

# FIRE MANAGEMENT IN PARKS & PROTECTED AREAS

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## Fire Management in Parks and Protected Areas: Introduction and Summary

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WHEN NATIONAL PARKS WERE ORIGINALLY ESTABLISHED IN THE UNITED STATES in the late 1800s and early 1900s, most people thought you simply needed to protect them as they were, with no changes over time, to achieve the objective of preserving parks for future generations. While this may work for cultural resources, we have learned that changes in vegetation, wildlife, and other natural features are part of the way natural ecosystems function. The original, somewhat simplistic, and static concept of “park preservation” has since been expanded into a broader concept of perpetuating natural park resources and natural park processes over time. Only in this way can the National Park Service (NPS) and other agencies with responsibilities for protected areas really succeed in restoring, maintaining, protecting, and preserving the resources and resource values for which the parks and protected areas were established.

In this issue of *The George Wright Forum*, we present several articles that address how “fire management” in parks has evolved during the 89 years since the 1916 establishment of the National Park Service. While many aspects could be considered, we will focus on changes in the accepted role of fire in parks, and the relationship between fire management, forest health, and biodiversity.

Over the past 42 years, since the 1963 Leopold Report (Leopold et al. 1963) was delivered to Secretary of the Interior Stewart Udall, the National Park Service has been wrestling with how best to respond to that report’s conclusions and recommendations that dealt with fire management. The report’s recommendations were incorporated into NPS green book policy in 1968 and imple-

mentation began at Sequoia-Kings Canyon and other national parks in that year.

A major change was made in the National Park Service’s philosophical approach to fire management. Moving well beyond the traditional suppression-only policy, Superintendent John McLaughlin of Sequoia-Kings Canyon allowed lightning-ignited fires to burn in certain high-elevation zones in the park beginning in 1968 (Kilgore and Briggs 1972). And prescribed fires were also ignited by park rangers in red fir and lodgepole pine forest (1968) and giant sequoia-mixed conifer forests (1969). These programs grew in many parks, particularly in Sequoia and Yosemite. As early as 1974, some 9 NPS units allowed 74 lightning fires to burn on 15,000 acres of park wildlands, and 5 NPS units used 46 pre-

scribed burns that covered 11,000 acres of National Park Service forest and grasslands (Kilgore 1976).

A major review of these programs at Sequoia-Kings Canyon and Yosemite was undertaken in 1986 by a seven-person panel of scientists, headed by Norman Christensen of Duke University. That review was presented to Director William Penn Mott and served to guide the future actions of resource management and fire staff at both Sequoia-Kings Canyon and Yosemite (Christensen et al. 1986). Within two years, Christensen was called upon again by the NPS to chair a panel to review the controversial 1988 Yellowstone fires. Those fires posed a major challenge to NPS fire programs throughout the country. The panel review (Christensen et al. 1989), as well as an interagency review team's report (USDA/USDI 1989), led to significant changes in the way the NPS fire management programs were implemented.

As chair of these two panels, Christensen played a major role in evaluating the progress made by the National Park Service in implementing the 1963 Leopold Report recommendations and in suggesting what changes would be appropriate in future fire and resource management programs at Sequoia-Kings Canyon, Yosemite, and Yellowstone National Parks. Christensen summarized the story of these two scientific reviews of NPS fire and resource management policy in his plenary presentation at the March 18, 2005, session of the George Wright Society Conference in Philadelphia. We have the pleasure of presenting the written version of that analysis/paper in this issue of the *Forum*.

Recent (2004) legislation and management plans have emphasized the relationship between forest health, fuels management, and fires. While this legislation deals primarily with non-wilderness Forest Service lands,

Bureau of Land Management lands, and private lands in the West, these programs have the potential to strongly impact the health of adjacent forested lands in national parks and other protected areas. Greg Aplet and Bo Wilmer describe the Wildland Fire Challenge across America as a result of extremely large forest fires that have burned millions of acres—including hundreds of homes—in recent years. They discuss how we need to evaluate our programs aimed at dealing with these fires and the fuel build-up that contributes to them, and what ecological restoration programs and community actions are appropriate.

