the problems of the new NPS fire regime. Human-induced, the fire met the conditions for suppression, but it spread so quickly that the response became a valiant effort at containment. Hot, dry, windy weather and dense fuel loads near the ignition point quickly fed the fire. Within ninety minutes of the initial sighting at about 4 p.m., the fire covered more than fifty acres. It spread from the Mesa del Rito area into the national monument by midnight on June 17, and by noon the next day, the fire crossed State Highway 4, headed toward Los Alamos. It grew in concentric circles each day, spreading on the east to within about three miles of Bandelier's headquarters at Frijoles Canyon. Weather worsened the situation for the next few days, as winds revived the fire a number of times just as it seemed to lose intensity. By June 21, intermittent thunderstorms slowed the fire, and officials declared it contained in what was conservatively estimated at 15,000 acres at 3 p.m. Two days later, after continuing heavy rain and cool temperatures, the fire was considered under control at 4 p.m.. Only the most vigorous efforts and complete commitment of resources prevented the fire from reaching the LASL technical areas southeast of Los Alamos, and for at least a day, the town itself was in danger.[28]

The damage was devastating. Raging for more than a week, the fire burned across more than 23,000 acres, including more than 10,000 acres of timber in the northwestern portion of Bandelier, and an additional 5,000 acres in the adjacent national forest and on LASL land. The NPS evacuated families at the park headquarters at Frijoles Canyon early in the fire. Cinders and burning ash fell in the nearby town of White Rock, about seven miles from Los Alamos. Wood-shingled roofs there were hosed down constantly in the effort to prevent them from igniting.

The fire demanded every available human resource. Fire fighting crews from the Los Alamos Scientific Laboratory, the NPS, the Forest Service, and other federal, state, and local agencies threw in together to face the threat. The effort enlisted 1,370 people to stop the fire's progress, and nine bulldozers, twenty-three ground tankers, five helicopters, and five air tankers provided support. Firefighters swung their Pulaskis in

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[26] Bruce Kilgore, "Introduction – Fire Management Section," in E. V. Komarek, ed., *Tall Timbers Fire Ecology Conference Proceedings* (Tallahassee, FL: Tall Timbers Research Station, 1976), 7-9; Hal K. Rothman, *On Rims and Ridges: The Los Alamos Area Since 1880* (Lincoln: University of Nebraska Press, 1992), 273-77.

[27] John Lissoway interview, by Lincoln Bramwell, August 15, 2002.

[28] Rothman, *On Rims and Ridges*, 275.

two twelve-hour shifts around the clock in the heavy smoke; many slumped exhausted at the end of their shift, to rise again in the morning and repeat the battle.[29]

One of the fire's most dangerous dimensions was its possible interaction with the Los Alamos Scientific Laboratory. The National Park Service had never faced a fire in proximity to a scientific research facility; in the rare cases an NPS fire had intruded on the activities of the military-industrial complex, Department of Defense and military fire crews had handled the fires. Los Alamos was peculiar. A subsidiary of the University of California system, it lacked the personnel to respond to such a blaze and was forced to rely on the NPS and the Forest Service. Many of its technical facilities were close to the burn area, and due to national security concerns, no one outside of LASL knew what they contained. As the fire penetrated the park and approached LASL facilities, NPS officials had two major worries: LASL was politically powerful and secretive, leading the NPS to act gingerly, and there were real constraints in any strategy. LASL was loaded with combustible and toxic material and its officials could not provide what the NPS regarded as essential information. John Lissoway remembered that officials at LASL "did not know how much heat it would take to blow" up stored explosives and the NPS was not privy to the location, quantity, and character of such stockpiles.[30] Managing this fire required even greater political skill and calm than any of its predecessors.

The La Mesa Fire became an important test of the multi-faceted mission of resource management. Along with the evolution of the use of fire as a tool, fire management included cultural resource management. The burned area was filled with subsurface prehistoric ruins, and quick thinking by NPS officials allowed scrutiny by archaeologists who preceded the fire-fighting bulldozers. Although preservation of cultural resources had been an ongoing theme in fires at places such as Mesa Verde, they had never received the attention directed at natural resource management during and in the aftermath of fires. This new level of engagement came about serendipitously. On his way to visit an archaeologist friend at the NPS regional office in Santa Fe, Regional Scientist Milford R. Fletcher, the head scientist for the NPS in the Southwest, looked up and saw the smoke of the La Mesa Fire. He told Cal Cummings, an NPS official responsible for cultural resources, that the situation demanded archaeologists ahead of the construction of fire lines. Archaeologists could locate buried sites and direct the bulldozers away from them, the always adamant Fletcher insisted. Cummings, Superintendent John D. Hunter of Bandelier, and Santa Fe National Forest Supervisor Cristobal Zamora agreed; Cummings found and scheduled volunteers, and Fletcher provided supervision. Nearly forty archaeologists worked in front of bulldozers during the La Mesa fire, establishing the primacy of cultural resource management even in a particularly dangerous fire.[31]

The fire promoted new cooperation and awareness, but there were tense moments. In one case, Fletcher turned off a USFS bulldozer, telling its driver: "We don't care if the trees burn. They'll grow back. Ruins won't." Although managers made every effort to let archaeologists record sites and guide fire fighters away from ruins during the initial

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[29] Teralene Foxx, ed., *Los Alamos Fire Symposium, Los Alamos, New Mexico, October 6-7, 1981* (Los Alamos: Los Alamos National Laboratory, 1984), 3-6.

[30] John Lissoway interview, August 15, 2002.

[31] Dr Milford R. Fletcher, conversation with the author, August 21, 1986; Senior Archeologist Cal Cummings to Chief Anthropologist, WASO, January 24, 1986, copies in possession of the author..

construction of fire lines, they often were not present during any subsequent widening. More than 40 percent of archaeological sites surveyed in the aftermath showed signs of damage. The remainder were unaffected, a measure of the success of the improvised program, and veterans of the fire remembered that shared objectives superseded occasional conflicts. After the fire, archaeology became one component of fire management in the Bandelier area.[32]

La Mesa illustrated the changes in the National Park Service as a fire management organization. It showed that the success of fire management depended on an array of values to guide decisions. The NPS had modest credibility as a fire suppression organization prior to the change in policy reflected in the Green Book in 1968. The new policy changed weak suppression capabilities into a far-sighted approach to management. The NPS considered an overblown suppression organization an expensive liability. By La Mesa, other agencies, most notably the USFS, had begun efforts to rein in their fire programs and go in new directions. But as common as a weakened suppression organization became, it did not necessarily assure a strong overall fire management structure. Even as it pioneered fire management, the NPS was seen as strong in theory and rhetoric, but limited in its on-the-ground response. La Mesa illustrated this difficulty with some clarity.

