

Part II:
Put Fire Back In . . .
But When, Where, and How?

Chapter 5:

Allowing Fire in the National Park System

“The presence or absence of natural fire within a given habitat is recognized as one of the ecological factors contributing to the perpetuation of plants and animals native to that habitat,” attested page 17 of the 1968 *Administrative Policies for Natural Areas in the National Park System*, the “Green Book” that compiled the administrative and management policies for NPS natural areas. Fires would be allowed to “run their course” when fire remained within pre-established boundaries and such burning contributed to management objectives. Similar changes appeared in the Blue and Red books, the Service policies for recreation and historic areas. This was indeed a revolution, a complete restructuring of the National Park Service’s approach to fire. After fifty-one years of NPS history and nearly a century of reliance on fire suppression in the national parks, the National Park Service embraced a new vision of the role of fire and the obligations of managers in the national parks.¹

Those few understated sentences that described this new policy did not do justice to the immensity of the transformation that implementation required. For almost 100 years, the goal of U.S. land management agencies had been to put out every fire in every national park, indeed every fire on public land in the United States, as quickly as possible. Not only did the new policy discourage suppression, it actively encouraged prescribed burning, the intentional setting of fire to achieve natural resource management objectives. The very idea that the NPS would initiate fire to craft landscapes to its objectives struck many as veritable heresy. Fire had been the enemy for so long that the concept that it could be a useful tool offended the sensibilities of generations of NPS staffers. Anyone who opened the Green Book could see that a new era in management had begun; suppression was no longer the singular goal of NPS fire policy.

The introduction of fire as a tool in NPS policy reflected larger changes in federal philosophies and in American society in general. Federal land management underwent radical revisions in the 1960s, first in a response to an energized and sometimes intransigent public and then as new congressional statutes transformed the climate in which federal agencies managed. The generation-long pressure for wilderness preservation that began with Howard Zahniser and The Wilderness Society and David Brower and the Sierra Club generated a spate of new legislation at precisely the moment that the wider public embraced the new set of values labeled “environmentalism.” This remarkably concentrated period of lawmaking gathered momentum throughout the 1950s and reached an initial peak with the passage of the Wilderness Act in 1964. It culminated

¹ National Park Service, *Administrative Policies for Natural Areas of the National Park System* (Washington, D.C.: US Government Printing Office, 1968), 17; National Park Service, *Administrative Policies for Recreation Areas of the National Park System* (Washington, D.C.: U.S. Government Printing Office, 1968), 20-21; National Park Service, *Administrative Policies for Historical Areas of the National Park System* (Washington, D.C.: U.S. Government Printing Office, 1968), 20, 36, 60.

in the National Environmental Policy Act of 1970 and the Endangered Species Act (ESA) in 1973 and continued through the five-year reauthorization of the ESA in 1978. During this fourteen-year heyday, the rules by which federal agencies governed public resources changed dramatically, allowing for far greater public input and much more sustained compliance activity. The geometry of federal fire management changed as a result, creating new alliances for the NPS and putting the historically dominant U.S. Forest Service on the defensive. The results affected federal fire policies in dramatic ways.²

The impact on fire management was enormous. As environmentalism became part of the national language and the nation confronted the “Quiet Crisis,” as Secretary of the Interior Stewart Udall labeled looming questions about the quality of the physical environment in 1963, federal agencies broadened their approach to fire. The Boise Interagency Fire Center was established in 1969 to unite the Bureau of Land Management’s developing fire expertise with the existing prowess of the Forest Service. The result was a higher level of interagency cooperation that led participants in new directions. The Forest Service soon modified its suppression policy, initiating natural fire experiments in 1972 that began a change in direction that followed the NPS. Soon after, the move to integrate fire activities among federal agencies gained more momentum. The National Wildfire Coordinating Group first met in 1973, tasked to bring every aspect of fire management, including multi-agency fire planning and training, under one standardized rubric. In 1974, this culminated in the doctrine of total mobility that allowed firefighting resources, especially crews, to be used by any agency anywhere. Prior to 1974, each agency had its own standards and could only accept crews and resources that met those standards. Because of a memo of understanding between the secretaries of Agriculture and Interior, the agencies worked toward a common standard, furthering the cooperation essential to response.³

With its bold and at the time idiosyncratic change in policy, the National Park Service moved to the forefront in fire management. At no time since the introduction of fire suppression in Yellowstone in the 1870s had the national parks led the way to new fire policy. Since its inception and especially after the fires of 1910, the Forest Service became and remained the agency that defined the federal response to fire. In this dominant role, that agency hewed to the vision of total suppression it developed in response to its values and the conditions it faced. In the 1960s, the National Park Service tentatively began to go its own way. Other federal land management agencies followed. In envisioning fire management in a new way, the national parks again mattered in fire management – for the first time in almost a century.

² Hal K. Rothman, *The Greening of a Nation? Environmentalism in the US Since 1945* (Ft. Worth: Harbrace Books, 1997), 161-77; David A. Adams, *Renewable Resource Policy: The Legal Institutional Foundations* (Washington, D.C.: Island Press, 1993), 158-63; Walter A. Rosenbaum, *The Politics of Environmental Concern*, 2d ed. (New York: Holt, Rinehart, and Winston, 1977), 48-55, 117-23; Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (Cambridge: Cambridge University Press, 1987), 1-25.

³ Boise Interagency Fire Agency, “The History of the Boise Interagency Fire Center,” BIFC 1989, 1-3; Stephen J. Pyne, *Fire in America: A Cultural History of Rural and Wildland Fire* (Princeton: Princeton University Press, 1982), 289-94; David Carle, *Burning Questions: America’s Fight with Nature’s Fire* (Westport, CT: Praeger Press, 2002), 139-52; Stewart Udall, *The Quiet Crisis* (New York: Holt, Rinehart, and Winston, 1963).

The National Park Service could not entirely claim as its own the revolution in thinking that reintroduced fire into its parks. Although science had become more important to the NPS, a considerable body of research – much of it from outside the federal government – created the important intellectual rationale that underpinned this radical policy shift. This science-based foundation for fire use accelerated the disintegration of the suppression model. As the Forest Service clung to what increasingly seemed a retrograde vision based on suppression, that agency's dominance of fire research waned. Well before the NPS implemented its new administrative policy in 1968, articulate challengers to the suppression ethos such as A. Starker Leopold, John S. McLaughlin, superintendent of Yellowstone and later Sequoia National Parks, and scientist Bruce Kilgore argued for a stronger role for science in determining the fire management objectives.⁴

Many of these challengers found Tall Timbers Research Station (TTRS), the privately endowed research institution north of Tallahassee, Florida, a catalyst for spreading their ideas. Tall Timbers played an instrumental role in fire research, sponsoring annual fire ecology conferences beginning in 1962. The first such meeting advocated a biological role for fire and offered controlled burning as a technique for land management – revolutionary ideas at the time that had been applied mostly in the Southeast. TTRS was privately funded and not beholden to the Forest Service or any other federal agency. The research it sponsored and published provided an alternative to the USFS suppression model, which focused on techniques of fire suppression and encompassed nearly all federally funded fire research. TTRS research opened the door, and others took up the call for scientific research into fire.⁵

The National Park Service was more receptive to the new guidelines than its peer land management agencies. The NPS was already in the throes of change, and its front-line personnel were being transformed. The old generalists – the people who grew up with the national park system – were reaching retirement age, and their successors very often were college graduates with a specialization that served NPS goals. Expertise in wildlife biology began to supersede training in forestry as a prerequisite for a position in natural resource management. The climate in which fire management policies was determined also had begun to shift. The 1963 Leopold Report on wildlife in the national parks provided important support for the new ethos, a stance that was more committed to ecology than to the facilities development that characterized the NPS throughout most of its first fifty years. The report recommended that the Service “recognize the enormous complexity of ecological communities and the diversity of management procedures required to preserve them.” It suggested a need to reinstate fire in the national parks, arguing for prescribed burning. Scientific research was to be the basis for all management programs. The National Academy of Sciences Robbins Report that same year extended that vision, advocating a separate research arm to complement the Service's distinctive mission. It took a long time for the NPS to implement this concept, but its very existence spoke volumes about the change in philosophy inside the National Park Service.⁶

⁴ Pyne, *Fire in America*, 292-94; Carle, *Burning Questions*, 133-43.

⁵ Pyne, *Fire in America*, 490-95.

⁶ Richard Sellars, *Preserving Nature in the National Parks* (New Haven: Yale University Press, 1997), 214-20; Alfred Runte, Jr., *National Parks: The American Experience*, 2d ed (Lincoln: University of Nebraska Press, 1987), 198-201; Pyne, *Fire in America*, 301-04.

Espousing a different creed than comparable land management agencies, the NPS looked to its own larger natural resource management agenda rather than the Forest Service's vision of fire. Stemming from the two major scientific reports on national parks of the era – no less an observer of the resource management scene than NPS historian Richard West Sellars has called them “threshold documents” – the scientific use of fire fell neatly under the developing rubric of resource management.⁷ This had an unexpected benefit: it separated the new vision of fire from the NPS's historic practices, allowing innovation to take place with a minimum of direct challenge to the status quo.

Innovation also allowed the National Park Service to stake out specific terrain within discussions about fire. Despite the largely defensive response of the NPS to the recommendations of the Robbins Report and the desire of some to keep it from public distribution, the report's recommendations did allow the NPS to incorporate the study of the biology of fire into its management regime. Such an approach to fire represented an important shift away from the standard Forest Service model of exploring solely the physical equations of fire behavior.⁸ The National Park Service soon came to study the impact of fire rather than to assess ways of stopping it.

The Leopold Report simultaneously served as a structure for maintaining NPS prerogative over park management. Although fire had been a side issue in the report, ostensibly devoted to the ongoing elk crisis in Yellowstone, the Leopold Report's vision of natural resource management loomed larger as new federal statutes began to affect the NPS. In 1964, passage of the Wilderness Act concerned NPS leaders, who saw in the new law's provisions the abrogation of their management prerogative. It complicated NPS obligations and offered only expensive mandates that came without funding. The National Park Service was at best lukewarm about the bill, lending only nominal support to its passage. During the 1960s and early 1970s, NPS officials watched as wilderness advocates attacked the Forest Service over questions of sustained timber yield and wild land. They recognized their own vulnerability and sought an alternative strategy. The Leopold report provided an alternative to imposed wilderness standards that let the NPS keep the administrative discretion that formal wilderness designation overrode. Its influence on resource management planning offered an avenue to preempt the statutory emphasis on wilderness. Faced with two new philosophies about which it was ambivalent, the National Park Service embraced the Leopold Report over the Wilderness Act.⁹ National Park Service discomfort with the restrictions perceived in the wilderness designation helped preempt its acceptance of the USFS fire suppression model, and by melding resource management and strategic goals, anticipated the direction that most fire management soon followed.

⁷ Sellars, *Preserving Nature in the National Parks*, 214; Pyne *Fire in America*, 301-02

⁸ Sellars, *Preserving Nature in the National Parks*, 216-17; Pyne, *Fire in America*, 302.

⁹ Paul W. Hirt, *A Conspiracy of Optimism: Management of the National Forests Since World War II* (Lincoln: University of Nebraska Press, 1994), 266-84; 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; Sellars, *Preserving Nature in the National Parks*, 217-18; Pyne, *Fire in America*, 303; George B. Hartzog, Jr., *Battling for the National Parks* (Mt. Kisco, NY: Moyer Bell Limited, 1988), 96-107; Ronald A. Foresta, *America's National Parks and Their Keepers* (Washington, D.C.: Resources for the Future, 1984), 69-70.

This shift toward a new vision of fire guaranteed an important change in who managed different dimensions of fire. In the model inherited from the Forest Service, most fire staff in the NPS had been trained as foresters. After the Leopold Report, wildlife biologists – often students of its primary author, A. Starker Leopold – entered the NPS, and following the broad outlines of Leopold’s work, began to blend fire with wildlife policy. These new professionals drew the National Park Service toward a primacy for science for a brief moment that lasted roughly from the unveiling of the Leopold Report in 1963 until the aftermath of the Stoneman Meadows incident in Yosemite on July 4, 1970, when law enforcement – people management – began to dominate NPS horizons. These science-oriented researchers helped create a model for intra-agency research and even helped place fire science into the matrix of federal research. They communicated easily with peers in other agencies, recognizing that the physical boundaries that divided jurisdictions had little to do with ecological reality.

The influx of wildlife biologists paralleled the gradual departure of foresters from the NPS. As fire ecology competed with forestry as the model of fire management, the position of *forester* nearly disappeared from the National Park Service, and along with it, ties to colleagues in the USFS and forestry in general. Attrition accounted for a good portion of this change. As hiring patterns shifted beginning in the 1950s, NPS foresters as a group grew older while their recently trained successors were younger and thought differently. Over time, the change in personnel moved fire management and ecology ever closer to what would later be called ecosystem management.