Christensen then summarizes the results of a five-person panel (comprising James Agee, Bruce Kilgore, Nathan Stephenson, Jan van Wagendonk, and Carol Miller) who discussed "Forest Health and Fire in the National Parks" at the 2005 GWS Conference in Philadelphia. While debate surrounding the Healthy Forests Restoration Act has focused on national forests, there are many implications for national parks. The goal of this workshop was to explore the challenges to forest health and restoration of natural fire regimes provided by park mandates that provide for both conservation and public use.

The National Commission on Science and Sustainable Forestry, a group chartered by a consortium of foundations including the Doris Duke Charitable Foundation, the National Forest Foundation, Surdna Foundation, and the Packard Foundation, held its second annual symposium in Denver in December 2003. It focused on "Fire, Forest Health and Biodiversity." Christensen has prepared a summary of the conclusions of that 16-paper session for this issue of the *Forum*, including a summary of the keynote presentation by Jerry Franklin of the University of Washington. He then summarizes the four major

themes of that symposium as “Fire as an Ecological Process” (Michael Huston, Andrew Hansen, and Daniel Brinkley), “Inter-regional Variation in Fire Regimes and Fire History” (Jim Agee, Tom Swetnam, Jon Keeley, William Romme, and Joan Walker), “Perspectives on Fire Management” (Penelope Morgan, Wallace Covington, and Christensen), and “Perspectives of Managers and Stakeholders” (Rick Cables, Gary Roloff, Greg Aplet, and David Parsons).

For a broad national policy perspective, we have included a recent paper on “Federal Forest Fire Policy in the United States” by Scott Stephens and Lawrence Ruth. This article was originally published earlier in 2005 in *Ecological Applications* and is republished in this issue of the *Forum* by permission of the Ecological Society of America. It stresses the important point, made earlier by Franklin and Agee (2003), that despite many policy revisions, plans, and special healthy forest initiatives, “there is no comprehensive policy to deal with fire and fuels” and “few indications that such a policy is in development.” It also makes the point that “policy-making depends on technical and scientific information, but the choices made are inherently political ones.” The public and homeowners must be involved in whatever solution is developed, and that solution will depend on long-term commitment to maintenance of ecosystems and fuel levels that lead to low-to-moderate fire behavior around communities at risk.

Finally, to take an even broader look at the role of fire in ecosystems worldwide, we are including a paper by Jeff Hardesty, Ron Myers, and Wendy Fulks, all of The Nature Conservancy’s Global Fire Initiative, that presents a preliminary assessment of fire as a global conservation issue. The Nature Conservancy notes that ecosystems and people

have been living in a world of fire for perhaps millions of years. Yet it notes that ecologists believe that fires are behaving differently now from any other time in history. The assessment uses a classification of the earth into 132 major terrestrial habitat types. And it divides fire regimes into three major categories: fire-dependent/influenced ecosystems, fire-sensitive ecosystems, and fire-independent ecosystems. It presents a preliminary assessment of how altered such fire regimes have become in recent years and an overview of the possible role of communities, governments, and scientists in future fire management actions to benefit both people and park and protected area resources.

We hope this summary of changes in fire management ideas from the March 2005 GWS Conference in Philadelphia, plus several additional assessments and discussions, will be useful to managers of parks and other protected areas, as well as of interest to the many other readers who depend upon such areas for their recreational, scientific, and other values.

#### **Acknowledgments**

I am grateful to David Parsons and Norman Christensen for developing the 2005 GWS Conference sessions that are included in this issue and for their review of various aspects of the content of this issue. In addition, Bob Mutch, Steve Botti, Jim Agee, Jan van Wagtenonk, and Dave Harmon offered valuable review comments and suggestions. We acknowledge the special assistance of Ayn Shlisky and Wendy Fulks of The Nature Conservancy’s Global Fire Initiative as well as the special permission to use previously published materials granted by The Nature Conservancy, the Wilderness Society, and the Ecological Society of America.

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