The fire near Bandelier National Monument offered a test to the National Park Service, and the Service weathered it. Although the fire was neither prescribed nor natural – it was more typical of suppressed fires in that it resulted from human carelessness – it provided an important challenge to the policy of allowing some fires to burn. La Mesa further illustrated the shortcomings of suppression as a dominant strategy. It did more than all the press releases in the world to remind the public of the danger fire presented. During a major fire year in the West, with California already aflame, La Mesa was a smaller, specialized blaze that highlighted the NPS's concerns more clearly than it spoke to larger issues of fire management. La Mesa made the pronouncements of the value of fire sound hollow. The fire garnered publicity and threatened a community; suppression seemed the natural and the only response. It became a reality check for NPS fire managers.

In the aftermath of La Mesa, Bandelier National Monument developed a new fire management plan that took into account the lessons learned on the Pajarito Plateau. The long years of suppression had created a fuel load so heavy and so dry that it altered the composition of the soil beneath and the patterns of regeneration that followed the fire. The new fire plan responded to these realties, clearly recognizing that cyclic burning did more to bring the park closer to the ideal of a pristine environment than suppression and concomitant catastrophic fire. The objective of the Bandelier fire plan was to "where possible, re-establish the role of fire as a natural process necessary for the perpetuation of fire-dependent ecosystems." The plan proposed prescribed burns for research purposes, keeping the plots small to keep smoke releases minimal. A rigid schedule of conditions under which fire was allowed was designed, coupled with a careful schedule for preparation of the land and protection of surrounding resources. Such a plan was far from

[32] Dr. Milford R Fletcher, conversation with the author, August 21, 1986; Diane Traylor, "Effects of La Mesa Fire on Bandolier's cultural resources," in Foxx, *Los Alamos Symposium*, 97.

the model of suppression that characterized the plateau through much of the twentieth century.[33]

La Mesa also altered the terrain in which fire and cultural resource management interacted. NPS-18 made suppression of fires that threatened cultural resources an objective of policy, complicating management at many parks with significant cultural resources. Fuel accumulation and stand density on 338,000 unsurveyed acres in Grand Canyon created a management problem. It served resource management purposes to let such areas burn if they ignited, yet NPS policy dictated that suppression was in order on land that had not been surveyed for cultural resources. The park faced the dilemma in 1981, seeking authority to allow natural fires within prescription conditions to burn, even if the area had not been surveyed for cultural resources as required under the amended National Historic Preservation Act.[34] Still, even after La Mesa, cultural resources remained a largely unexplored theme in the redefinition of the role of fire in national parks.

Highlighting the problems with prescribed natural fires – letting natural fires burn – the Ouzel fire at Rocky Mountain National Park even more clearly illustrated the gap between ideas about fire management and the realities on the ground. Ouzel began on August 9, 1978, and when National Park Service lookouts discovered the fire a few days later, park officials decided simply to monitor it. This decision was in accord with the park's wildfire management plan, revised in 1977 after its initial adoption in 1973 and an earlier revision in 1974. The wildfire plan followed the dictates of the revised Green Book and NPS-18, creating a zone in which fire would be allowed to burn and detailing the conditions under which the NPS would monitor it. It also clearly stated that Rocky Mountain's fire prevention program would "eliminate as completely as possible all man-caused fires," accentuating the difference in response to various kinds of ignition. The 1977 plan defined three zones – low, moderate, and high risk – with different variables to mark them. In the low-risk zone, mostly above 10,000 feet in elevation, lightning fires were to be monitored and allowed to burn; in the moderate risk zone, below 10,000 feet in elevation but excluding developed zones, natural fires were allowed to burn when the National Fire Danger Rating System index remained under 14. In the high risks zone, which included the park's developed areas, suppression remained the sole response to fire.[35]

This complex method of response made good sense. By 1977, the National Park Service had developed a complicated vision of fire, combining a burgeoning respect for the value of fire with pragmatic objectives such as the protection of life and property. Even more, the National Park Service operated in the domain of public opinion. Even if allowing fire everywhere had been a desired goal, political and cultural constraints made such a strategy unwise at best. The Rocky Mountain National Park wildfire plan served

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[33] Bandelier National Monument, "Interim Fire Management Plan for Bandelier National Monument," August 8, 1980, Denver Service Center, Technical Information Center 315/D-76, 5-6. 22-23.

[34] Memorandum, Superintendent, Grand Canyon to Regional Director, Western Region, July 20, 1981, Grand Canyon National Park.

[35] Rocky Mountain National Park and Shadow Mountain National Recreation Area, Wildfire Fire Management Plan Part I – Fire Control, 1-2; Rocky Mountain National Park and Shadow Mountain National Recreation Area, Wildfire Fire Management Plan Part II Natural Fires, 1977, Denver Service Center, Technical Information Center, Denver, CO, D-201, 1-2.

as a model, a delicate but judicious attempt to balance the various forces pulling at NPS fire policy.

For more than a month, the National Park Service limited its response to the high-altitude Ouzel fire to monitoring, with park officials deciding daily whether the fire remained within management objectives. During most of the month, the fire remained within the low-risk zone defined in the fire management plan, the area above 10,000 feet in elevation largely composed of Engelmann spruce-subalpine fire forests below the timber line and of grasslands, meadows, and rock fields above it. Rocky Mountain occasionally introduced suppression tactics, but only to keep the fire within the designated low-risk zone. The ongoing effort to assure that the fire remained consistent with the objectives of park management taxed its resources, but largely avoided public rancor.[36] From a management perspective, Ouzel at this point seemed no worse than the Waterfalls Canyon fire, a public relations problem attached to the application of sound science to the question of fire.

The sense of a controllable problem changed as high winds swept the park on the afternoon of September 15 and again on September 16. They caused the fire to make substantial runs outside the management zone, threatening the town of Allenspark, Colorado, just beyond the park border. The NPS reacted too slowly to the wind change. At about 11:30 a.m. on September 15, Rocky Mountain staff predicted that the fire would escape into the moderate risk zone. This prospect triggered suppression activity, but before serious efforts could begin, the high winds created a crisis, putting the town in immediate danger. NPS and local response began in earnest, but it was not sufficient to halt the fire's spread. The town was saved by a fluke of geography. A small ridge deflected the chinook wind up and over the town, sparing it. As the fire spread, the National Park Service requested outside help. A Department of the Interior Class I fire team, the most highly trained specialists in the agency, from the Boise Interagency Fire Center headed to the scene. When the team arrived on September 16, professional suppression efforts began with new intensity. More than 600 people battled the fire. High winds dogged suppression efforts for two weeks, until on September 30, 1978, the fire was declared under control. It was finally extinguished on December 4, 1978.[37]

Ouzel was the first time a prescribed natural fire had genuinely threatened a community. Waterfalls Canyon at Grand Teton in 1974 served as a precedent for the National Park Service, but because it was both slow-moving and far from the town of Jackson, its only direct impact was the unpleasantness of smoke. The people of Allenspark felt the real threat of a wildfire that had been permitted to continue to burn by a public agency. As was any such fire, Ouzel was a significant public relations and constituency problem for the National Park Service. It reprised an older split between national and local constituencies about the western environment. While *Time* magazine might espouse the NPS perspective on natural prescribed burning, as it had at Waterfalls Canyon in 1974, many people in north central Colorado perceived only a threat to their homes due to the irresponsibility of a federal agency. Persuading the public of the value

[36] Ibid., 2-4; Richard D. Laven, "Natural Fire Management in Rocky Mountain National Park: A Case Study of the Ouzel Fire," in *Conference on Scientific Research in the National Parks*, Proceedings of the Second Conference on Science in the National Parks (San Francisco, CA, Sept. 26-30, 1979), 37.

