

DEVELOPMENT OF DEDICATED RESOURCES TO SUPPORT FIRE RESTORATION IN THE NATIONAL PARK SERVICE

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ABSTRACT

Decades of fire suppression have produced unnatural levels of fuel accumulation and created unprecedented wildfire hazards on National Park Service (NPS) lands. This problem has made reintroduction of fire into ecosystems a long-term NPS management goal. Using both prescribed natural fire and management-ignited prescribed fire, the NPS has instigated an aggressive fire restoration program throughout the nation's park system.

One consistent impediment to the success of this program has been the lack of available resources to execute and manage burns during seasons of high wildfire activity. This recognized need led to the creation of the Prescribed Fire Support Modules (PFSM) pilot program in 1995. The PFSM is the federal government's only national resource primarily dedicated to prescribed fire. Modules are of varying size and stationed in four national parks in the western United States. Their primary mission is to provide monitoring assistance and make fire behavior predictions on prescribed natural fires. The secondary element of their mission is to assist with the preparation and execution of management-ignited prescribed fires. Implementing highly mobile and experienced prescribed fire personnel should enhance attainment of NPS fire management goals for years to come.

Citation: Jacobs, Ben. 1998. Development of dedicated resources to support fire restoration in the National Park Service. Pages 37–40 in Teresa L. Pruden and Leonard A. Brennan (eds.). *Fire in ecosystem management: shifting the paradigm from suppression to prescription*. Tall Timbers Fire Ecology Conference Proceedings, No. 20. Tall Timbers Research Station, Tallahassee, FL.

INTRODUCTION

Fire exclusion practices of the twentieth century have produced unnatural levels of fuel accumulation, altered species composition, and created unprecedented wildfire hazards in wildland communities throughout North America. These problems are common to all federal land management agencies and are forcing resource managers to develop and implement alternative strategies to aggressive fire suppression. When fires are excluded from wildland ecosystems, dead and down fuels continue to accrue, compounding an already untenable situation. In recent years, extreme fire behavior has become increasingly common. As a result, wildfires are becoming potentially more destructive as well as involving considerably greater expenditures and placing high demands on firefighting resources to accomplish suppression goals. This was graphically illustrated in the large fire complexes throughout the western United States in 1994.

Long-term resource management goals of the National Park Service (NPS) call for the reintroduction of fire into wildland ecosystems. This can be done through the implementation of prescribed natural fire (PNF), which allows lightning-caused fires to burn within set prescription parameters, and with the application of intentionally set management-ignited prescribed fire (MIPF). Using both PNFs and MIPFs, the NPS is instigating an aggressive fire restoration program throughout the nation's park system. Two primary objectives of this program are to: 1) perpetuate, restore or replicate natural processes (specifically fire) to the greatest extent possible; and, 2) to promote an

interagency approach to managing fire on an ecosystem basis (Botti et al. 1994).

Several barriers have been identified that hamper fire restoration. One consistent impediment has been the lack of available resources to execute and manage burns during periods of high wildfire activity. In many instances, fuels and weather conditions conducive to active wildfire situations are also suitable for managing large-scale PNFs across higher elevation landscapes. In certain areas, ecologically significant fire restoration attempts can only be carried out under such conditions. Fire management of this nature requires placement of experienced people at the fire site to monitor weather, predict fire behavior, measure immediate fire effects, map perimeters, and monitor fire lines to prevent spotting and escapes.

DEVELOPMENT OF THE PFSM PROGRAM

Lack of available resources was one of the principal issues challenging fire managers and limiting program expansion. An interagency Prescribed Natural Fire Workshop conducted in 1995 reviewed significant PNFs of 1994 and discussed future needs to improve PNF programs. As a result, the NPS determined that a priority need existed to ensure minimal resources would be available for PNFs, even during periods of high resource commitment to wildfires (USDI 1995). Much of this determination was based on high resource competition during the 1994 Howling PNF in Glacier National Park.

This recognized priority need led to the develop-

ment of the NPS Prescribed Fire Support Modules (PFSM) as a pilot program for the 1995 fire season. Creating the PFSM program established the only national resource in 1995 primarily dedicated to prescribed fire management.

The concept of dedicating specific resources for prescribed fire management is nothing new in federal agencies. In past attempts, however, prescribed fire crews would frequently find themselves part of the general suppression effort as fire occurrence and danger increased. For prescribed natural fire programs, this can amount to forced conversions to wildfires due to unavailability of qualified personnel for staffing. End results of such actions are continued loss of ecosystem health benefits when candidate PNFs are suppressed due to lack of accessible resources.

Mission Statement

For this reason, the primary mission of the PFSM is to provide monitoring assistance and make fire behavior predictions on prescribed natural fires. A large PNF, under the right conditions, is the most cost-effective method of reintroducing fire back into forests on a wide scale. As use of PNFs increases, the need for monitors can grow in proportion, similar, though smaller in comparison, to a spreading wildfire that requires increased resources for suppression.

Second in mission priority is the execution and preparation of management-ignited prescribed burns. In the absence of PNFs, or in parks without an approved PNF program, planned ignition is an important option. This technique is a highly effective, although more costly method, for reducing fuel loading and maintaining desired plant composition in areas where PNFs are not common or practical. Examples of this would be frequent burning in Giant Sequoia forests to control shade-tolerant white fir encroachment and manipulate the forest seedbed. In addition to locating, mapping, and constructing firelines, PFSM members are qualified to set up and read fire effects monitoring plots within burn units.