During the brief moment in National Park Service history when the influence of science was at its peak, fire research enjoyed a malleability and viability that had never before been possible. Even as Tall Timbers challenged the dominant Forest Service research vision, the NPS cultivated its own fire management program. This coincided with the new enthusiasm for science within the NPS. Mission 66 led to bold requests for other kinds of funding. A push to fund scientific research with a line item in the NPS budget led to a 250 percent increase in funding in 1964 as well as an increase in the number of scientists hired by the Service. Director George B. Hartzog’s support of biological and fire research also contributed to the improved climate. In 1968, for only the third time in thirty years, NPS research scientists met to review their overall situation, to share research and ideas, and to promote a more comprehensive science program in the Service. NPS Chief Scientist Robert Linn recruited a group from inside and outside the Service, some of whom the NPS promptly sent back to school to do master’s work in science. In a typical instance, Jim Larson, who had been an interpretive ranger, was recruited to become a science coordinator. Larson returned to the University of Washington, where he completed an MA in science, before returning and continuing a long NPS career. These “retread rangers,” as one of their contemporaries recalled them with a smile, helped transform NPS’s science programs. With Linn leading the effort, science, in particular fire research, found new prominence in the National Park System.¹⁰

NPS fire research, built from the Everglades studies of the early 1950s, expanded to the national parks in California. The critical experiments in the Golden State started at

¹⁰ Lowell Sumner, “A History of the Office of Natural Science Studies,” 1-6; Robert Linn, “Postscript: Current Happenings,” in *Proceedings of the Meeting of Research Scientists and Management Biologists of the National Park Service*, Horace M. Albright Training Center, Grand Canyon National Park, April 6-8, 1968, copy provided by Robert Linn; James Agee, interview by Hal K. Rothman, June 10, 2004.

Sequoia and Kings Canyon National Park, where researchers examined the indispensable role of fire in sequoia regeneration and the threats posed by fuel buildup to the mature “Big Trees.”¹¹ In essence, the rationale that underpinned the start of fire research in the Southeast easily transferred to California. The need for fire to protect a specific and desirable species of tree—the longleaf pine in the Southeast and the sequoia on the West Coast—had contributed to the development of fire research, which in turn, led to the implementation of the first NPS research program.

Despite the NPS’s interest in such programs, the emphasis on specific needs of individual tree species detracted from overall implementation of fire research. The desire to protect the sequoia hardly translated into an overall argument for the general use of fire, even if policy articulated such a stance. The result was slow program development. Although the Robbins Report argued vociferously for a separate NPS research arm, despite valuable research conducted inside the agency, this idea did not come to fruition quickly. In the National Park Service, scientists commenced a range of studies, staff members with training in science assumed roles under the new rubric of “resource management,” and cooperative arrangements with universities brought a broader range of expertise to the parks. Fire research inside the NPS became part of resource management, valued as a practice for its ability to alter landscapes. Its ability to limit the damage from fires was not yet a primary consideration.

Leadership in thinking about uses of fire came from the highest levels of the National Park Service. Located in the Washington office as a senior staff person in the Natural Resources Branch, Lyle McDowell played an instrumental role in creating the context in which fire became a tool for resource management. In charge of the development of resource management plans throughout the park system, McDowell embraced a new vision of the role of fire and resource management. “Lyle deserves a lot of the credit,” observed Robert Barbee, who rose through resource management to become superintendent of Yellowstone. “He was sort of the taskmaster for the Washington office who was pretty much directing things over all.” McDowell “bought the Leopold report philosophically and he was trying to translate it into practical action,” Barbee recalled. McDowell championed the “return to school” program that sent Barbee and countless others back for specialized post-graduate training; “he was a loquacious fellow,” Barbee remembered. “He used to come out to the college out there [at Colorado State University] and we’d sit in his motel room and he’d lecture us about the things we needed to be lectured about.” His resource management plan was the first to conceptualize fire as a useful tool for management, creating the context in which researchers such as Biswell and Richard Hartesveldt of San Jose State College could conduct experiments.¹²

The resulting changes accelerated the interest in fire research. The National Park Service could legitimately regard itself as a leader in process when in 1970, the National Science Foundation (NSF) sponsored special research on fire ecology. The NSF, the leading funding agency for research, had never before funded work that studied fire ecology. Academic research now included the kind of work the National Park Service

¹¹ Harold H. Biswell, *Prescribed Burning in California Wildlands Vegetation Management* (Berkeley: University of California Press, 1989), 58-59; Pyne, *Fire in America*, 302.

¹² James Agee, interview by Hal Rothman, June 10, 2004; Robert Barbee, interview by Hal K. Rothman, Part 1, November 12, 2004.

played a major role in initiating. With the introduction of fire as a new tool, the NPS had changed the terms of the discussion. New values were applied to the question of fire. The NSF affirmed the shift that took fire policy from the Forest Service emphasis on research into fire behavior that was considered vital to better control wildfires and into ecological studies that emphasized the value of fire in many ecosystems. Acceptance of this perspective meant that the use of fire as a serious management tool was only a short step away. Although science played an important role in the planning and policy of federal agencies, such policies followed a shift in values. Scientific research substantiated that shift, leading to a convergence of new ideas, empirical demonstration, and a change in perception.

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When the National Park Service ceased its efforts to suppress every fire in a national park, it upended the rationale and logic that had governed fire for more than one-half century. The path to the 1968 policy change was long and convoluted, for it represented a substantial change not only in the way the Service treated fire, but in the explanations NPS officials offered their constituents, Congress, and the press. NPS representatives argued that the National Park Service's obligations were different from those of other federal agencies, including the Forest Service and Bureau of Land Management lands, and other categories of federal land holdings. The influential Leopold and Robbins reports advocated a science-based approach to management that powerful constituencies embraced. Bruce Kilgore served as editor of *National Parks* magazine and later became editor of the *Sierra Club Bulletin*, where he published the Leopold report in its entirety. The Sierra Club "thought, as an entity, that [the Leopold Report] was one of the most outstanding contributions to the management of parks," he recalled. Kilgore believed that Leopold had "total support" from Secretary of the Interior Stewart Udall for the report, a circumstance Kilgore regarded as a determining factor in the report's implementation.¹³

Devising a new policy raised questions that the National Park Service Washington, D.C., office quickly tried to address. As momentum for the introduction of fire as a management tool increased, advocates of the traditional suppression policy forcefully reminded everyone that until a formal administrative change took place, suppression remained NPS policy. Talk of a new vision of fire management would not end suppression, Assistant Director Harthon Bill instructed NPS staff in 1967 in an effort to quell concerns about the impending change. He focused on one section of the NPS administrative manual that offered rationale for continuation of suppression: "all fires threatening the natural and cultural resources of a natural (historical, recreational) area shall be controlled and extinguished." Bill pointed out that "historically fire suppression has taken precedence over all other park activities except the safeguarding or saving of human life. This interpretation shall apply to the [use of fire] policy. . . . the word 'threatening' does not constitute authority for allowing natural fires to burn or to engage in prescribed or controlled burning."¹⁴ Even as plans for a new policy moved through the

¹³ Bruce Kilgore interview by Hal Rothman, February 16, 2004; Jan van Wagtenonk, interview by Lesley Argo, June 13, 2002.

¹⁴ Assistant Director to Washington Office and All Field Offices, Resources Management, Fire Control Policy Interpretation, February 13, 1967, Everglades National Park, Forest Fires.

NPS bureaucracy, the importance of suppression as a strategy and a belief system could not be discounted.

For the National Park Service, the Leopold report had been the catalyst for rethinking fire, but the real energy that underpinned this sea change in philosophy emanated from Biswell's research. Students gravitated to him. One, Jan van Wagtendonk, had worked as a firefighter and a smokejumper in Oregon and Alaska. "It seemed silly to me," he recalled almost four decades later, "to be putting fires out in the tundra."¹⁵ After an undergraduate degree and time in the military, he arrived in Berkeley to study fire ecology.

Biswell played an instrumental role in the shift from theory to the practice of introducing fire. In 1964, Biswell himself received permission to begin Giant Sequoia restoration studies on a 320-acre University of California experimental tract, Whitaker's Forest, just west of Kings Canyon National Park. The Redwood Mountain grove of the Big Trees extended into the forest from the national park, providing an unparalleled opportunity to study the impact on precisely the tree species and forest composition that existed within park boundaries.

Biswell found an environment that reflected a century of suppression. His estimates reported more than 22 tons of combustible material per acre. Beneath the largest trees, he found competition from more than 500 dead and standing small trees per acre, which Biswell determined resulted from the human suppression regime. He found an additional 900 living white firs and incense cedars, mostly between one and eleven feet in height. Wildlife was absent from the area because the dense material on the forest floor eliminated most underbrush and food plants. The fuel load was so great that 4-H Clubs had ceased to camp in the region for fear of wildfire.¹⁶

As Biswell's research showed, burning had a positive impact on the Big Trees. In a comprehensive program that began in 1964 and continued until 1975, Biswell, Richard Hartesveldt, Howard Shellhammer, Tom Harvey, and Ron Stecker studied the impacts of prescribed fire. Their work demonstrated that giant sequoias depended on fire for germination and early survival. The research supported "fire as a tool to sterilize the soil so the seedlings get back in the ground and rejuvenate," recalled William Briggie, who served as a ranger at Sequoia National Park during this era. Hartesveldt trenchantly observed that without fire, giant sequoias would become an endangered species.¹⁷

Biswell's efforts guided the NPS program at Yosemite as well. Robert Barbee, who considered the Leopold Report a "manifesto," visited Biswell at Berkeley "to lay some philosophical groundwork, some scientific expertise, for my resource management plan." Biswell agreed to see him and Barbee "figured I would get maybe fifteen or twenty minutes. So I got down there, and he was in his office, and he said 'well, let's go,'" Barbee recalled. "And I said 'where we going to go?' He said 'we can't sit here and talk about fire, we are going up to the experimental forest'" at Yosemite. The men spent the next two days at Yosemite exploring the prospects for introducing fire.¹⁸

¹⁵ Jan van Wagtendonk interview, June 13, 2002.

¹⁶ Carle, *Burning Questions*, 121-22.

¹⁷ William Briggie, Historical Interview, by Jennifer Bottomly, September 4, 2001, Glacier National Park Archives, Oral History Collection; Harold H. Biswell, "The Role of Fire in Maintaining Forest Wilderness Quality," unpublished paper, presented at the Second Annual California Plant and Soil Conference, American Society of Agronomy, California Chapter, Davis, CA, February 1, 1973, 7.

¹⁸ Robert Barbee interview, Part I, November 12, 2004.

Over a period of a little less than a decade, Biswell's fire experiments transformed Whitaker's Forest. By 1973, Biswell observed that burning had created a condition that more resembled historic time: Whitaker's Forest was more open and park-like, with fewer small trees. Shrubs and wildflowers returned and "the forest is becoming scenic," Biswell told a meeting of the American Society of Agronomy in 1973. Biswell saw this as validation of his vision. Even more telling, he held demonstration burns in August of that year, when much of the rest of the state endured withering wildfire or lived in constant fear of the next outbreak. His prescribed fires did not burn out of control, further substantiation of the viability of a pattern of controlled burning that limited the amount of available fuel during the most dangerous fire seasons. The use of fire, Biswell believed he had conclusively shown, allowed for better management of timber, a more "natural" environment, and significantly less intense wildfire if one erupted.¹⁹

Whitaker's Forest was just outside the boundary of Kings Canyon National Park, but crossing that arbitrary line on a map meant more than simply transversing physical space. The national parks, the nation's sacred spaces, remained inviolable from more than the encroachment of most human development. Fire remained an equally large taboo in the parks, and securing permission to burn within them was an elaborate and drawn-out process. After a National Parks Advisory Board visit to Kings Canyon in conjunction with the preparation of the National Academy of Sciences report, many of the obstacles against burning in the park diminished. Hartesveldt received a grant from the National Park Service for a five-year research study of controlled burning. He planned to begin with controlled burns on a number of two-acre plots in August 1964, but the initial burns were delayed until 1965 as he waited for ideal weather and climate conditions. Still, Hartesveldt insisted, "careful use of fire and cutting constitute a much more realistic approach than does a policy of 'hands off.'"²⁰

The addition of Bruce Kilgore as a research biologist at Sequoia and Kings Canyon National Park in March 1968 accelerated the burning program. Kilgore served in an unusual position. Although he was duty-stationed at Sequoia, Kilgore reported to Starker Leopold, who had taken a special appointment in Natural Resource Management from NPS Director George B. Hartzog, Jr. When Leopold hired Kilgore, the professor was "semi-kind of my boss. He was more of my philosophical boss." At Sequoia, Kilgore met another prominent fire researcher, Harry Schimke, who worked at the Stanislaus National Forest and was affiliated with the Pacific Southwest Forest and Range Experiment Station at Berkeley. An expert in fire behavior, Schimke served as a combination conscience and advisor for those who contemplated changing the way the National Park Service addressed fire.²¹

The initial experiment in Sequoia and Kings Canyon began a revolution in the national parks. While most of the National Park Service's prescribed burning acreage was in Everglades National Park, the California parks engendered more controversy. The intensity of debate had begun in the turn-of-the-twentieth century light burning controversy in the California forests and continued largely outside the federal land

¹⁹ Biswell, "The Role of Fire in Maintaining Forest Wilderness Quality," 7; Biswell, *Prescribed Burning*, 109-11; James Agee interview, June 10, 2004.