[37] Laven, "Natural Fire Management in Rocky Mountain National Park: A Case Study of the Ouzel Fire," 39-41.

of fire was a difficult task made worse when it threatened their homes. In a loud statement of the belief that federal fire management had failed, Boulder County actually fined Rocky Mountain for violation of local air quality statutes.

The Ouzel fire assaulted National Park Service management on two levels. It challenged the orderly structure the NPS developed to manage fire, illustrating what the emphasis on process seemed to overlook: that fire would not easily conform to administrative dictates. The NPS followed its fire management plan at Rocky Mountain; the results were not what officials intended. In addition, the Ouzel fire cost the NPS the trust of its neighbors at Rocky Mountain National Park, and by implication, the neighbors of any park where fire ran the risk of escaping its human monitors. To those outside the government, NPS policy seemed to place nature above people, a prospect that galled residents of the gateway communities that surround national park areas across the country. Earning back the confidence of local communities was crucial, but it would be an extremely difficult process for the National Park Service.

Pressure from the communities surrounding Rocky Mountain compelled the NPS to explain its choices and suggest new remedies and strategies even while the fire still burned. On October 3, 1978, days after the fire was declared under control, but well before it was extinguished, Superintendent Chester L. Brooks called for a board of review to investigate the fire. Kenneth Ashley, associate regional director for the Rocky Mountain Region, was selected as chair. Herman Ball, a fire management specialist from Region 2 of the Forest Service, Ron Gosnell, the Boulder County district forester for the Colorado State Forest Service, Richard D. Laven, assistant professor of forest fire ecology at Colorado State University, and Robert Sellers, an NPS fire specialist at the Boise Interagency Fire Center, comprised the committee. They received three charges: to assess the adequacy of Rocky Mountain's fire plan, especially its provisions for natural fire management; to determine whether the implementation of that plan was sufficient; and to review the park's suppression efforts once Ouzel was determined to be a wildfire.[38]

With stunning candor, the review board offered an indictment of the application of existing policy. The park's wildfire management plan provided one target. The board found that deficiencies in the plan "may have conspired to prevent users of the plan from making proper decisions." The reviewers regarded the plan as a statement of philosophy, not an operational directive, exposing a glaring hole in NPS preparation. Rocky Mountain had an exemplary fire plan, written by David Butts, the future head of the Branch of Fire Management. The critique strongly suggested the need for internal rethinking of the park's fire management procedures and practices. The report pointed to a lack of information about the park's fire history, inadequate emphasis on external considerations such as air quality, adjoining development, and the increasingly urban character of surrounding lands as causative factors in the park's unfortunate situation. The three concerns encapsulated the history of NPS fire management issues: too few resources, too little scientific information, and a public that did not understand NPS objectives with regard to fire. The review pointed out that Rocky Mountain's plan did not "pinpoint responsibility for decision making," nor did it establish qualifications for personnel to

[38] Laven, "Natural Fire Management in Rocky Mountain National Park: A Case Study of the Ouzel Fire," 41; "Board of Review Report for the Ouzel Fire, Rocky Mountain National Park, Colorado, November 8-9, 1978," Glacier National Park, Fire Collection 1910-1984, 306-11.

implement the plan. Existing park planning did not contain available alternative measures to account for contingencies such as when fire exceeded a prescription, nor did it include a "precise and separate" action plan. Its criteria for prescriptions to manage natural fire were unclear and insufficient, the reviewers noted. Simply put, the park needed more than Burning Index guides. All in all, the report was an indictment of existing fire policy at Rocky Mountain National Park and the National Park Service.[39]

Yet the policy at Rocky Mountain National Park in 1978 was more than typical of national park areas at the time. It reflected a stage in the evolution of the Service's fire management, for it was more a philosophical statement than a way to actually implement fire management. The enthusiasm that NPS personnel showed after 1968 led to the rapid introduction of fire management objectives, sometimes without enough science or planning to adequately support their objectives. The situation at Rocky Mountain National Park was not unique; it could have happened at any of a number of parks. The problems reviewers found were by no means specific to the Front Range of the Rocky Mountains: they reflected the evolution of NPS fire policy to that time.

The board of review offered a number of ways to improve Rocky Mountain National Park's response in future fire episodes. The report stated that the natural fire management plan should clearly describe contingencies under which suppression would become necessary, pointing to situations where resources were not sufficient to support the existing natural fire plan as a primary source of situations of confusion. The reviewers pointed to a tendency of park personnel to wait until after the fact to assess deficiencies, a strategy they regarded as detrimental to the planning process. Instead, the report insisted that the NPS needed to bring the best expertise to the planning process, not reserve it for the aftermath of fires. The development of better fire management units, more clearly delineated by fire history, vegetation types, fuel loading, elevation, and other factors would improve planning and encourage better decision making. The authors advocated considering prescribed fire – the intentional setting of fires – as an additional management tool for the park. More public comment was necessary, not only because of legislation such as the Resource Conservation and Recovery Act of 1976 (RCRA) that made public input a requirement but also because such interaction built support for NPS programs and created a constituency that would support the Service during difficult times.[40]

The report also found fault with the implementation of the park's plan. Although the board of review found that Rocky Mountain's monitoring procedure met NPS standards and functioned well, implementing them proved to be a far more difficult task. Observations of the Ouzel fire were sporadic and incomplete, the review found, and park personnel lacked appropriate information. Spot weather forecasts were not requested in a consistent manner, and as a result, even though meteorologists anticipated the change in conditions, the park did not have sufficient warning about the conditions that erupted on September 15. Fire monitors had not always received clear and comprehensive instructions about their duties. The review board discovered that field notes were almost

[39] "Board of Review Report for the Ouzel Fire, Rocky Mountain National Park, Colorado, November 8-9, 1978," Glacier National Park Archive, Fire 1910-1984, Box 306-11.

[40] "Board of Review Report for the Ouzel Fire, Rocky Mountain National Park, Colorado, November 8-9, 1978," Glacier National Park, Fire Collection 1910-1984, 306-11; Resource Conservation and Recovery Act of 1976 42 USC 6962, October 21, 1976.

nonexistent; most monitors relayed information by the airwaves. Radio logs comprised the sole written record. “It appears to the Board that the opportunity to gather important data was lost,” the report sternly stated.[41]

The critique was harsh, but it articulated widespread problems in the NPS fire management process. Some observers saw the review as a face-saving gesture, an attempt to cover the inadequacies of policy by blaming the process of implementation. Yet such a charge was premature. At Ouzel, the NPS learned that letting fire burn was not necessarily an ecological and political solution to fire management issues. The fire illustrated the ways in which the National Park Service fire management apparatus had not yet reached maturity. The NPS fire management program remained idiosyncratic, subject to the predisposition of superintendents as well as being perennially short of the resources necessary for implementation. Again, the problems at Rocky Mountain National Park reflected the larger issues of the park system as a whole.

The reviewers constructed their own version of the path that took the Ouzel fire out of control. In this iteration, the blaze went beyond prescription boundaries on September 5, at which time the park’s fire committee opted to continue to let the fire burn. This declaration of culpability could easily be regarded as perfect hindsight, but as part of its after-the-fact assessment, the board pointed to a number of factors that contributed to its determination. One part of the fire dipped below 10,000 feet in elevation, entering the moderate risk zone, where fires were only allowed to burn if the Burning Index was below 14. The higher number of the index that day should have triggered suppression, the reviewers said. The organized local and regional fire response crews that should have been available to Rocky Mountain were busy at other fires, an absence that should have warned park leaders to be cautious. Spotting and crowning combined with the higher Burning Index to create erratic behavior, another trigger for suppression.

The review of the Ouzel fire pinpointed some of the most important problems associated with new strategies of fire management. First and foremost, funding was essential if parks were to achieve their management goals. One of the review board’s most significant criticisms was that Rocky Mountain’s plan, wholly adequate as a response to fire, was not appropriately implemented. Between the lines, the reviewers intimated that successful application of the management plan would have prevented the problems that arose. This assessment was simultaneously far-sighted and disingenuous. It accurately described a crucial issue that dated from the beginning of the National Park Service, the lack of adequate resources to meet obligations, even as it committed the fundamental and base error of treating wildfire as a bureaucratic category subject to the dictates of a management plan.

At about the same time, Congress added new holdings that transformed not only the national park system, but also its response to fire. As a result of the first serious attempt to adjudicate the land claims of Alaskan natives, the National Park Service acquired what in effect became an another national park system in Alaska. The Alaska Native Claims Settlement Act of 1971 (ANCSA) allowed the Secretary of the Interior to set aside as much as 80 million acres of public land in Alaska for inclusion in federal land reservations. A seven-year dispute ensued, and when no resolution appeared likely prior

[41] “Board of Review Report for the Ouzel Fire,” 306-11.

to the December 18, 1978 date on which withdrawn lands reverted to public domain, President Jimmy Carter proclaimed fifteen new national monuments and expanded two others under the terms of the Antiquities Act of 1906, eleven of which the NPS was slated to administer. Two years later, the staunchly anti-environmental Ronald Reagan won the 1980 presidential election. Before he took office, Congress offered the nation a lame-duck conservation gift, the Alaskan National Interest Lands Conservation Act (ANILCA). Under its terms, many of the national monuments established in 1978 became national parks or preserves, and the national park system gained more than 51 million acres in Alaska.[42]

The new Alaskan parks presented an enormous challenge for fire managers. The acreage added in 1978 was significantly larger than the entire national park system in the lower forty-eight states and Hawaii. Although the NPS remained focused on the crown jewels of its system – Yellowstone, Yosemite, and their peers – the burned areas in Alaska and in Everglades National Park and Big Cypress National Preserve dwarfed the burned area in those premier parks. Fire response in Alaska compelled cooperation with federal, state, and Native Alaskan entities. The boreal forest burned in an episodic fashion, making it impossible to build up and maintain a large fire-response force year after year, simply waiting for the one that brought the big fire season.

Alaska reprised an earlier kind of fire landscape, one in which the nature of fire overwhelmed the human ability to respond. This reality, combined with the dictates of wilderness management – so fundamentally contrary to the ideals of suppression – encouraged the practice of allowing prescribed natural fire. Suppression had not been a characteristic feature of the Alaskan landscape as it had in the lower forty-eight states. Suppression in Alaska only really began with statehood in 1959, and developed in the late 1960s. This obviated many of the problems of heavy fuel load that so dogged parks with suppression histories. Even more, the size of the new parks guaranteed that fire would be a constant presence. Lightning fires far from human eyes were endemic in the new Alaskan parks. In most instances, these fires burned beyond the reach of park staff. When they were aware of such distant fires, they often lacked the resources to respond.

In Alaska, the Bureau of Land Management (BLM), the agency created from the 1946 merger of the Grazing Service and the General Land Office, served as the dominant federal land management agency. Prior to ANCSA, BLM holdings in Alaska comprised most of the state at more than 130 million acres. BLM was an unwieldy entity that included the Alaska Fire Control Service and it had a strong desire to compete with the Forest Service as the toughest of fire-fighting agencies. This basis for fire protection left the BLM to struggle in Alaska. Its bureaus and agencies were poorly prepared for managing the vast Alaska land mass. After 1949, BLM received special firefighting appropriations for its Alaska operations, allowing the agency to control its own fire suppression machinery. In turn, this began a process of nationalizing fire response in the

[42] Hal K. Rothman, *Preserving Different Pasts: The American National Monuments* (Urbana: University of Illinois Press, 1989), 226-30; Donald Craig Mitchell, *Take My Land, Take My Life: The Story of Congress's Historic Settlement of Alaska Native Land Claims, 1960-1971* (Fairbanks: University of Alaska Press, 2001), 337-542; David S. Case, *Alaska Native and American Laws* (Fairbanks: University of Alaska Press, 1984), 14-20.

state. In the way that the NPS challenged USFS fire policy, the BLM challenged the mechanics of Forest Service fire response.[43]

National park areas had been an important part of Alaskan history throughout the twentieth century, but the National Park Service rarely enjoyed the largesse of resources to devote to its far north assets. Only Mt. McKinley National Park, later re-designated Denali National Park, received substantial funding; other park areas, from Sitka National Monument to Glacier Bay National Monument, languished without comprehensive investment by the NPS. Many national park areas in the state were served by volunteer custodians; others were staffed on a seasonal basis.[44] This resulted in a glaring absence of NPS staff in Alaska long after the same condition had been resolved in the lower forty-eight states. The NPS needed peer agencies to help with its Alaska parks. Its relationship with the Bureau of Land Management (BLM) far exceeded any ties to the Forest Service throughout the 1950s, and as parallel entities in the same department, NPS and BLM found many areas in which to cooperate. BLM had the most highly developed fire response system on public lands in the nation's northernmost state, a direct product of its desire to show the firefighting world that it was as competent as the Forest Service. The National Park Service valued the support it received in the north.