²⁰ Richard J. Hartesveldt, "Fire Ecology of the Giant Sequoias," *Natural History* (December 1964), 12-19; James Agee interview, June 10, 2004.

²¹ Bruce Kilgore interview, February 16, 2004; Carle, *Burning Questions*, 123, 139.

management system. The insistence of the Forest Service on suppression and that agency's predominance in the West also fueled greater interest. In California and elsewhere west of the Rocky Mountains, allowing fire to burn was big news.

Sequoia and Kings Canyon National Park instituted a policy that allowed lightning fires to burn in areas designated as appropriate for wildfire. When the first lightning-ignited fire allowed to burn in any national park occurred on Kennedy Ridge in 1968, Schimke was among those who watched. His sense of the fire's potential reach and the park's ability to control it made this difficult experience easier for park staff. The term "let burn" was assigned to such fires, but was soon changed. The idea of letting fires burn seemed too casual for public consumption and such fires were designated with the more palatable term, "prescribed natural fire." Even that term was controversial; in May 1971, Superintendent John McLaughlin of Sequoia and Kings Canyon, described by Robert Barbee as "a thinker and really quite an admirable character," instructed his staff to avoid the term "prescribed burn." Instead, he advocated the phrase "putting the role of fire back in the environment." Typically the selected burn areas were far from homes, roads, and visitor services. Natural fires in them were reported and watched, usually by airplane, but allowed to burn as long as they did not exceed the boundaries of the designated area or threaten facilities. Some areas were so remote that one observer noted that if a fire got away, "no one would ever notice."²²

Intentionally set fires were far more controversial for the National Park Service. Despite much confusion over the meaning of terms – with loose definitions prevailing, prescribed burning described activities as different as burning sawgrass in Everglades or burning small trees and brush beneath sequoias in California – prescribed burning grew in importance. It also was terribly difficult to implement. Heavily traveled or developed areas were not suitable for the idea of "letting fire run its course." The risks were too great: lives and property were at stake, even when lightning fires were allowed to burn. So before fire could be introduced as a tool in sensitive areas such as the Giant Sequoia groves or in similar places, considerable education and preparation had to take place. Initially, no clear separation of the ideas of prescribed fire and natural prescribed fire – natural fire that was allowed to burn because it served NPS purposes – had yet been devised. As a result, the NPS prepared lands for natural fire with the idea that they might be prescribed burned if nature did not cooperate. In an early experiment in 1969, along the western boundary of the Redwood Mountain grove of giant sequoias, hand-built fire lines were used to reduce fuel in anticipation of allowing natural fires to burn in a particular zone. Workers felled dead standing trees and cleared away underbrush and saplings around some of the big trees. Powerful hoses were kept near the fire lines in case fire moved outside those designated areas.²³ It seemed to some that securing conditions under which a controlled burn could take place required more effort than the burn itself.

Creating a reduced fuel zone demanded considerable effort. Typically, NPS crews burned a narrow strip to create a fuel break, usually near the top of a ridge. Workers then would drop down the side of the ridge about fifteen feet and use drip torches, ignition devices used to back burn or start prescribed fires, to burn upslope, and the fire would go

²² Carle, *Burning Questions*, 140-41; John S. McLaughlin, Memorandum from the Superintendent, May 18, 1971, Sequoia National Park Archives, Fire Records, Box 191 F1; Robert Barbee interview, Part I, November 12, 2004.

²³ Bruce Kilgore interview, February 16, 2004.

out when it reached the burned area above. The process would be repeated another fifteen feet down the slope. This was tedious, time-consuming, and difficult work, and everyone who engaged in it thought of ways to make it easier; few succeeded. In one effort to speed up the process on an August 1969 burn, Fire Control Officer John Bowdler allowed a crew to burn a larger section as a single strip instead of dividing it up into smaller sections. The fire started slowly, but gained speed and intensity as it charged uphill. Beneath some giant sequoias, the flames jumped as high as three times their previous height, with the heat damaging some of the tree's lowest branches. The experience of what came to be known as the "Bowdler Burn" reminded everyone of the difficulty of managing fire even in controlled circumstances.²⁴

The creation of the new policy neither included resources nor supported a system of implementation; nor did it clearly describe parameters. The policy was an objective, the articulation of a larger ideal with little practical instruction for its execution. Little Service-wide coordination of the new policy ensued, for the combination of resources, leadership, and acceptance of the values it embodied were not found in the NPS in 1968. "It was just one of those things that developed topsy-turvy," James Agee recalled.²⁵ Park units proceeded with fire planning in an individualized manner, simultaneously an advantage and a drawback in instituting the new policy across the NPS. The immediate response was to consign the use of fire as a tool to resource management, effectively separating its use from traditional activities such as its prevention.

The change in the Green Book scrapped the centralized control of fire that stemmed from Coffman and the New Deal era, replacing it with something that more closely fit the 1960s. The regional offices and park units received little guidance about what the new policy demanded of them. Implementation fell most often to superintendents; their varying commitment to the idea of fire as a tool played an enormous role in the ways in which fire was introduced to national parks. Superintendents and their staffs could design fire programs that fit the specific needs of their park without much intervention from the national level or they could choose to ignore the new policy. The variety of types of units in the national park system further complicated any standardization of the response. The use of fire appeared in each of three NPS books of administrative policies, but the differences in types of areas created considerable variety in application. While recreational areas were governed by a policy that reflected the standards of the natural areas, historical areas functioned under more complex guidelines that emphasized extinguishing fires that threatened cultural resources, but encouraged prescribed burning. As a result, the revolution in fire management left cultural resources entirely out of the picture. It was as if National Park Service leaders believed that wildfires only occurred in natural areas.²⁶

The justification for promoting fire was that it was "natural," a construction that became problematic. Some critics and internal advocates accepted prescribed natural fires, not their intentionally ignited equivalent, because they often regarded fire in

²⁴ Carle, *Burning Questions*, 140-41.

²⁵ James Agee interview, June 10, 2004.

²⁶ Richard Rogers Summer, "The Administration of Fire Management within the National Park Service," (MA thesis, California State University, Fullerton, 1978), 1-3; National Park Service, *Administrative Policies for Natural Areas of the National Park System*, 17; National Park Service, *Administrative Policies for Recreation Areas of the National Park System*, 20; National Park Service, *Administrative Policies for Historic Areas of the National Park System*, 36.

absolute terms: natural fires were good; human caused-fires were bad. This set of suppositions created problems, especially in the management of cultural landscapes and in natural areas that were in fact sculpted by fire. The era's proliferating fire conferences brought this question to the fore, and it was debated endlessly.²⁷

The idea of using fire challenged not only existing policy, but the core values of many seasoned National Park Service officials and staff. The use of fire as a tool represented a change not only in what they did, but in the value system that underpinned the Service. Such people "had a difficult time," Research Forester Jan van Wagtenonk noted in 2002. "Their entire career and belief system [had been] based on putting fires out and a bunch of hippie Ph.D.s from Berkeley come along and say 'you got to let it burn.' It [was] hard for them to grapple with that idea." The absence of a comprehensive structure to support the new policy made this transition even more difficult. Not only was the policy hard to fathom and respect, no clear guidelines to make it palatable accompanied it.²⁸

The dual emphasis reflected an important tension created by the new policies. Fires that started by natural means were assigned to resource management units, effectively creating two distinct modes of addressing fire. Resource management framed its intellectual structure from wildlife biology, which regarded fire as an asset. Fire suppression had been managed by foresters in the National Park Service, the intellectual heirs to the suppression tradition John Coffman established. Coffman himself staunchly opposed prescribed burning in any form. "I was considered a no-burn man," Coffman proudly remembered in a 1973 interview. "Let nature take its course without fire." The wildlife biologists in resource management brought a different perspective, but the ongoing power of the suppression model and its many adherents limited the opportunity to apply new ideas. For controlled burning to play a prominent role in the National Park Service, a greater impetus than words on a page was essential.²⁹

The new fire policy demanded that the National Park Service's administrative structure accommodate a new vision of responsibility. The NPS's existing fire organization still derived from its New Deal roots. The Division of Forestry, headed by Forester Lawrence E. Cook, Coffman's successor, handled all fire operations and it shared in the culture of suppression and the accompanying ideas of fire protection and control. "The rumor was that Larry Cook said 'over my dead body' when he heard about any natural burning or prescribed burning," Kilgore recalled. An impasse resulted. The pressure for introducing fire had come from elsewhere in and outside the National Park Service, but the people who administered fire in the NPS remained staunch suppression advocates. Their opponents mainly were the wildlife biologists who had become prominent in resource management. A chaotic situation in which different entities within the NPS advocated different responses proved a dramatic shortcoming as officials sought to implement new ideas about fire. "There was a lot of friction," Kilgore remembered.³⁰

²⁷ These questions dominated the Tall Timbers fire research conferences in the mid-1960s and early 1970s; see *Tall Timbers Fire Ecology Conference Proceedings* (Tallahassee, FL: Tall Timbers Research Station, 1966-1976).

²⁸ Jan van Wagtenonk interview, June 13, 2002.

²⁹ John D. Coffman, "Forest Protection in the National Parks," interview by Amelia R. Fry, 1973 (Berkeley, CA, The Bancroft Library, 1973), 77-78.

³⁰ Bruce Kilgore interview, February 16, 2004.

The devolution of responsibility to the park level meant tremendous variation in implementation and unusual categories of reporting. Conventional fire management continued, implemented in the same way as it had always been: education, prevention, and response. Presuppression activities continued, and parks reported fires in the same classes of size – A, B, and C – that had been standard for a generation. The most notable addition to the many annual fire reports was a new category, “Use of Fire in Resources Management,” that reflected the new Green Book policy. “Fire was not used as a resource management tool this year” became a standard line in the annual fire report for many parks.³¹ It allowed the NPS to continue to function as it always had, as a fire suppression agency, while at the same time paying lip service to the new prescribed burn policy. The division between resource management and fire control provided ample distance between the two philosophies. The result was a complicated management structure that invested much of its resources in conventional modes of fire control while its intellectual energy, in the form of new researchers, was relegated to what seemed an exotic form of management. Fire as a tool for resource management remained something entirely different and much less significant than overall fire control.

The beginning of a Service-wide system resulted, but it was far from the ideal toward which the National Park Service strove. The NPS’s forestry division maintained responsibility for suppression and retained the funds allocated for that purpose. The use of fire as a management tool became a park-level prerogative that superintendents usually had to fund within their existing budgets. NPS culture long emphasized a strong line of central leadership that made policy but willingly delegated operations to the park level, creating clear precedent for leaving such decisions to the discretion of superintendents. Control of this prerogative followed an important trend in NPS history. For much of the early history of the Service, superintendents communicated directly with the Washington office and even with the director. By the 1960s, regional offices were well established as intermediaries, but park superintendents still wielded considerable power. In this respect, the implementation of fire policy at the park level was consistent with patterns of NPS management. At the same time, it represented a major shift: fire required vast resources and in the 1960s, individual parks had no more resources than they did three decades before. With the almost complete autonomy of implementation, fire policy created a transfer of power from the regions to the parks, a trend that ran against the general tenor of consolidation that marked the National Park Service during the late 1960s.