The shift of lands to the National Park Service in 1978 did not include large sums for their management. Use of the Antiquities Act of 1906, the primary tool available to presidents for rapid protection of federal land, did not carry the power to allocate funds. Since the Jackson Hole proclamation in 1943, which led to a lawsuit against the U.S. government, presidents had been reticent about invoking the Act without prior congressional approval. A tacit agreement between the executive and legislative branches existed; presidents could proclaim any national monuments they wanted, but Congress only would fund the ones it approved in advance. The Carter-era national monument proclamations caught the National Park Service in a conundrum. While Service officials were pleased to have the new lands, they had to cobble together resources for their management.[45] The vast quantity of land included in the 1978 proclamations forced the NPS to extend its long pattern of reliance on the BLM in Alaska.

Under the provisions of the 1978 national monument proclamations, BLM provided protection for the lands the National Park Service managed. This delegation made sense to managers; the NPS received an enormous largesse, but in a fashion reminiscent of the early twentieth century, the resources to manage it were absent from the legislation. BLM's dominant role in Alaska made it the logical choice for short-term management. Its fire expertise, experience, and machinery were also a compelling asset. BLM had long provided fire suppression on NPS holdings in much of Alaska, and the NPS looked to the BLM in the aftermath of the 1978 proclamation.[46]

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[43] Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire*, 308-09.

[44] Frank Norris, *Alaska Subsistence: A National Park Service Management History* (Anchorage: NPS, 2002), 46-161; Theodore Catton, *Land Reborn: A History of Administration and Visitor Use in Glacier Bay NP and Preserve* (Anchorage, AK: National Park Service, 1992), 173-90. 253-72.

[45] Rothman, *Preserving Different Pasts*, 230-31; Robert Righter, *Crucible for Conservation: The Creation of Grand Teton National* Park (Niwot, CO: Colorado Associated University Press, 1982), 103-25; William Everhart, *The National Park Service* (Boulder, CO: Westview Press, 1985).

[46] Cooperative Fire Control Agreement Between the Bureau of Land Management/Alaska and the National Park Service/Alaska, April 10, 1979, National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103 File: A 40 ACGP Fire Management Committee, 1-2; Cooperative Fire Control Agreement

The new Alaskan national monuments required the NPS and BLM to redefine their management arrangements. Although the National Park Service had long relied on the BLM for fire protection in Alaska, the NPS operated under the aegis of NPS-18, while BLM retained an older suppression standard that only had been modified as a result of fires between 1970 and 1972. Yet the BLM remained uncomfortable with policies that encouraged the use of fire. As BLM fire specialist William Adams observed in 1974, the Bureau did not have a blueprint for coordinating such activities over the immense spaces of Alaska. Nor did Adams believe that BLM had enough research to develop a viable program. Observed Stephen Pyne, "BLM suppression strategy was challenged, its objectives redefined, and its land base eroded" in the 1970s. These realities led to a redefinition of BLM objectives. "Our philosophy has generally been to hit 'em all, hard and fast, modifying on a fire-by-fire basis," BLM State Associate Director Clair Whitlock explained in 1979. "Now we are coming up with protection standards for the whole area and parcels within it. Those standards will tell the fire men how and when to attack." When the two agencies worked together, the NPS accepted the BLM protection standard on its new holdings. An NPS-designed modified suppression plan was given precedence over the general BLM protection standard on national park lands.

The BLM assumed responsibility for fire detection and suppression on NPS lands with the exception of Alaska Railroad and Parks Highway rights-of-way in Mt. McKinley National Park. BLM officials agreed to train NPS fire staff if space was available, to assist on NPS prescription burns if BLM was reimbursed for its costs, to undertake preliminary investigation of fires where human causes were suspected, and to provide a daily situation report. In return, the National Park Service promised to provide fire prevention programs for national park lands, to rehabilitate its own lands, to report all fires detected on NPS lands to the BLM district office, to collect fire weather data for the parks, and to identify lands that needed protection.[47]

BLM's growing position in fire management was an asset for the NPS that continued the ongoing transformation of the federal response to fire. It furthered the development of a strong Department of the Interior presence in fire management that countered the Department of Agriculture's USFS. In 1978, a decade after the NPS initiated fire management and with an array of internal struggles over the question, the Forest Service finally embraced the use of fire as an ecological value. The 10 a.m. policy and the parallel 10-Acre policy were finally replaced with a program that promoted fire by prescription. By 1978, the revolution in fire practice was complete.[48] Not only had fire management replaced suppression in the Department of the Interior, the Forest Service, where the allegiance to suppression bordered on religion, had finally thrown in with the new approach.

The pressure for greater cooperation among federal agencies in Alaska grew, in part because the structure to support such a goal was already in place. The National Wildfire Coordinating Group, formed in 1973, provided an avenue for different agencies

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Between National Park Service and Bureau of Land Management, Effective April 11, 1972, National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103 National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103.

[47] Ibid., 4; William Adams, "The Role of Fire in the Alaska Taiga: An Unsolved Problem;" "A Fresh Look at Fire," News Release, Bureau of Land Management, April 3, 1979; Pyne, *Fire in America*, 509.

[48] Pyne, *Fire in America*, 303-04; William R. Moore, "From Fire Control to Fire Management," *Western Wildlands* 1 3 (Summer 1974): 11-16.

to work together in a constructive fashion. The Boise Interagency Fire Center (BIFC) offered another avenue for cooperation. In 1978, federal agencies combined in an important experiment in Fortymile, a 12 million-acre section of east-central Alaska. A study team comprised of personnel from the National Park Service, BLM, Forest Service, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, Alaska forestry and fish and game departments, and the Doyon Regional Corporation, an Alaskan Native corporation, assessed the many approaches to fire and assembled a fire management plan. The Fortymile effort was the first of its kind, a harbinger of greater cooperation in the lower forty-eight states as well as in Alaska. "If it can work here, where land plans are as complicated as anyplace in the United States, it can work anywhere," the BLM's Whitlock insisted. "And it will work. You'll see."[49]

The Fortymile effort created the context for cooperation. David Kellyhouse of the Alaska Department of Fish and Game, the leading proponent of the value of fire for wildlife habitat in the state, championed the Fortymile project and proposed its use as pilot area for the development of revised management standards for Alaska. A dynamic program that paved the way for future management reform ensued. Even with the state's acceptance of the Fortymile project, the federal agencies had to learn to respect each other's policies and strategies. "I'm sure you appreciate our desire to avoid dividing individual [national] monuments into too many planning units," NPS Fire Management Officer William Paleck reminded Whitlock in September 1979. "We, in turn, appreciate the need to follow natural boundaries and maintain the integrity of fire zones within the state." By early October, the Fortymile fire plan was complete, and the Alaska Land Managers Cooperative Task Force selected two new areas, the Kenai Peninsula and Tanana-Minchumina, as candidates for the immediate development of fire management plans. An interagency public information program was planned as well.[50]

The new relationship was not perfect, for the line between fire suppression and management often was hard to distinguish. Along this fulcrum, NPS and BLM's vision diverged and their philosophies contrasted in ways that the NPS found detrimental to its objectives. In 1980, Paleck notified the Fire Organization Working Group that the Service favored a single suppression support organization, but would retain control of fire management planning on NPS lands. David Butts of the Branch of Fire Management summarized the differences that prompted Paleck's plans. The BLM regarded fire suppression as something apart from resource management, a perspective that did not work for the NPS. National Park Service officials in Alaska saw fire management as a complete process that included prevention, presuppression, suppression, and prescribed fire, all in the service of larger resource management goals. By 1981, Butts saw BLM leaving the NPS out of the decision-making process, and he saw a "high potential for confusing or possibly even contradictory actions" by BLM. The difference between the two perspectives meant that the NPS had to accept direct management responsibility for a number of functions for which it had long relied on BLM. "The National Park Service will pursue a fire management program in Alaska that addresses the resource

[49] "A Fresh Look at Fire."