The parks faced a complicated, multi-faceted mission when it came to the new fire policy. In effect, suppression remained entrenched as NPS policy and the goals of the 1968 policy did little to entirely replace that strategy. Instead, most parks continued to maintain an active suppression program even as they grappled with the implications of prescribed burning. At Yellowstone in 1968, even after the change in the Green Book, the approach to fire remained largely unchanged. The park reported only sixteen fires, four of which resulted from human action. The park approached these fires in the same manner

³¹ Annual Fire Summary and Analysis, January 28, 1969, Grand Teton National Park; Annual Fire Summary and Analysis, January 14, 1970, Y2623, Fire Records, Box 1, (located in Law Enforcement Evidence Room), Grand Teton National Park; Annual Fire Summary and Analysis, Yellowstone National Park, January 25, 1970, Yellowstone National Park Archives, Y-214.

as it always had; prevention, education and training, and suppression of actual fire remained primary objectives.³²

The mechanisms that had long driven fire response remained primary at the park level. At Yellowstone, the emphasis on technological support for suppression remained the focus. Smokejumpers were seen as a viable response, with the West Yellowstone Interagency Air Operations Center activated on July 2, 1968. Smokejumpers made a total of fourteen jumps on five individual fires in the park in 1968. It was as if suppression adherents believed that new technology would allow them to overcome a policy they found noxious. Older resources such as fire lookouts continued to be used, with lookouts serving as the source of initial information for eleven of the park's sixteen fires. Despite the small number of fires in 1968, Yellowstone's numbers diverged from reporting trends at Yosemite National Park. At Yosemite, human-caused fires, both intentional and accidental, slightly outnumbered natural fires in 1968. Visitor reporting accounted for most of the sightings of fire, with lookouts and aircrafts playing a lesser role. But at Yosemite, the model remained as it had before the Green Book offered new guidelines, and little in its annual fire reports reflected any vision of the policy change.³³

At the regional and national levels, the new policy earned closer attention. The admonition to implement an ecologically based policy came from above the regional offices and was used to remind and even chastise superintendents. "While the Service continues to be vitally interested in the reduction of man-made fires, the value of natural fire as an ecological factor must be recognized," observed Merle E. Stitt, assistant regional director for operations in the Western Region in 1968 and an advocate of the use of fire. In the context of the annual fire report for the National Park Service, his statement represented a major shift in emphasis. Stitt modified the vision of suppression, limiting it to human-caused fires, explaining that the National Park Service policy encouraged natural fires for their reinvigorating effect on the natural environment. Noted Arizona State University fire historian and scholar Stephen J. Pyne, who as a young firefighter heard Stitt offer this prohibition at the Grand Canyon, observed that the change was confined to words. "Almost nothing happened on the ground," he recalled more than thirty years later. Whether this statement accurately reflected the actions at Grand Canyon, it did suggest that some of those intimately involved with fire felt the need for faster implementation of the revised policy.³⁴

Resource management plans soon reflected the new ethos. As statements of goals and objectives, they offered an ideal terrain to define new approaches to problems. The role of fire as a tool quickly cropped up in some of the most prominent parks. At Yellowstone, the 1970 resource management plan halfheartedly embraced the new ideals. The authors recognized that the existing principles by which the NPS managed fire were "developed in areas where timber is managed as a crop," a clear articulation of the differences between the National Park Service and the Forest Service. Yet fire posed a

³² "Annual Forestry Report, Yellowstone National Park, 1968," Yellowstone National Park Archives, Y-214, 1-3.

³³ *Ibid.*, "Summary 1968 Fire Season, Yosemite National Park, California," Yosemite National Park Archives, Y 14, Fire Season Summary 1968, 1-4.

³⁴ Assistant Regional Director, Operations Western Region to Superintendents, Western Region, March 24, 1969, Subject: Forest Fires, 1968, Yosemite National Park Archives, Y 14, Fire Season Summary 1968, 1-4; Bruce Kilgore interview, February 16, 2004; Steve Pyne, email correspondence with Hal K. Rothman, June 11, 2004, in possession of author.

conundrum. “Since we lack the fire control skills to stop fire at will,” the plan continued, “we can not fully adopt a program of allowable natural fires.” Some fires could be allowed to burn, the report proclaimed; others would have to be addressed in the conventional manner.³⁵

This bifurcation helped ease acceptance of the new policy. Fire was so deeply ingrained as an enemy that it was nearly impossible to expect NPS veterans to accept it as a tool, even in a limited way. The division worked equally well in that it separated people by their affinity. The wildlife biologists who began to take precedence worked in close concert with one another. At the same time, the National Park Service’s aging forestry cohort was as close-knit a group of professionals as any in the Service. Innovation could occur – within limits – even as traditional policies continued to be implemented.

The parks that took the lead in implementing the new policy typically had been influenced by Harold Biswell and his students. Sequoia, Kings Canyon, Yosemite, and other California parks were prominent in this picture. Sequoia had been central to fire management throughout most of the twentieth century. In 1955, the McGee fire just outside and around Grant Grove burned across 18,000 acres in the foothills. In 1960 and 1961, severe fires in the park and its vicinity spurred interest in new strategies. The Tunnel Rock fire near park headquarters in June and July 1960 raged over 4,960 acres, and its suppression cost \$884,931. In 1961, the Harlow fire, in the foothills of the Sierra Nevada just beyond Yosemite park boundaries, cost more than \$1 million and burned more than 43,000 acres of vegetation. In one two-hour period, the fire burned across 20,000 acres, caused two fatalities, and destroyed 105 structures. “This caused us to take another look,” Peter H. Schuft, who served as chief ranger at Sequoia and Kings Canyon, observed. “Maybe we should be spending more on planning ways to stop [fires] from starting or putting in fuel breaks (prepared during the off season) at which we could stop wild fires from spreading.” The expansion of fuel breaks in Sequoia and Kings Canyon followed. In 1965 and 1966, the parks received the funds to build 100-foot wide fuel breaks, cleared of debris and other matter to a height of nine feet around Grant Grove and at the approach to Cedar Grove in Fresno County.³⁶

The Service’s move toward a wider acceptance of prescribed burning gathered momentum. “We needed to know how to reduce the fuel [and] fire under the sequoias,” Schuft remembered, “and how much actual manipulation was needed to burn safely.” According to his contemporaries, Schuft was well known for his aggressive campaign to promote fire. Harry Schimke had developed a controlled prescription for burning, and the park sought a strategy for utilizing it. Starker Leopold played an instrumental role. In October 1967, McLaughlin, recently arrived from Yellowstone, traveled to Berkeley for a meeting Leopold held with the Forest Service at the Forest Service Experiment Station. “We were trying to brainstorm how we would begin this prescribed burn program outlined in the Leopold report,” Kilgore remembered. “There was a lot of skepticism shown, a lot of questions.” Leopold took charge, telling the assembled foresters: “We came to this meeting to get ideas on where and how to go. We are not asking your opinion on whether we should go. We want to know what the best program is.”

³⁵ Resource Management Plan, Yellowstone National Park, 1970, Box W-105, Yellowstone National Park Archives.

³⁶ Peter H. Schuft, “A Prescribed Burning Program for Sequoia and Kings Canyon National Parks,” *Proceedings, Annual Tall Timbers Fire Ecology Conference, June 8-9, 1972*, 380-82.

Leopold's demeanor became bolder. "In fact, he said we are going to prescribe burn," Kilgore remembered. "The meeting turned around a fair bit."³⁷

The results were dramatic. With Leopold's support and Biswell's experience, an attempt at intentionally starting a fire in pursuit of resource management goals seemed viable. Superintendent McLaughlin had been at Sequoia and Kings Canyon for almost a full year and knew the political terrain. He determined that a program involving both natural fires and prescribed burns should go forward. The area of the park chosen for both parts of the program in 1968 was the Middle Fork of the Kings River drainage. Prior to that summer, McLaughlin approved the first prescribed natural fire program (allowing lightning-induced fires to burn under prescribed conditions) in the National Park Service. For that first summer, fires ignited above 8,000-foot elevation were allowed to burn (there were a total of two). In addition, a 1,100-acre unit on Rattlesnake Creek in the Middle Fork drainage was selected for a prescribed burn, the first authorized under the new policy. The location had been carefully chosen to minimize the chances of a fire getting out of control. Surrounded on three sides by rocks, the area was "basically a fir stand," Schuft recalled. "Schimke gave us a prescription to burn within, and we actually burned out the basin in 300-foot wide burns starting at the top and burning down."³⁸

Both phases of the project were deemed a success and the park planned more burning. In 1969, Sequoia and Kings Canyon National Parks designated an area of 129,331 acres, almost 15 percent of the two parks, as "let burn" areas, where fires would be allowed to run their course unless they affected park facilities. Most of these lands were above 8,000 feet in elevation; some were above the timberline. In addition, the parks intentionally burned 6,186 acres. Planners soon raised the elevation at which lightning fires were allowed to burn to 9,000 feet, engaged in prescribed burns in high country meadows, and initiated a 100-acre prescribed burn at the Redwood Mountain Grove of giant sequoias in Kings Canyon National Park that took place between August and October 1969. To initiate each burn, fire specialists picked a one-mile long, 300-foot-wide area atop a ridge and began to burn it in 1,000-foot sections. Crews first trimmed the fir and cedar foliage, cutting down trees that were less than nine feet tall. Then, a two-foot wide fire break was built, dug down to "mineral soil," and fire hoses were located around each entire section. "We waited for each section to burn itself out before we started the [next] one," Schuft recalled. Crews progressed from the top of the ridge to the bottom.³⁹

At the North Fork, Crystal Cave, and Marble Fork areas, the park undertook a larger and less closely monitored project. Beginning on October 29 and continuing until the snows came in mid-December, Kings Canyon crews initiated a 6,140-acre burn that occurred "without intensive preparation," Assistant Superintendent Jerry House noted. Pesticides, including 2,4-T, were sprayed on brush, and existing roads and trails served as

³⁷ Schuft, "A Prescribed Burning Program for Sequoia and Kings Canyon National Parks," 383; Bruce Kilgore interview, February 16, 2004; James Agee interview, June 10, 2004.

³⁸ Schuft, "A Prescribed Burning Program for Sequoia and Kings Canyon National Parks," 383; Larry Bancroft, Thomas Nichols, David Parsons, David Graber, Boyd Evison and Jan Wagtendonk, "Evolution of the Natural Fire Management Program at Sequoia and Kings Canyon National Parks," *Proceedings of the Wilderness Fire Symposium*, Missoula, Montana, November 15-18, 1983, 176; Bruce M. Kilgore and George S. Briggs, "Restoring Fire to High Elevation Forests in California," *Journal of Forestry* (May 1972, 266-271).

³⁹ Schuft, "A Prescribed Burning Program for Sequoia and Kings Canyon National Parks," 380-82.

firebreaks. When the fires came close to crossing park boundaries, bulldozers created new fire breaks that prevented its spread. The burn reduced fuels around some of the park's most important places and also cleared a number of existing fire breaks of combustible material.⁴⁰

House assessed the information gained in the burns, weighing the benefits against the concerns such a program raised. Questions clearly remained. Kings Canyon lacked appropriate prescriptions and sufficient fire weather data. "Much time was wasted trying to burn without results because of a lack of fire weather data," he observed. The park also needed to refine its prescriptions, aiming the type and heat of the prescribed fire directly at the desired result. Even more troublesome, House noted, was the expense. Although he was able to allot \$33,984 on the prescribed burning program from the park's general operating fund, he believed that "to do the job right and get on a scheduled basis, we would need \$100,000 a year for 10 years." Such a sum would give Kings Canyon a ten-person crew and a foreman throughout the year dedicated to the prescribed burn program.⁴¹

Another concern vexed House and other administrators who allowed some fires inside their boundaries to burn. If lightning fires that went loose posed one kind of public relations problem, nothing was more damaging to the idea of controlled burning than an intentionally set fire that exceeded its boundaries. Control remained an enormous issue; the public could barely understand letting wild fire alone, much less starting an intentional fire that eluded control. If such an endeavor went awry, the consequences could be enormous. House recognized that supporting a program of prescribed fire might be almost as expensive as suppression, and possibly damaging not only to the park's facilities but to its reputation as well.

By the early 1970s, the programs at Sequoia and Kings Canyon had begun to show measurable results. Between 1968 and 1971, fifty-three fires had been allowed to burn themselves out under the let burn program before the NPS changed the name; only one such fire, in 1970, had to be extinguished. Most of the fires took place inside designated "let burn" zones; nine outside its boundaries were allowed to burn themselves out. McLaughlin felt confident that this experience showed that "natural fires under conditions pertaining in the southern Sierra burn out after spreading over a relatively small area." He felt certain that the experience at Sequoia and Kings Canyon showed that "resource managers could restore fire to its natural role in parks and wilderness . . . in a way that is acceptable to the public."⁴²

McLaughlin's support for the fire program was a crucial dimension in its continuation. He used the power of his office to support the program even when it might have been politically more viable to back away. In one instance, "one of the fires got away and burned up some stuff. There was a big review down in Sequoia which [Lyle] McDowell came out for," Barbee recounted. "It was a kind of billed as a public hanging,

⁴⁰ Ibid., 384; Acting Superintendent, Sequoia and Kings Canyon to Director, Western Region, April 10, 1970, Sequoia National Park Archives, FR 68-76, Redwood Mountain Man U Box 34, F1; John S. McLaughlin, "Restoring Fire to the Environment in Sequoia and Kings Canyon National Parks," *Proceedings, Annual Tall Timbers Fire Ecology Conference*, June 8-9, 1972, 391-3.

⁴¹ Acting Superintendent, Sequoia and Kings Canyon to Director, Western Region, April 10, 1970, Sequoia National Park Archives, FR 68-76, Redwood Mountain Man U Box 34, F1.

⁴² McLaughlin, "Restoring Fire to the Environment in Sequoia and Kings Canyon National Parks," 393-94.

and I went.” Yosemite Superintendent Larry Hadley told Barbee: “I don’t want any of these goddamn fiascos taking place up here in Yosemite.” Hadley “knew where I was headed, and he didn’t want his own fiasco,” Barbee remembered. “He said, ‘you get down there and see what you can learn from it.’ So, I did.” Barbee was impressed with McLaughlin’s commitment to the burn program and his dexterity in handling criticism of the practice. “McLaughlin defused it immediately,” Barbee observed with admiration. “He stood up and said that this is such an important program that we can’t jeopardize it, and he took full responsibility for what has occurred. That just stopped [the critics] in their tracks.”⁴³

McLaughlin retained concerns about the implementation of fire regimes in national parks. Although he was an advocate of allowing natural fires to burn, he was not certain of the viability of prescribed fire. He recognized the value of the program, but feared that the financial resources upon which implementation depended would be impossible to secure. This, he believed, was a dangerous scenario. New air quality standards that stemmed from the Clean Air Act of 1970 also seemed to McLaughlin to impede the use of fire. Such rules were “being interpreted to imply that the environment can not stand any more smoke of any sort or that all smoke is bad,” he suggested. “Smoke from natural fires has been in our environment since time immemorial, and it may well be an essential part of it.”⁴⁴

By 1971, McLaughlin had become comfortable not only with the park’s new burn policy, but with the terms under which he as a superintendent could implement it. Late in the summer season in 1971, he issued a management directive that underpinned Kings Canyon’s strategy for addressing high-elevation natural fire. Using the language of the Green Book, he linked his park’s resource management goals with the natural fire directive, establishing a rationale for the park’s program. The plan took shape around the goal of “perpetuating animal and plant habitats in the management unit,” leading to the guideline of letting fires burn, with careful monitoring when they were above 9,000 feet in elevation. McLaughlin reserved the right of his wildfire committee, the park fire chief or acting fire chief to order suppression of a fire that threatened to spread beyond designated boundaries. He carefully delineated the areas covered in the program, producing the clearest articulation to that time of the superintendent’s power in implementing the use of fire.⁴⁵

McLaughlin embraced fire as a tool at his parks, implementing programs that helped his resource managers and met with public approval. Despite concerns about the efficacy of prescribed burning, which still seemed diffuse and without concrete objectives, the program flourished. Where it was implemented, it achieved a primary goal. It reduced the dangerously high fuel loads that led to intense fires that damaged sequoias. Other parks experimented with fire programs, often looking to Sequoia and Kings Canyon for examples. They continued to grapple with the consequences. They were reassured by researchers who worked closely with the parks. Richard Hartesveldt was the leader of the San Jose State College research at Sequoia and Kings Canyon

⁴³ Robert Barbee interview, part I, November 12, 2004.

⁴⁴ McLaughlin, “Restoring Fire to the Environment in Sequoia and Kings Canyon National Parks,” 393-94., 394; Rothman, *Saving the Planet*, 125-30.

⁴⁵ Superintendent to the Park Staff, Memorandum, September 7, 1971, Sequoia National Park, Fire Records, Box 191, F1.

National Parks. He worked with park personnel to devise a better strategy to protect the sequoias. Hartesveldt suggested burning around the base of the trees prior to a prescribed burn, removing the fuel sources that caused so much damage to the big trees. Harold Biswell and his proteges – Jan van Wagtendonk, James Agee, and Bruce Kilgore– also helped persuade park superintendents of the efficacy of their strategies. The scientific basis for decision-making became a strategy to justify the fire programs. As the scientists played a larger role with each passing season and every positive result, the parks’ shift toward the use of fire began to solidify.⁴⁶

The growing emphasis on outside research brought Yosemite National Park to the forefront. Despite its proximity to the research at Sequoia and Kings Canyon and its historic position as an important fire park, Yosemite had been a backwater of fire research. “When the Park Service has had controversy” associated with fire, Jan van Wagtendonk observed, “Yosemite has usually escaped.” The transformation from backwater to forefront happened quickly. Yosemite “had some really hot shot natural resource management people,” Agee remembered. By the mid 1960s, Yosemite’s leadership showed interest in using fire as a tool. In January 1966, Superintendent John C. Preston invited Harold Biswell to speak on controlled burning, bringing the man still widely seen as a heretic in to describe his work to the park’s staff. The charismatic Biswell could command an audience and his reputation preceded him. Within a few years, Biswell had become a fixture at Yosemite, and his students conducted a variety of research projects there. By the early 1970s, he began teaching an extension course on forest fire ecology at the park. His presence encouraged further experimentation. In time, Agee believed, the Yosemite program “became on par with that of Sequoia.”⁴⁷

As a result of Biswell’s work and his overarching presence, controlled burning in Yosemite proceeded in a systematic and organized fashion. The scientific basis for such activity was clear, and despite strong resistance from the suppression advocates inside the park, experiments in controlled burning proliferated. In 1968, Robert Barbee returned to Yosemite after graduate training at the “ranger factory” at Colorado State University to serve as “the resource management guy there,” he remembered. “I was brand new, with an entrenched cadre of people who were parks forester and the whole traditional scene.” Many were not receptive to Barbee’s program. “They did not embrace me with open arms,” he smiled from a distance of thirty years. “I didn’t even have an office at first. Bryan Harry, the chief naturalist, let me have a little desk in the library over in the museum. He was the most sympathetic guy of all for what I was trying to do.” Barbee was assigned to write Yosemite’s first natural resource management plan. “The chief ranger I worked for said: ‘your job is to develop this plan, but don’t think you are going to do anything,’” he recalled. “I am not wired that way. And so anyway I sat there for six months, did a lot of research and started to write the plan.”⁴⁸

Writing a report and implementing it were very different kinds of objectives, and Barbee had to negotiate the distance between them. “I soon realized what we had to do.

⁴⁶ John S. McLaughlin to Richard Hartesveldt, February 10, 1970, Sequoia National Park Archives, FR 69-72, Man U, Box 11, F 92; Bancroft, Nichols, Parsons, Graber, Evison and van Wagtendonk, “Evolution of the Natural Fire Management Program ay Sequoia and Kings Canyon National Parks,” 176-77.

⁴⁷ James Agee interview, June 10, 2004; Carle, *Burning Questions*, 124; Biswell, *Prescribed Burning*, 112.

⁴⁸ Robert Barbee interview, Part I, November 12, 2004.

There was not a technical problem,” he recalled. “The technical part was easy. I [had] to be an advocate, but I [had] to do it carefully so I [did not] get identified as some sort of a nut.” He faced considerable resistance and moved cautiously. “I was aware that any new administrator or new breakthrough, [any] new program manager can become a casualty quickly,” he mused. “So I had to kind of employ whatever charisma I had to deal with it. That was the problem.” He soon was assigned an office in the headquarters building, “in the attic,” he remembered with a smile. “Then I got an office downstairs with a window, and then they reorganized the park and I ended up with what used to be the foresters and the big guys on my staff. They were Indians and they were big on this whole notion of prescribed burning.” Barbee’s program gained momentum.⁴⁹

He prepared to reintroduce surface fire at a variety of locations in Yosemite, including the ponderosa pine-bear clover fuels near Wawona Hotel, the eleven-mile road region in the park’s northwest quadrant, Yosemite Valley, and the Foresta Village. At the Mariposa Grove and the Tuolumne Grove of giant sequoias and sugar pines, “there was no way you could set a fire,” Barbee recalled. “The white fir was over your head, and you would have a holocaust there if you did not watch out. So what we did in the sequoia groves is try and simulate the fire by cutting, burning, piling the white fir and incense-cedar. The Sequoia groves [were] just too valuable a resource and we could not take a chance. The vegetative shift had taken place so long ago that there were no sequoias, no seedlings or anything, it was just solid white fir.”⁵⁰

Despite such a bold plan, without adequate resources, the chances of its comprehensive implementation were slim. The introduction of prescribed fire began in fits and starts. The first prescribed burns took place in fall 1969 at Foresta Village, and by summer 1970, a rudimentary prescribed burning program was in place. Biswell, Harry Schimke, and Barbee all were instrumental in its design and implementation. The BIA’s Harold Weaver, another of the progenitors of prescribed burning, visited Yosemite to assess the work. Biswell and James Agee, working on his Ph.D. with Biswell, joined him on a trip to Mariposa Grove. Weaver was impressed with the park’s accomplishments. “Improvement by clearing, piling, and burning of the dense white fir understory and the accumulated flammable debris of the forest floor is an excellent project,” he informed Yosemite Superintendent Lawrence Hadley.⁵¹

Weaver continued his tour, visiting prescribed burns at the El Capitan Picnic Area, El Capitan Meadow, the El Capitan Vista area, Wawona, Foresta, and at the Tuolumne Grove of Sequoia. Weaver saw tremendous value in the project, for in each locale it reduced the understory and the attendant fire hazard, brought back long suppressed flowering plants, ferns, and grass-like plants, and eliminated accumulated debris and weak trees. “I like the work at Yosemite very much,” he concluded. “It has been skillfully accomplished by men who understand fire ecology and fire behavior and who know how to use fire.”⁵² No higher compliment could come from a leader of the discipline.

⁴⁹ Ibid.

⁵⁰ “U.C. Foresters Aid Fire Ecology Program at Yosemite National Park,” *California Agriculture* 25 2 (February 1971), 3; Robert Barbee interview, Part I, November 12, 2004.

⁵¹ Harold Weaver to Lawrence C. Hadley, Superintendent, Yosemite, August 4, 1970, Yosemite National Park Archives, Central Files, Y 14, Forest Fire Control, 1970.

⁵² Ibid.

Supported by such praise, the move to introduce fire became more aggressive. A new environmental restoration plan authored by Barbee and approved in 1970 brought Biswell's ideas to Yosemite in a formal way. Prior to human arrival, the plan stated, "surface fires were one of the most important natural agents controlling the distribution of trees and meadow vegetation." Fire had been critical; many areas of Yosemite revealed natural fires about every two years over an extended period. Suppression had significantly altered the landscape and "active management," the combination of introduced fire, natural fire, and other efforts to reduce fuel load, had become an essential step in achieving resource management goals. "Solving Yosemite's ecological problems must certainly include the use of planned fire as a management technique," Barbee believed. He selected five regions in the park for initial restoration, regarding the effort as the "initial step in re-establishing park ecosystems that have been altered by fire exclusion."⁵³

The idea of an environmental restoration program melded a number of important trends in federal conservation. Barbee recognized the growing emphasis on meeting the requirements of federal statute stemming from the passage of the National Environmental Policy Act in 1970. That Nixon-era law became the basis for the entire regime of federal action on public lands, a process that the National Park Service came to call "compliance." A natural resource specialist, he embraced the science that had become the intellectual basis of his profession, another of the many results of the Leopold Report and the shift in NPS direction it heralded. At the same time, Barbee built on the growing interest in the work of Biswell and his peers, bringing fire science inside the NPS loop in important ways. Barbee "kept pushing and Bob kept burning," Agee remembered, keeping prescribed burning in the forefront.⁵⁴ The result was a program that almost perfectly reflected the national mood about the environment, the new emphasis on science in the National Park Service, and the growing trend in the federal government toward statutory regulation of environmental issues.

The burning already undertaken at Yosemite National Park was such a success that a significant percentage of its staff embraced the new ethos. "It is our contention that the time has come when Yosemite should break the ground for some research of our own in the ecological manipulation of resources of the park," Yosemite Fire Control Officer Jim Olson announced in September 1970. He proposed a fifty-acre burn on the Eleven Mile area of the Wawona District, which he wanted to undertake before the fall rains arrived. Olson needed the heat that dryness would generate to accomplish his management goals. White firs were the target; only intense heat could kill the species. Olson planned control lines to surround the fire, and located the burn far from roads to limit any potential consequences. "Strict adherence to prescription levels and weather forecasts will preclude uncontrolled fire out of the area," he predicted. "Research along these lines will enable us to answer some of the questions unanswered for Yosemite fuels and conditions."⁵⁵

⁵³ Robert Barbee, in collaboration with Harold Biswell, "Environmental Restoration Program for Yosemite National Park, 1970," Yosemite National Park Archives, NPS, Protection Division, Fire, Prescribed Fire, 4 14 1969-1985, 1-6.

⁵⁴ James Agee interview, June 10, 2004; Rosenbaum, *The Politics of Environmental Concern*, 117-23.

⁵⁵ Fire Control Officer Jim Olson to Wawona District Ranger, September 22, 1970, Yosemite National Park Archives, Y14.