[50] David Kellyhouse, "Presentation to the Fire Management Subcommittee of the Alaska Land Manager's Cooperative Task Force, November 1978; William Paleck to Claire Whitlock, September 28, 1979, Alaska 6; Alaska Land Managers Cooperative Task Force, Fire Subcommittee Status Report, 10/2/79, Alaska 15.

management needs of its areas," Butts said. "This in general will mean the development of prescribed fire management capabilities in those areas."[51]

Alaska presented among the most demanding operational fire situations ever faced by the Service. As Butts predicted, the Service would have to handle prescribed natural fire alone. The amount of work was immense, the demand for resources insatiable, the possibilities frightening, and everything had to be decided immediately. In Alaska, "one of the fun things was the fact that we didn't have time to think," recalled John E. Cook, who served as director of the Alaska Area Office beginning in 1979 and became regional director on December 2, 1980, when the Alaskan national monuments became national parks and the Alaska Regional Office was created. Cook remained in the north until 1983.[52]

Cook understood the pace of work and the need for dramatic and bold action. In 1980, before the 1982 agreement that solidified the relationship, the NPS had assumed responsibility for suppression on its Alaska lands from the BLM, but found itself unprepared for the responsibility. Under the arrangement, the BLM agreed to provide basic suppression services for the immediate future. The NPS was to provide the Land Manager's Representative (LMR), which Cook described as the surrogate for the superintendent in fire situations. The fire boss of any specific blaze would report to the LMR. "This is an important step which can not be delayed due to the breadth and scope of the environmental and economic impacts of fire suppression within the State as well as changing agency roles and relationships in Alaska," he informed other regional directors. "We need your help."[53]

Cook's dilemma was simultaneously simple but insoluble. In Alaska, the NPS lacked enough people who could serve as LMRs in the case of a significant fire year. The BLM, already in transition as a result of the fire circumstances of Alaska, was generous in its willingness to support the NPS; Cook needed to be able to match its peer agency's support with NPS resources. "I am asking the Regional Directors to assist us by providing the nomination of any qualified individuals for detail assignments as Land Manager's Representative," Cook beseeched his colleagues. "No one looks forward to the day when we in Alaska can supply as much assistance to other regions as we have received, more than I. Until then, I hope that you will continue to support high priority concerns such as this as graciously as you have in the past." [54]

With the debut of the BLM Level I draft plan in March 1981, the BLM emphasis shifted toward suppression on the newly designated Native lands. This change and the ongoing focus on suppression as NPS fire managers pursued different paths, limited BLM's effectiveness for the broader-based NPS management policy. By October 1981, differences had overwhelmed the cooperative ethos and the relationship had crumbled over the wording of a BLM departmental manual. Each time NPS officials felt they had acceptable language, BLM offered further revisions. The situation has been "time

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[51] William Paleck, "Memo to Fire Organization Working Group," February 8, 1980; "Briefing Statement: Fire Management, Area of Interest: Departmental," February 19, 1981, David Butts, Issue: NPS/BLM Interaction on Fire, National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103.

[52] "A National Park Service Career: A Conversation with John E. Cook," interviewed by Richard W. Sellars, January 11-12 and April 4, 2000, 63.

[53] Director, Alaska to Director, Rocky Mountain Regional Office, February 13, 1980, Yellowstone National Park Archives, Y-248, Yellowstone National Park.

[54] Ibid.; Pyne, *Fire In America*, 509-13.

consuming and frustrating on the part of both of these staffs," Butts asserted. "The role of Alaska BLM to provide logistical support, retardant aircraft, smokejumpers, etc., is not challenged by us," he continued. "But the Bureau of Land Management can not and is not in a position to provide monitoring of prescribed natural fires" that occurred on national park lands. The BLM had sought to prove it was as good at suppression and firefighting as the USFS, so it adopted a hardcore suppression approach based heavily on smokejumping. This did not last, but it complicated discussions between the two Interior agencies. The BLM behaved like the old USFS and Butts felt that the situation intruded on the authority of the National Park Service. If BLM handled fire suppression on Fish and Wildlife Service lands as well as on Native lands, the pressure on the NPS to allow suppression would be enormous. He proposed maintaining the ongoing suppression arrangement, but writing a revised "fire management program, which will be the primary tool in resource management for Alaskan natural area parks." This translated into a different vision of policy: "The National Park Service does not intend duplicating BLM suppression capabilities or forces, but does intend to complement them in order to accomplish full spectrum fire management programs within the national parks."[55] Different in its needs, the NPS decided it would have to go it alone – with all the responsibility that departure from the cooperation arrangement entailed.

Pressure from the highest levels of the Department of the Interior helped the National Park Service clarify its position and responsibilities. NPS Director Russell Dickenson strongly and successfully argued for an articulation of the difference in the Service's mission. Dickenson persuaded Assistant Secretary of the Interior for Fish and Wildlife and Parks G. Ray Arnett to advance the NPS perspective. Arnett informed his counterpart, Assistant Secretary of the Interior for Land and Water Resources Garrey E. Carruthers that the Department of the Interior "should pursue a course of action that accommodates the necessary variation among the bureaus as long as they are not redundant." During the Reagan administration, under Secretary of the Interior James Watt –who challenged conventional conservation at every opportunity and promised the press that he would "use the budget system to be the excuse to make major policy decisions" that strangled programs he did not like – this stance reflected a broader vision of the NPS mission than was typical among senior Department of the Interior officials at the time.[56]

A new interagency agreement quickly resulted. A temporary secretarial order had been issued in December 1981, and the agencies formalized a new policy over the winter, before the summer fire season started. Under it, BLM's role changed dramatically. It relinquished administrative responsibility for more than 200 million acres of Alaska, but retained its primary leadership role in fire suppression even as those lands turned over to the state of Alaska, Alaska Native corporations, and Department of the Interior agencies. The result was a forced compromise, essential to management of the far north. The NPS entered into the fire management program that became the "primary tool in resource

[55] "Briefing Statement: Alaska-Fire, Area of Interest: Departmental," October 19, 1981, Background; National Park Service, Alaska Region, Issue Statement: Fire Management on National Park Service Lands in Alaska, October 22, 1981, National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103.