In plans such as the Tuolumne Meadows Experimental Burn in 1970, an addendum to the park's environmental restoration program of the same year, Yosemite proposed an orderly set of small controlled burns within the meadow. Barbee designated ten five-acre plots, with a scientific rationale for each. Lodgepole pine had been encroaching on Yosemite's high meadows for most of the century and the park sought remedies to the problem. Barbee proposed a comprehensive prescription for conducting the burns, with close observation of weather and a spot forecast from the Fresno weather station to validate the prescription and sustain it throughout the burn.⁵⁶

After the implementation of such plans, the idea of using prescribed fire gained momentum. Fire management fit nicely into the value system of early 1970s America, an era in which many came to see the earth as an organism rather than a canvas for human endeavor. On some levels, this new approach suggested arrogance: humans believed that they could control fire, a conceit long harbored. Science contributed to this impression, for Americans remained firm in their belief that technological solutions existed for all classes of problems. The National Park Service drank from this heady brew, but with a little more caution than those farther from the front lines. As McLaughlin at Sequoia and Barbee at Yosemite noted, the advantages of fire were many as long as adequate resources supported the endeavors. The Sierra Nevada parks benefited from the proximity of the University of California, Berkeley and a growing variety of research that emanated from there. When Yosemite developed a new master plan in 1971, Biswell presented a statement in favor of the park's use of fire. Prescribed fire was "the best and most desirable way to correct the undesirable situations now existing," he asserted. Biswell regarded the use of fire as the way to prevent catastrophic wildfire, an idea that had currency mostly among the scientific community.⁵⁷

Opponents of prescribed burns remained, some prominent in the California natural resource bureaucracy. Shandon Valley rancher Ian McMillan, a member of the California State Parks Commission, adamantly opposed the use of fire. He regarded the NPS's program at Yosemite as a vanguard for a similar program in the state park system, and he opposed it with everything at his disposal. McMillan peppered California's legislative representatives with letters detailing his objections. He informed U.S. Senator Alan Cranston, D-Ca., that the burned park landscapes appeared to him as "an artificial manmade spectacle, entirely unnatural, incongruous, extremely unpleasant to view, and a flagrant violation of the concept of nature preservation on which the park was founded." He told Yosemite Superintendent Lynn Thompson that he regarded burning as "artificial landscaping" and suggested that the use of fire showed an emphasis on "game management and habitat manipulation," what he called an "alien philosophy that overturned the 'basic park ethic.'"⁵⁸ Hyperbolic and overzealous, McMillan could be easily dismissed, but he represented a powerful sentiment against prescribed burning.

When Horace Albright, eighty years old in 1970, inserted himself into the conflict, burning advocates no longer could pretend that opponents of the use of fire were inconsequential. When he heard of plans to allow lightning fires to burn in Yellowstone

⁵⁶ Robert D. Barbee, "Experimental Use of Prescribed Fire to Control Lodgepole Pine Encroachment," October 9, 1970, Yosemite National Park, Y16.

⁵⁷ Carle, *Burning Questions*, 147-48; Jan van Wagendonk interview, June 13, 2002.

⁵⁸ Horace M. Albright to George B. Hartzog, Jr., July 12, 1971, DPR, quoted in Carle, *Burning Questions*, 151.

National Park in 1972, Albright went straight to NPS Director Hartzog. An “old -school greenery is scenery” type, as Jan van Wagtenonk labeled him, Albright insisted that fire had no place in an ecosystem. “George, I say this with the utmost devotion to you,” Albright finished. “If you do not stop this fire policy, at least for 1972, I’ll have to enter the defense of Yellowstone.” Two years later, Albright was present at the Star King Fire at Yosemite. Angered by the smoke, he grabbed van Wagtenonk by his lapels and said: “I understand you’re responsible for all this smoke.” Two years into his career with the NPS, van Wagtenonk was unwilling to engage the Service’s avuncular grandfather. “I said, ‘not me!’ I pointed to the [Yosemite] Resource Manager Dick Riegelhuth,” van Wagtenonk recalled with a smile. “Dick handled it just fine.”⁵⁹

Albright’s vehement opposition illustrated how much and how little had changed concerning prescribed fires. By the middle of the 1970s, the National Park Service engaged in much more than an experiment with natural and prescribed fire. Most of the major national parks – including Yellowstone, Yosemite, Grand Teton – had established programs. The NPS approved Yellowstone’s first fire management plan in spring 1972. It included only two prescribed natural fire zones. A 1975 revision reversed the vision, accentuating the importance of fire; it designated the entire park as a prescribed natural fire zone except for the developed areas. The onus had shifted; burning took precedence except in developed areas.⁶⁰ The use of fire became an integral part of the NPS approach to preventing fire. In his day, Horace Albright could have terminated a natural or controlled burn policy with a wave of his hand. But even the reverence in which he was held and his still significant political powers could not affect fire’s status in the mid-1970s.

Major conservation figures such as David Brower and Edgar Wayburn of the Sierra Club did not like the results of fire any better than did Albright. Jan van Wagtenonk took Brower into the Mariposa Grove at Yosemite to show him new seedlings that sprouted in the wake of a prescribed burn. “I understand, philosophically, what you are saying to me, but emotionally, I just can’t handle the black trees,” Brower told the scientist. Brower was perhaps the leading figure in American conservation – the individual who put wilderness into the national lexicon, architect of the demise of the Echo Park Dam and the most outspoken proponent of nature protection of his day. Brower’s sentiments were telling. For all the good fire did for ecological systems, its damage to aesthetic qualities ran hard against the vision of pristine nature that bolstered the American sense of self in the early 1970s.⁶¹

Nor was the sentiment confined to those outside the National Park Service. The generations raised on fire as an enemy still permeated the NPS, and they grappled with the implication of the new policy. “Old habits die hard,” observed Director Hartzog, “and many a fine park ranger and superintendent did not jump with joy to embrace the new policy.”⁶² Yet, momentum favored change. Hartzog’s support, Lyle McDowell’s

⁵⁹ Jan van Wagtenonk interview, June 13, 2002; Carle, *Burning Questions*, 150-51; Hartzog, *Battling for the National Parks*, 105.

⁶⁰ *Yellowstone Fire Management Plan*, 1972; Resource Management Plan, 1975, Y-218; Robert E. Sellers and Don G. DeSpain, “Fire Management in Yellowstone National Park,” *Proceedings, Annual Tall Timbers Fire Ecology Conference*, V 14 (1976), 102-08.

⁶¹ Jan van Wagtenonk interview, June 13, 2002; David R. Brower, *For Earth’s Sake: The Life and Times of David Brower* (Salt Lake City: Gibbs Smith, 1990), 328-34.

⁶² Hartzog, *Battling for the National Parks*, 105.

prominent role in developing a management structure for implementing the use of fire, and the acceptance of the idea of ecology meant that the NPS could craft a structure within in which the use of fire would become a normal part of Service practice.

By the mid-1970s, the National Park Service had reached an initial point of maturity in its fire management program. The use of fire as a resource tool had begun with the Leopold Report, migrated to the Green Book, and then continued into application through people in the Washington office and the regional offices in the field. It centered in Yosemite, which had become central to the NPS's vision of addressing fire, and had spread to more than two dozen parks. When superintendents wanted to consider initiating controlled burning, they often turned to Yosemite. Kilgore, by then associate regional director for resource management and planning in the Western Region, had become one of the Service's leading thinkers on the subject, and he recognized the need for a more comprehensive vision. Fire and its use – and increasingly its suppression – remained episodic. Kilgore had come to believe in a three-part total fire program. “Allowing fires was part of it, suppression was part of it, and prescribed burns [were] a part of it,” he stated – a policy that respected local authority by basing decisions on each park's fire planning documents. In an article published in *Transactions of North American Wildlife and Natural Resources Conferences*, Kilgore called for a change in thinking about fire that he described as a transition from fire control to fire management that would let the National Park Service manage its units on an ecological basis. He envisioned the resource management and fire management units in the regional offices supporting their counterparts in the parks, by encouraging implementation of plans and securing the funding to carry out burn programs.⁶³

The early years of the program that recognized fire as an ecological asset also had begun a transformation of National Park Service procedures. The acreage initially burned was not enormous, but given the sincerity and severity of opposition to the very idea of burning, it spoke volumes about the magnitude of change. Through 1974, ten parks had allowed only 27,000 acres of timber to burn as a result of natural fire and five parks had burned 37,000 acres under prescribed conditions. Of that, 33,000 acres had been burned at Everglades National Park, where fire had been a staple of management for almost two decades and where the most comprehensive program in the national park system took place. Yet the philosophical underpinning belied the limited application. Kilgore loudly asserted that the NPS could not “gamble with a force as potent as fire – either we should have it under full control at all time or we shouldn't use it at all.” But the use of fire was imperative: allowing fuel loads to accumulate simply passed a more difficult problem to a future manager.⁶⁴

As late as 1974, the NPS fire program had yet to encounter significant public opposition. Because the program remained small – even though considerable acreage was included in areas where fires were allowed to run their course – there had been few circumstances in which fire impacted visitors or nearby communities. Until such an event

⁶³ Bruce Kilgore, “From Fire Control to Fire Management: An Ecological Basis for Policies,” *Transactions North American Wildlife and Natural Resources Conferences* 41 (1976), 473-77; Bruce Kilgore interview, February 16, 2004; Superintendent, Crater Lake National Park to Superintendent, Yosemite National Park, April 15, 1976, YNP 57.

⁶⁴ Bruce Kilgore interview, February 16, 2004; Bruce Kilgore, “Fire Management in the National Parks: An Overview,” in E. V. Komarek, ed., *Tall Timbers Fire Ecology Conference Proceedings* (Tallahassee, FL: Tall Timbers Research Station, 1976), 45-57.

occurred, the NPS was operating in a Petri dish – conducting an experiment that tested neither the Service’s commitment to the program nor its ability to address pressure from the public. The summer of 1974 changed that equation. A significant public relations backlash against NPS policy and procedure resulted from the management of a small fire at Grand Teton National Park. The Waterfalls Canyon Fire was a slow-burning and generally visible fire that burned for more than three months before rain and snow extinguished it. It provided a pivotal test of NPS commitment and a barometer of the issues that could have easily derailed the use of fire in the national park system.

Before 1974, Grand Teton National Park had joined the small group of parks that aggressively implemented a natural and prescribed burning regime. Almost from the moment of the publication of the 1968 Green Book, park officials planned for the use of fire. Implementation took longer than park leadership anticipated. The weather had been ideal for burning in 1970 and 1971, but Grand Teton managers demurred because of a lack of research data. By 1972, they decided enough research had been completed to begin and NPS Biologist Lloyd Loope and George Gruell of the Forest Service began planning the burn. Press releases in the *Jackson Hole News* in June and August 1972 explained the program and its goals. The park prepared a fire-vegetation management plan in 1972, specifying 125,000 acres on which lightning fires would be allowed to burn. When the Midwest Regional Office evaluated the plan, officials rejected it as too dangerous, ordering the park to redesign the parameters of its program.⁶⁵

Even before Grand Teton and NPS staff redesigned the plan, the first prescribed burns in the park took place under previously approved conditions. The 1973 program called for two prescribed burns in Grand Teton National Park. The first, a scheduled twenty-acre burn on Blacktail Butte was delayed for the year when wet conditions slowed the drying of the understory. Crews ignited the second planned fire – a 100-acre burn on Uhl Hill – on August 28. The conditions were difficult, for the fine fuel moisture (FFM), temperature, relative humidity (RH), and wind speed were not within the optimum range of the burning prescription. To compensate for the less than optimal conditions, the park instituted a series of additional protective measures. A more than one mile-long fire line had been cleared previously, crews removed surface vegetation, and the park widened another existing fire line and extended it. A total of fifty-six people worked the fire line, including a crew with a D-7 Caterpillar earthmover standing by in case of a need for rapid response. Smoke dispersal conditions approached excellent. “The forecast was favorable, manpower present, and burning commenced at 1300” hours, the official report of burn recorded.⁶⁶

The weather conditions did not cooperate with the burn program. Smoke from the fire drifted east and then southeast toward the Mt. Leidy Highlands, large sedimentary mountains east of Jackson and north of the Gros Ventre River. Only a small amount of smoke settled in the Buffalo Valley, but any amount there had been one of the fears of planners. They expected the smoke to inspire local resentment. The fire consumed nearly thirty acres of sagebrush that surrounded a stand of aspen, but it lost its impetus in the green and moist aspen understory. Only a few small areas burned at all, and most did not

⁶⁵ N.A., “Fire Management in Grand Teton National Park;” no title, *Jackson Hole News*, June 22, 1972; *Jackson Hole News*, August 10, 1972.

⁶⁶ “1973 Prescribed Burning Statement,” Fire Records, Box 1, (located in Law Enforcement Evidence Room), Grand Teton National Park.

burn thoroughly. Staff members patrolled the fire area for three days, engaging in only a little additional work. On September 1, rain and snow extinguished the fires.⁶⁷

Despite some negative results, the Uhl Hill fire gave the park confidence in the prescribed burning program. In the most basic of terms, Grand Teton had started a fire, monitored it, and achieved some resource management goals without incurring the ire of the community. While less acreage than intended was consumed, the fact that the burn came off without significant problems was a major achievement for supporters of the use of fire. It showed that if undertaken carefully, intentional burning did not have to affect community-park relations. Nor did it have a negative effect on natural resources. Even if the Uhl Hill burn did not accomplish everything its planners expected, Grand Teton saw it as an important starting point for continuing the possibility of implementing a regime that used fire to shape the natural environment.

Devising an acceptable plan to govern the overall burning process proved more complicated. In July 1974, Grand Teton National Park circulated a revised draft environmental assessment of its proposed fire-vegetation management plan. When the park held hearings on the proposal, it received an array of comments. The majority of the negative comments focused on the oldest of national parks issues: as seasonal research biologist Dale Taylor expressed it, the question was “when are things *natural* and when are we *gardening*?” A range of figures, including the prominent wilderness advocate Adolph Murie, believed that the use of fire in the national parks was overzealous tampering. “We should be guardians not gardeners,” Murie had written in a critique of the Leopold Report in 1963, a sentiment echoed by Howard Zahniser of the Wilderness Society, and in 1974, Murie remained unconvinced of the efficacy of the report and the controlled burning it recommended. University of Wyoming Zoology Professor Oscar Paris supported natural fire but urged that “any program of prescribed burns in the park be dropped forthwith . . . [it would] serve only as blemishes on the land.” Louise Mardy observed that the many spot fires constituted more than the “minimum of management” that was consistent with park policy. The less numerous positive comments came from those with some background in natural resource or fire management. U.S. Forest Service retiree Richard E. Baldwin believed that the idea of a burning program was a good one, but that the NPS needed more fire suppression and fire behavior expertise on its fire management team. Such specialized commentary amounted to refinement of NPS practices rather than opposition.⁶⁸

Nine days later, on July 17, 1974, lightning kindled the Waterfalls Canyon Fire. That summer around Grand Teton National Park had been extraordinarily dry, with successive months of below-normal precipitation. When the fire started in the area of a five-acre burn from the previous year, the park staff’s initial reaction was to let it go and monitor it. With other natural fires burning in both Grand Teton and Yellowstone national parks, the Waterfalls Canyon fire did not seem exceptional. It spread “slowly,

⁶⁷ Ibid.

⁶⁸ Gary Everhardt, “To Whom it May Concern,” June 28, 1974; “Testimony Presented at the Public Hearing on the Draft Environmental Impact Assessment of Grand Teton National Park’s Fire-Vegetation Management Plan held in Jackson, Wyoming on July 8, 1974;” Richard E. Baldwin to Gary Everhardt, July 10, 1974; Dale Taylor to Richard E. Baldwin, July 17, 1974; Louise G. Murie to Gary Everhardt, July 18, 1974; Philip M. Hocker to Gary Everhardt, July 19, 1974; Adolph Murie to Gary Everhardt, July 18, 1974, Fire Records, Box 1, (located in Law Enforcement Evidence Room), Grand Teton National Park.

sometimes invisibly, sometimes with billows of smoke. . . . At no time was the fire's behavior unpredictable or was the fire uncontrollable," chroniclers noted. In an attempt to soften the public's response to seeing the fire be allowed to burn, park interpreters explained the Service's natural fire policy to visitors. The fire continued to smolder, growing to only 200 acres in the first six weeks. On September 10, almost two months after it began, the fire reached 500 acres in size and was moving upslope. After that, it grew rapidly. On September 18, it reached 1,500 acres. The next day, the fire topped 1,900 acres. Its smoke filled the town of Jackson, Wyoming, prompting negative responses from the community.⁶⁹

Jackson had been uneasy before mid-September. The blaze was two months old and following it had become local sport. But no one in town could recall a fire that lasted as long. Whatever support existed for the policy of allowing natural fire to burn diminished daily. The "smoky pall," as one local newspaper called it crystallized negative sentiment. "Has Smokey the Bear Become Smokey the Firebug?" a September 19 paid advertisement from Concerned Citizens of Teton County in the *Jackson Hole Guide* screamed at the townspeople.⁷⁰ The town did not object to natural fire per se; what residents said they disliked was what they perceived as a cavalier attitude on the part of the National Park Service. From the town's perspective, Grand Teton seemed content to let the fire burn itself out no matter how it inconvenienced locals. An eventuality that many in the NPS recognized occurred: Two very different dimensions of the National Park Service's obligations – resource management and community relations – collided head-on.

The controversy bubbled over, and soon attained national dimensions. The Rocky Mountain regional NPS office issued a press release that explained fire policy while dexterously avoiding the words "let burn." Service officials had decided the term connoted a lack of monitoring when the hallmark of the NPS program was close attention as any fire burned. The September 20 press release was widely circulated in an effort to explain the NPS reaction to fire to the public. In early October, the *Denver Post* ran a major story on the Waterfalls Canyon fire, and its *Empire Edition*, which covered the northern Rockies, featured a photograph of the fire on its cover. CBS and NBC showed filmed reports later in October, and *Time* magazine also covered the story.⁷¹

The National Park Service recognized that the traveling public had witnessed the fire in large numbers. By one count, at least 100,000 visitors saw at least smoke from the fire. Despite explanatory efforts, most people could not fathom letting a fire burn, and many expressed concern about the aesthetic impact of the fire. Others questioned its impact on wildlife, air and water quality, and vegetation. The emotions that accompanied their observations were powerful; most people truly could not comprehend allowing the fire to burn.

Waterfalls Canyon illustrated a problem with which the National Park Service had yet to grapple. While the NPS burn program had genuine empirical grounding, the emotional response of the public had nothing to do with the efficacy of the science that

⁶⁹ "Narrative – Waterfalls Canyon Fire," 76; Lloyd Loope, "Report on Uh Hill Burn of 8/28/73, Fire Records, Box 1, (located in Law Enforcement Evidence Room), Grand Teton National Park.

⁷⁰ "Has Smokey the Bear Become Smokey the Firebug?" *Jackson Hole Guide*, September 19, 1974.

⁷¹ "The Anatomy of a Public Issue: The Waterfalls Canyon Fire, Grand Teton NP," (rough draft), Fire Records, Box 1, (located in Law Enforcement Evidence Room), Grand Teton National Park.

underpinned the decision to let burn. The American public feared fire; it had been raised on Smokey Bear and Bambi, and typically thought of national parks as beautiful vacation lands. Most members of the public simply could not comprehend the need to allow fire. In an age of quality of life environmentalism, when Americans saw in their affection for the environment a measure of the grace and power of their society, they could not understand how their aesthetic consciousness could be intentionally intruded upon with the tacit acceptance of the federal agency they trusted to guard the nation's natural treasures. In a time marked by a public energized with questions pertaining to the environment, the National Park Service found its friends to be its greatest critics when it came to using fire to shape the parks' physical environment.

Waterfalls Canyon had another important impact. It taught the NPS the value of communicating its science policy to the public. As did most scientists, those working for the National Park Service tended to rely on their specialized knowledge and expertise and to dismiss those who disagreed with them. Often, large segments of the general public either did not understand this scientific message or did not trust the message they received. This circumstance had more to do with the decline of the position of science in society than it did with anything the National Park Service said or did, but the result was the same. The public felt uncomfortable with the decision to use fire as a tool. Little anyone in the NPS said could change that reality.

Ultimately, the idea of controlled burning received a powerful boost from the Waterfalls Canyon Fire. An article on the fire in *Time* magazine perfectly reflected the new NPS fire policy. Smokey Bear was "no ecologist," the article asserted. "He is not aware that natural – as opposed to man-made – fires are good for forests." Even as it acknowledged opposition to the policy, in a careful synopsis of the work of Kilgore and the other ecologists in the Service, the magazine embraced the use of fire. "It is ridiculous that we have been fighting natural fires for 100 years," observed Yosemite Resource Management chief Dick Reigelhuth in the same article.⁷² The coverage refuted the local critique of the fire, a major triumph for advocates of the use of fire in the National Park Service.

In the aftermath of Waterfalls Canyon, the NPS built on this triumph with an extensive campaign to educate the public about its use of fire. "We've got a major problem in explaining our position to the public," Bruce Kilgore told *Time*, but buoyed by the magazine's positive coverage, the NPS formulated a public education campaign. Kilgore identified the single most complex problem – convincing people that fire could be a valuable tool for protecting, not destroying their national parks. No one thought changing such attitudes would be easy. If no less an environmentalist than David Brower could not come to grips with the changes, NPS personnel believed, it was difficult to expect people less versed in the value of ecology to understand. The story of Bambi and the icon of Smokey Bear did not help; both symbols showed fire as a threat to all that was good, albeit in Smokey's case, the emphasis was on the careless manner of humans and the fires they caused. The NPS learned that bringing science to the public was a challenging and difficult task.⁷³

The National Park Service continued its campaign. Press releases, public statements, educational and interpretive programs in the national parks, and other forms

⁷² "Let 'Em Burn," *Time* 104 18 (October 28, 1974), 57.

⁷³ *Ibid.*, 57.

of communication made up the effort. In December 1974, the NPS took an important step in bringing this issue in front of the public. A three-page press release – more a newspaper article than a conventional public relations missive – spearheaded the campaign. “National Park Service Studies Show How Forest Fires May Help Preserve the Parks,” the headline announced with certainty. The release attempted to dispel what it called the dominant “fires-are-bad” construct. Recounting the history of natural and prescribed burning from Everglades through Sequoia and Kings Canyon and Yosemite, the NPS document highlighted the ways that fire served as a positive force and as an ecological balance system for land.

Kilgore’s three-part fire program had become policy, and had been put into effect in twelve national park areas – Everglades, Sequoia and Kings Canyon, Yosemite, Grand Teton, Yellowstone, Rocky Mountain, Wind Cave, Carlsbad Caverns, Guadalupe Mountains, North Cascades, and Saguaro. With the exception of Everglades, these parks were in the desert Southwest or the mountains of the West. Guadalupe Mountains and North Cascades were both new additions to the park system; conceived as smaller latter-day versions of nineteenth-century national parks and lacking the long history of firefighting so common in the park system, they were easy candidates for implementation of the new NPS strategy. Carlsbad Caverns, Wind Cave, and Saguaro shared a different set of attributes: all had plenty of easily combustible resources and significant histories of suppression. They too offered the Service a good place to experiment with its new policy. Additions to the program in the near future included Glacier, Grand Canyon, Isle Royale, Redwood, Lava Beds, and Point Reyes. The Service designated more than 3 million acres where natural fires were allowed to burn as long as they did not threaten human life or developed areas.⁷⁴

At its core, the decision to burn remained driven by the management objectives of individual parks, as superintendents chose whether to participate. The factors that influenced them varied. An aggressive prescribed fire policy only made sense at certain types of parks, accounting for the preponderance of western parks where the influence of fire ecology was at its greatest. At most historical parks and most eastern parks, fire did not present as severe a threat as at large natural parks with their long histories of suppression. In a system that left participation to local management, many parks opted not to be involved. Other superintendents did not embrace the use of fire, instead deciding to continue existing practices.

Despite the fact that the burn program was more than six years old in 1974, the press release was the first example of a full-fledged announcement of the program as well as a push for its acceptance by the public. The National Park Service was committed to the new program, and it expressed its commitment in public in a more concerted and consistent manner. Press releases and other communications sought to carry the message forward. For the first time, the fire management program had the public and direct support of the National Park Service director. Gary Everhardt, who ascended to the NPS’s highest post upon the unceremonious departure of Ronald Walker in early 1975, had been superintendent of Grand Teton, the scene of the Waterfalls Canyon fire the previous summer. Everhardt had stood by the burn program despite its negative publicity, and he carried that commitment with him to the top NPS job. In a March 13, 1975

⁷⁴ National Park Service, “National Park Service Studies Show Forest Fires May Help Preserve Parks,” Sequoia National Park Archive, Box 192 (Let Burn 1974).

memorandum, issued less than a month after he took office, Everhardt informed the Service of his “personal interest and involvement in the fire management program.” He offered a schedule for parks preparing to introduce fire shaped by recommendations that Biswell, Kilgore, and others had long suggested. When challenged by congressional representatives on the burn policy, Everhardt stood his ground on fire, a stance that gave fire use advocates heart. Other directors, including the politically adroit George Hartzog, had given tacit support to fire management, leaving it to the local level rather than setting a direction to follow. In this, as in many other dimensions of National Park Service management, Walker, a political appointee with almost no prior park experience, had little background. Everhardt’s public support spoke volumes about the importance of the burn program and the backing it now enjoyed from the highest levels of the NPS.⁷⁵

The National Park Service had been struggling for models from which to develop a Service-wide structure for fire management. In this process, Yosemite’s transformation from backwater fire park to fire policy template continued. With the hiring of Jan van Wagtenonk in 1972, Yosemite acquired a highly trained young scholar who quickly became a premier fire ecologist. In concert with Robert Barbee, van Wagtenonk helped make Yosemite a model of fire management. Sequoia and Kings Canyon retained an important position as a leader in the development of new ideas and practices. Yosemite developed one of the first and most successful structures to manage fire, most clearly articulated in a 1975 “Role and Function” statement. The document described responsibilities, assigned authority, and divided tasks and responsibilities. Even more sophisticated, this role and function statement made distinctions between prescribed burning and natural, conditional, and loose-herding fire. This division was evident in fire scholarship, but had not been applied even episodically in national parks until this point.⁷⁶

Other parks contributed to the development of a larger NPS model of fire management. At Glacier National Park, Fire Control Officer William Colony took advice from the Rocky Mountain Regional Office in designing a template for a fire management plan. In 1975, Yellowstone completed an environmental assessment, a preliminary step in expanding the natural fire program to nearly the entire park. A new resource management plan, with a comprehensive section on fire management, followed in March 1975. This draft represented the fullest development of a rationale and strategy for Yellowstone’s use of fire to that point. Throughout the National Park Service, the momentum for Service-wide organization of fire management accelerated.⁷⁷

⁷⁵ Memorandum, Director to All Regional Directors and Director, National Capital Parks, March 13, 1975; Director to U.S. Harold T. Johnson, March 13, 1975; Regional Director, Western Region to Superintendents, Western Region, State Director, Hawaii, Chief, Arizona Archaeological Center, Directorate, Western Regional Office, Yosemite National Park Archives, Y 14 Forest Fire Control, 1914-1975; Foresta, *America’s National Parks and Their Keepers*, 39-55.