[56] Memorandum, Assistant Secretary for Fish and Wildlife and Park to Assistant Secretary, Land and Water Resources, January 7, 1982, National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103; Lance Gay, "Environmentalists Enlist Andrus in War Against Watt," *Washington Star*, June 7, 1981, 3.

management for Alaskan natural area parks." The BLM established the Alaska Interagency Fire Command in Fairbanks as the central fire response facility. This sole statewide fire suppression organization served as the "initial strike force against wildfires" on almost 300 million acres of Department of the Interior lands. The BLM's arrangement with the NPS was formalized with a new interagency agreement in May 1982.[57] Even in an era when the Secretary of the Interior was an unabashed opponent of conservation, fire was too threatening and its management too important to be left in chaos to hew to the anti-federal line common in the Reagan administration.

The problem in Alaska was a reprise of an historic NPS condition. The combination of limited resources and vast acreage made complete suppression a tactical impossibility. It was as if Alaska in 1980 replicated 1920s conditions in the national parks. Suppression required full-out deployment of available resources and the Alaska office did not have enough at its disposal in the case of extreme circumstances. Suppression could be undertaken on BLM's terms – when it was close to transportation corridors and population centers. The circumstances put Cook and the Alaska NPS office in the position of supplicants.

The NPS's resources for fire suppression remained vastly limited in comparison with the BLM, and to earn credibility, the Service had to contribute to the national pool from which it drew so often. In 1981, the NPS Office of Fire Management announced a pilot program to create three crews to "assist all land managers with their fire problems." Known as Arrowhead No. 1, No. 2, and No. 3, the crews were designed to meet the specifications for full-service Class I teams. The NPS crews were comprised of nineteen people, including a crew boss and three squad bosses. They were expected to provide support for the initial response of parks and to contribute the NPS's share of the interagency fire crews.[58]

This was the situation in which Brad Cella found himself when he arrived at Wrangell – St. Elias National Park in 1982. A veteran of Yosemite and the resource management training program so critical to developing resource management expertise in the NPS, Cella said he shook his head thinking, "I know they could have got someone better than me to be the first resource manager at the largest national park in the nation." When he arrived, region/area wide fire planning in Alaska had just begun. William Paleck who had formerly been the regional fire management officer, had become chief ranger at the park. Cella was reporting to one of the most experienced fire management people in Alaska. Paleck "was willing to let me run with fire because he could watch what I was doing," Cella recalled, and he became the National Park Service representative to the Copper Basin fire planning effort.[59]

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[57] National Park Service, Alaska Region, Issue Statement: Fire Management on National Park Service Lands in Alaska," October 22, 1981; Bureau of Land Management Press Release, "BLM Establishes Interagency Firefighting Command in Fairbanks, Alaska," January 22, 1982, National Archives, Pacific Alaska Region, RG 79, Y-14; "Interagency Fire Suppression Agreement between the Bureau of Land Management (Alaska) and the National Park Service (Alaska), May 19, 1982, National Archives, Pacific Alaska Region, RG 79, Box 1, 79-01-A1103.

[58] Memorandum, Chief, Fire Management to All Regional Directors, attn: Fire Coordinators, April 14, 1981, Glacier National Park, Fire Collection 1910-1984, 306-11.

[59] Brad Cella, interview by Hal Rothman, September 27, 2002.

Fire management in Alaska evolved into the most integrated and comprehensive interagency cooperation in federal land management. When representatives of the land management agencies sat down to discuss their options, each proposed its vision of the situation. Then the negotiations began. "The attempt was to try to ignore agency boundaries and look at the fire environment and look at the values to be protected," Cella recalled. "I think the absolute key was that we talked about values, not each others values. I didn't try to tell the Forest Service what was important to them or the BLM what was important to them. And they, by and large, didn't try to tell me what was important to the National Park Service." The negotiations focused on "how we could draw a line on a map," Cella observed, "but it wasn't over our values. I think it really kept us out of a lot of sticky stuff." [60]

The combination of agency programs and experience yielded significant results at all levels. The National Park Service became an important component of the Boise Interagency Fire Center, which became the National Interagency Fire Center (NIFC) in 1993. In no small part, the intensive cooperation that led to NIFC grew out of the cooperative experience of Alaska. Long a debtor to other federal agencies when it came to fire resources, the NPS became a significant contributor to interagency fire efforts. In 1986, the Service participated in 159 mutual aid dispatches, in which 28,761 acres of other agencies' land burned. The NPS participated in the national mobilization of fire-fighters in August, 1986, the second year in a row that such action had been necessary. Five-hundred and twenty-eight NPS firefighters and staff personnel were dispatched to western fires, and engines from the Western Region and a helicopter from the Rocky Mountain Region contributed to suppression efforts. In Alaska, an NPS fixed-wing aircraft played an integral role in interagency suppression efforts. In turn, several NPS fires also required outside assistance. Five "project fires," as such blazes were labeled, required 1,050 firefighters and staff from other agencies as well as the use of twenty aircraft. The NPS had a net gain in 1986. It received more help from other agencies than it provided even during the mobilization in August.[61]

Throughout the NPS, the goals of fire management were implemented in a systematic fashion. The change was palpable; from 224 acres in ten prescribed burns in 1977, the National Park Service engaged in 108 burns that covered 36,024 acres in 1986. Wildfires remained more random. 1981 and 1986 were brutal years, with fires covering 95,055 acres in 1981 and 119,976 acres in 1986, but they were aberrations. According to the NPS, a more typical year saw wildfires burning around 20,000 acres. More telling, 145 prescribed natural fires covered 75,491 acres in 1986, but this resulted in no small part from the increased fire throughout the park system that year. More typical was a prescribed natural fire total annual burn in the 20,000-acre range.[62]

1986 also served as a harbinger of a more dangerous and difficult future. Around 1985, what has become a 20-year drought cycle began, interrupted by a wet period between 1989 and 1992. From the mid-1980s, federal agencies had to impose their policies against the pressure of the long drought. This confluence provided a partial explanation for why more has not happened. 1986 became the worst year in National

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[60] Ibid.

[61] Judi Zuckert, "National Park Service, Wildland Fire Report, 1986," (Boise, ID: Branch of Fire Management, 1987), 1-2.

[62] Ibid., 9-10.

Park Service fire history; the 195,467 acres that burned in wildfires and prescribed burns was the highest total in recorded NPS fire history up to that time. This total followed a difficult previous year, in which fires burned across more than 2.8 million acres of public land throughout the country.[63] Although the fire's impact on the National Park Service in 1985 had been muted, the overall trend and the increasing interdependency of interagency fire response gave NPS fire personnel concern about the future.