⁷⁶ Dick Reigelhuth, “Role and Function Statement: Fire Management, Yosemite National Park,” January 20, 1975, Yosemite National Park Archives.

⁷⁷ Fire Control Officer to Superintendent and Chief Ranger, GLAC, January 10, 1975, Glacier National Park Archives, 1910-1984 Collection, 306-5; Fire-Related Biological Fact Sheet,” National Park Service, April 1975, Yellowstone National Park Archives, Y-218; Draft, Fire Management Section, 3/31/75, Yellowstone National Park Archives, Y-218; Sellers and DeSpain, “Fire Management in Yellowstone National Park,” 108-12.

A national process was codified in 1976. Staff Directive 76-12 set out to clarify terminology and procedure for the burn program. “The use of fire is coming into its own across the Nation,” the document read. “Once considered a tool for habitat management, it is now acknowledged as vital to perpetuating certain natural systems.” The document articulated the NPS’s newfound primacy in fire management, saying “The incorporation of natural ignitions from lightning into management programs has been led by this Service.” The NPS had become the innovator; with no precedent technology, it must develop its own. The directive explained the change in terminology from “fire control” to “fire management,” a semantic redefinition that “more accurately reflect[ed] the increasing complexity of the Service-wide program,” and formally linked fire management to the emerging field of resource management. This shift reflected a shift in the meaning of NPS fire terminology. It described suppression activities in a new light, as situations where “sophisticated technology is joined by trained qualified fire managers to minimize loss of resources.”⁷⁸

Staff Directive 76-12 took its cues from the tripartite strategy that Bruce Kilgore designed more than five years before. The National Park Service sought to blend fire suppression, management use of fire, and research into “a cohesive program to perpetuate the resources entrusted to park management.” With its set of standardized definitions, the document outlined NPS formats and procedures for fire reports, articulated different funding sources that could be used to pay for fire management, mandated fire management plans for every area in the system and presented a skeletal outline of how they should be organized. It also developed qualifications and staffing protocols, and outlined fire research programs at the individual park level.⁷⁹

Even as the National Park Service was developing Staff Directive 76-12, an effort to codify standards and qualifications for everyone engaged in prescribed fire sought to add to the general upgrading of policies and procedures. The National Park Service had an agreement with the Forest Service to include its staff in the Interagency Fire Qualifications System, a rating system that allowed for standardized evaluation of personnel from different agencies, but the NPS also needed its own standards specific to its mission. Based on the work of rangers Art Partin and Larry Bancroft and others at Sequoia and Kings Canyon National Parks, the proposal identified nine distinct jobs with specific duties; the attributes necessary to qualify included physical fitness, experience, and subjective traits such as good judgment and observational ability. Courses of study necessary to qualify also were outlined. The program had been designed expressly for Sequoia National Park. Expanding it to a national program that worked in the sixty-eight parks the NPS had already identified as needing such personnel required careful analysis.⁸⁰

The National Park Service had reached an initial plateau in its pursuit of fire management. Until Staff Directive 76-12, the NPS had permitted a decentralized fire

⁷⁸ Associate Director, Park System Management to Directorate, WASO Division Chiefs and All Park Superintendents, Subject: Fire Management, July 22, 1976; Interim Fire Management Program, Staff Directive 76-12, Yellowstone National Park Archives, Y-218.

⁷⁹ Interim Fire Management Program, Staff Directive 76-12, July 22, 1976, Yellowstone National Park Archives, Y-218.

⁸⁰ Associate Director to All Regional Directors, July 18, 1976; W. A. Partin, “Green Card,” Glacier National Park Archives, 1910-1984 Collection, 306-8; Regional Director, Western Region to Superintendents, Western Region, May 13, 1976, YNP 32.

management policy. The document finally created a national structure to supercede local autonomy, signaling that the moment in which fire management depended solely on the interest of superintendents was coming to a close. In turn, this new policy demanded consistent attention from higher levels in the NPS, as well as a full-fledged commitment of Service resources. Fire management had reached a first stage of maturity.

The maturation process led to continued assessment and refinement of NPS fire management policies. A task directive signed by Director Gary Everhardt on November 1, 1976, commanded an assessment of past and current practice, consideration of alternatives, and the development of a recommended course of action and a schedule for an efficient Service-wide fire management program. It announced an additional \$1 million in annual emergency funding to supplement the existing program, which expended more than \$1.3 million annually for prevention and suppression. The directive anticipated a reformulation of the fire management program during the subsequent fire years to allow it to account for the differences among the 287 national park units. It created a task force to design a comprehensive operational program that included many of the leaders in NPS fire management – including David Butts, John Bowdler, Robert Sellers, William Colony, Larry Bancroft, and others. They were expected to use their expertise and knowledge to develop specific recommendations. The group was given five months to achieve this enormous goal, a relatively short period to develop the complete structure requested.⁸¹

Early in 1977, a new staff directive, 77-1, further elaborated on the structure of fire management and the division of responsibilities associated with it. As a result of the task force created under the earlier staff directive, the NPS took two major steps. The Service created a direct line for fire management in the administrative structure, and interagency cooperation became a primary concern. Neal Guse, division chief of natural resource management in the NPS Washington office, was designated as coordinator of the program. David Butts, also of the Washington office Natural Resource Management staff, was selected to oversee team leader Robert Sellers. John Bowdler was assigned to the Boise Interagency Fire Center (BIFC), the interagency endeavor begun in 1965 to centralize resources and strategies for addressing fire, to develop NPS-BIFC, coordinate NPS training, and serve as liaison to other federal agencies. These steps were a prelude to better integration of the fire management program in overall NPS management.⁸²

These effects at standardization led to efforts to tighten nomenclature. In any discussion of fire, the NPS realized, the chance of being misunderstood loomed large. “It is important we choose our words and phrases carefully when discussing our fire policy and fire management program with anyone, including conversations among ourselves,” Western Regional Director Howard Chapman told his staff early in 1975, more than four years after Sequoia and Kings Canyon Superintendent McLaughlin cautioned his parks about their choice of language. “We must not use words or phrases in a careless ‘because everyone knows what I mean’ manner,” Chapman said. The Forest Service and the NPS

⁸¹ “Task Directive for Fire Management, October 1976,” Yellowstone National Park Archives, Y-225; Regional Chief Scientist, Operations, Midwest Region to Research Scientist, Grand Teton National Park, December 16, 1976,

⁸² Associate Director, Management and Operations to Directorate and Field Directorate, Fire Management Program Responsibilities: WASO and NPS-BIFC, Staff Directive 77-1, February 24, 1977, Y14-550, National Park Service Historical Collection, Harpers Ferry, W.V.

worked to develop a shared nomenclature as interagency cooperation became increasingly crucial, but the language they used was exclusive to people in their field. In most circumstances, only specialists understood the difference between natural fire, prescribed fire, prescribed natural fire, and the other listed categories.⁸³

Staff Directive 77-1 promoted two important goals for the National Park Service. It served as the culmination of efforts to standardize training and make it cohere with the programs in other federal agencies, and it created a context in which fire management plans could be developed and implemented. In addition, it also established chains of command and authority to govern emergency fire situations, and placed BIFC, with its greater capabilities, at the center of NPS response. The directive continued the standardization of fire management, pulling it further from its decentralized roots and closer not only to a standardized Service structure, but also to the interagency coalition at BIFC that was increasingly central to federal fire response. Directive 77-1 represented further maturity of the NPS fire management program as well as the first comprehensive effort to bring it in line with other Service programs.

Such efforts ultimately led to NPS-18, the National Park Service Fire Policy Directive, which in 1977 became the dominant document for fire management in the National Park Service, superseding every existing directive and policy. NPS-18 represented a full-fledged reinvention of policy, a compendium of the ideas and strategies learned in the decade since the 1968 Green Book included the use of fire. The new document was complex, for it covered a vast array of contingencies. NPS leaders recognized that a combination of management strategies and implementation procedures were necessary to create policy for almost 300 disparate units. The policy reiterated clear principles: as in 1968, NPS priorities were to protect lives, facilities, and cultural properties, and to preserve natural resources and habitat. It articulated clear guidelines for prescribed burning. It also separated fires into two categories: management fires, which were allowed to burn, and wildfires, which were to be suppressed.⁸⁴ The NPS terms had changed, but the rules were consistent. The Service would determine which fires it would allow to burn.

The prescriptions in NPS-18 were clear and direct. The document standardized terminology, so that throughout the NPS, descriptions and procedures would be defined in the same ways. “Fire control” was removed from the NPS lexicon and replaced by “fire management.” “Control is but one of the many appropriate parts of fire management,” the policy intoned. It also located fire management inside the national resource management administrative structure. Even though such a transfer was never carried out in a systematic fashion at the park, regional, or national level, the concept represented a major shift from the individualized and idiosyncratic practices that had been implemented by superintendents in each park. NPS-18 also compelled each park to evaluate its fire situation and create a fire management plan. No longer could a

⁸³ Regional Director, Western Region to Superintendents, Western Region, State Director, Hawaii, Chief, Arizona Archaeological Center, Directorate, Western Regional Office, Yosemite National Park Archives, Y 14 Forest Fire Control, 1914-1975 Regional Director, Western Region to Superintendents, Western Region, State Director, Hawaii, Chief, Arizona Archaeological Center, Directorate, Western Regional Office, Yosemite National Park Archives, Y 14 Forest Fire Control, 1914-1975.

⁸⁴ National Park Service, “Fire Management Policy, NPS-18, 1977,” Glacier National Park Archives, 1910-1984 Collection, 306-8; Summers, “The Administration of Fire Management Within the National Park Service,” 13-17.

recalcitrant superintendent simply ignore fire issues. Even small historical units were required to develop such plans, albeit not always with the speed or scope that was expected of parks with long histories of fire. Even parks with what NPS-18 described as “100 percent landscaped vegetation” were required to complete a fire plan. The only parks exempted were those with no vegetation – typically small urban memorials.⁸⁵

NPS-18 created a national structure for fire management, and it represented the first comprehensive attempt to bring the disparate practices that had grown up since 1968 under some form of central control. This evolution reflected both the growing recognition that fire was a crucial factor in national park management and the need for centralized procedures to govern its use and management. NPS-18 fit the National Park Service firmly into the Department of the Interior’s organizational structure for fire, for the addition of the NPS to BIFC brought the Service in line with the rest of the department. The result was a powerful shift in Interior fire operations, including a sea change in Forest Service policy. That agency, long committed to suppression, accepted fire management and the use of fire in the 1978 *National Forest Manual*. Fire management, NPS style, became the dominant mode of federal fire response.

With NPS-18, the National Park Service had divided fire into three distinct categories – human-induced, natural, and prescribed. A management system had been established for each, with checks and balances and objectives to be obtained. It seemed an ideal system, clearly defined and focused, that would allow the NPS and other federal agencies to maintain control of fire. Fire managers could be forgiven if they believed that they had triumphed not only over arcane policy, but over nature itself. They firmly believed that they had the science right; that they understood fire and its circumstances, and had devised strategies to make it work for all the national parks. As with any policy, a test would come, most likely when the reality of specific fires challenged the structure the National Park Service created.

⁸⁵ National Park Service, “Fire Management Policy, NPS-18, Release 1, August 23, 1979,” National Park Service Historical Collection, Harpers Ferry, W.V., 1-2.