The following year was even worse. The 1987 fire season required the largest mobilization of personnel and resources to fight fire the history of the federal government. Every federal agency in the West contributed a higher level of resources than ever before. Nearly 2.5 million acres burned in 71,300 fires nationally. The NPS experienced a heavy year as well, with 704 wildfires suppressed after burning on almost 39,000 acres. Prescribed natural fires were also significant; 129 such fires burned 12,761 acres. The NPS continued its prescribed fire program as well, with 111 prescribed fires burning on 28,893 acres. During the first half of the year, fires in the Southeast and Southwest confronted the NPS, but the greatest demand on Service resources followed outbreaks of fire at the end of August. As California and Oregon burned – in one California fire, 580,000 acres burned in less than two weeks – the NPS contributed to interagency efforts. More NPS fire personnel assisted other agencies in 1987 than in any previous year. The Service dispatched more than 1,100 NPS firefighters to the West Coast blazes, also contributing to fire-fighting efforts in Washington and Idaho and taking all kinds of labor from their home parks. The system required trade-offs and had serious long-term costs.[64]

The fires forced nearby national parks to respond with emergency measures. Near the worst of the Oregon fires in the Siskiyou National Forest, Oregon Caves National Monument readied evacuation plans; at Yosemite, during the Labor Day holiday, one of the busiest weekends of the year, the fires in the Stanislaus National Forest spread into the northwestern part of the park, threatening the Merced and Tuolumne groves of giant sequoias as well as nearby communities of Hodgdon Meadows, Crane Flat, and El Portal. The park closed roads and campgrounds as a precaution and some NPS employees were evacuated from the communities.[65] Such disruption was uncommon, but not unprecedented. It further underscored the ever-present threat of fire to the national park system.

Threats from fires outside national parks posed significant management problems at Sequoia and Kings Canyon, but in one major instance, earlier prescribed burning obviated what otherwise might have been dire consequences. The Pierce fire, which started on the Sequoia National Forest, showed extreme behavior, crowning and burning giant sequoias outside the park boundary. When it swept into the park, into a section of the Redwood Mountain grove, the scene of one of the first prescribed burning programs in the system, the reduced fuel load could not sustain the fire, and it was controlled with handlines. The park's sequoias were not damaged, solid evidence of the efficacy and long-term value of prescribed burn programs.[66]

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[63] Ibid., 1.

[64] Judi Zuckert, "National Park Service, Wildland Fire Report, 1987," (Boise, ID: Branch of Fire Management, 1988), 1-2.

[65] Ibid., 2.

[66] Ibid., 2.

The 1987 fire season further illustrated one of the ongoing problems of fire management. The transition to using fire to control fire had not happened quickly enough. Much of the land touched by fire had been subject to suppression for a long time, analysts recognized, creating the conditions that caused the worst fires. NPS fire personnel could take heart; the most severe and the most dangerous fires were not on NPS lands. It was easy to embrace the limited burning programs on NPS lands and point to them as proof of success of the theory of controlled burning. Yet, millions of acres that had been subjected to suppression remained adjacent to or near national park lands, dramatically increasing the threat to national park lands throughout the country. The three years of 1985, 1986, and 1987 suggested that the bill for suppression was coming due. In each successive year, fires worsened and managers viewed the situation with growing trepidation. From their perspective, the successes were small in scale, the threats enormous and growing. Even worse, the faith in prescribed burning and prescribed natural burning had not been matched by action, and NPS lands themselves contained millions of acres that had been subject to suppression for a long time and had not yet been reached by fire management efforts. While the tendency was to regard such lands as one of the consequences of the huge expansion of Alaskan national park lands, the problem was more widespread.

On another level, the fundamental fight was one of values. Once it understood the advantages of wilderness, the NPS was in a position to utilize the values of the growing wilderness and ecology movements as part of its intellectual rationale for the use of prescribed fire. This convergence granted a considerable grace period and created enough public goodwill to allow the NPS to experiment. The Forest Service lacked such leeway; its mission and history cast its objectives in a clear way. The public regarded the USFS more narrowly; once again the NPS's role as the preserver of American heritage allowed it the room to change while its peers were stymied. Yet the conundrum illustrated how the argument for a science-based solution was always about values and politics. When changes occurred often meant as much as what those changes were.

Another issue was the ever-growing gap between the ideas about fire management and the ability to implement them. The NPS had begun to solve resource problems with FIREPRO and other programs, and the interagency cooperation embodied in the National Interagency Fire Center provided a crucial assist. But theory and practical implementation remained far apart. In theory, with enough resources and an ideal political climate, fire managers could remove the threat of conflagration from national park lands. In reality, this faith was a dangerous proposition, an idea that while true, contributed to obscuring larger structural problems that dogged NPS fire management from top to bottom. The mechanisms that had been developed were state-of-the-art science, backed by clear and at their peak, sophisticated management programs. What they could not do was guarantee implementation of such plans, locate and deliver enough resources to control unruly fire when it occurred, and accurately predict where such fires would come from. Despite a decade of fire management, the process remained a hit-or-miss endeavor. The NPS had what it needed. It simply could not predict where the fire would come from or whether all of its resources would be enough to battle a substantial blaze.

By the late 1980s, a tremendous amount had been accomplished. The decade since the implementation of NPS-18 had been revolutionary. "Fire control," the

overarching philosophy of suppression for its own sake, had been eliminated, replaced with an infinitely more sophisticated balance of the use of fire, its introduction, and suppression. The NPS weathered disasters such as the Ouzel fire, which conversely strengthened management by leading to the establishment of the Branch of Fire Management. After all the confusion of a decade of transition, the NPS had much to its credit. It was becoming professional in fire management, and as the USFS continued to slide, it rose to the forefront among the federal agencies.

Yet the premises these changes hinged upon were subject to challenge by fire itself. The fantasy that fire was simple, and that planning, science, and organization could bring it to heel had been shattered in reality, but not yet accepted on the ground. The destruction of the ideal had begun at Ouzel, but the lesson did not take very well. The enthusiasm and vigor with which fire management had been born continued. The emphasis on science and planning, two important watchwords in the post-1960s National Park Service, made experienced professionals less cautious about the realities they knew than they could have been. Fire planning blossomed but, without a comprehensive review process, varied in quality. The best park fire plans were remarkable for their clarity and depth, their foresight and comprehensiveness. Others remained idiosyncratic; they strongly reflected local sensibilities but ran the risk of not comprehending, much less achieving national objectives. The successes of the decade – the interagency cooperation, a nomenclature change that reflected the growing interdependence of Department of the Interior agencies and their independence from the Forest Service – signaled notable transformations. They pointed to a new beginning, a step beyond the possibilities a mere decade before.

Fire management remained an uneven proposition in the NPS. Yosemite, Sequoia and Kings Canyon, Glacier, and Everglades led the way. Differences in management policy did not keep the new parks in Alaska from the forefront of interagency cooperation. Yet despite its long fire history, Yellowstone did not stand in the front rank of fire management planning. As the spring of 1988 approached, the nation's first national park had an approved fire plan that dated from 1972 and reflected the concerns of that era. This seemed innocuous, but it proved ominous, a portent of an explosion of nature and an implosion of policy that rocked the foundations on which fire management in the National Park Service rested.