The final functional responsibility for the PFSM involves mechanical hazard fuel reduction projects. This activity is one of the primary methods to reduce fuel loading in smoke-sensitive areas or immediately adjacent to structures. For many smaller parks this constitutes the only feasible way to achieve fuel reduction goals.

Program Structure

There were four 5-person Prescribed Fire Support Modules for a total of 20 individuals in 1995. Each module was positioned in a different National Park Service unit throughout the western United States. Locations were chosen to place modules in regions with high PNF potential and active MIPF programs. The 1995 locations were Bandelier National Monument, New Mexico, Saguaro National Park, Arizona, Whiskeytown National Recreation Area, California, and Yellowstone National Park, Wyoming. Modules consist of a Module Leader and an Assistant, with the

remaining personnel as module members. Each position on the crew has a minimum performance target. Module Leaders are targeted to perform as Prescribed Fire Behavior Analysts, Assistants as Prescribed Fire Behavior Specialists, and module members as Prescribed Fire Behavior Monitors. In addition to a strong variety of suppression backgrounds at the Single Resource Boss level, most modules had qualified Prescribed Burn Bosses and Ignition Specialists.

Role of the Program Coordinator.—The PFSM is scheduled and tracked by a Program Coordinator located at the NPS Fire Program Management Center at the National Interagency Fire Center in Boise, ID. The Program Coordinator serves as the focal point between modules and parks interested in using them. Requests for a module are made to the Coordinator who decides which module will respond to what project. Module locations and availabilities for PNFs are tracked to accommodate orders as they come in. Individual incident qualifications are maintained to help fill orders efficiently, by matching needs with skills. As projects and burns are completed, the Coordinator compiles accomplishment statistics and circulates them throughout NPS at the end of each month.

The Program Coordinator is also the PFSM liaison to the National Interagency Coordination Center. One of the main program goals is to get the PFSM integrated into the interagency dispatching system. This has required developing a new set of dispatching operating procedures and ensuring it is understood by the 27 NPS units with PNF programs. As many other PFSM policies evolved during the 1995 season, the Coordinator maintained the communicative link to keep all NPS fire management programs abreast of changes.

Development of Prescribed Fire Management Teams.—The large size and long duration of the Howling PNF also pointed out the need for Prescribed Fire Management Teams similar to Incident Management Teams used on wildfires. The NPS established four of these teams for PNF use on an experimental basis in 1995. Rotating on call weekly and tracked by the Program Coordinator, their main objective was to provide or supplement PNF management skills to parks without large fire staffs. Each team is comprised of four people: a Prescribed Fire Manager, Operations Section Chief, Logistics Section Chief, and Prescribed Fire Behavior Analyst. Teams could expand to fill additional Incident Command System positions as needed. Situations such as the Howling PNF, where significant holding actions were required over several weeks' time, are ideal for having this type of management team available. These teams will continue in 1996 and will be integrated in the interagency dispatching system.

PFSM Personnel are Primarily Available for Prescribed Fire.—One of the major points of the PFSM program is that personnel are unavailable for wildfire assignments except in immediate life threatening situations. A policy of this nature is sometimes seen as controversial by traditional fire managers. Since the 1995 fire season was below average for acres burned, acceptance of this policy did not receive as strong a

test as it would have in a year like 1994. However, to enable the NPS to have experienced personnel available for accomplishing prescribed fire objectives, this function must be given priority. The idea behind this is to initiate a transition from suppression-based management to strategies which encompass managing fire endemic ecosystems in the healthiest way possible.

REVIEW OF THE 1995 FIRE SEASON

Much of the success of any new program is linked to how the fire community perceives what is being accomplished. As the 1995 fire season continued into midsummer, responses coming in from the field to the Program Coordinator were largely positive. By the season end in late October it had become obvious that the program was successfully supporting prescribed fire needs throughout the NPS.

Program Accomplishments During 1995

Twenty-eight NPS units used the PFSM in 1995. The U.S. Forest Service, Fish and Wildlife Service, Bureau of Land Management, and California Department of Forestry also used the PFSM personnel on several burns. There is the future possibility of funding positions from other Department of Interior agencies to increase module size. Accomplishments in 1995 included the execution of 46 MIPFs for over 13,700 acres (5,535 hectares). Six PNFs in four National Parks covering 2,165 acres (875 hectares), were staffed with PFSM fire behavior monitors and holding module members. Over 27 miles (44.3 kilometers) of handline were constructed or improved for MIPFs. For hazard fuel reduction projects, nearly 150 acres (61 hectares) were mechanically treated. Additionally, numerous fire effects plots were established, burn plans written, and archeological surveys completed. Several of the above projects could not have been initiated or completed without PFSM personnel.

Problems and Concerns During 1995

Like any new program, the PFSM experienced growing pains. During a midseason program review conducted by the Program Coordinator in August 1995, several issues were identified to be discussed during the winter. Field indications were that module sizes were too small. Increases to 7–10 people was thought to be ideal. Dispatching the modules through the interagency system needed to be redefined. It had become clear that the Geographic Area Coordination Centers (GACCs) needed to be more involved in tracking the modules. Some GACCs were hesitant to process PNF orders, while others were unaware of the existence of the modules. Other difficulties in dispatching resulted from ordering units misinterpreting operating procedures. Lack of reliable transportation occasionally impeded project completion. Most vehicles were old or on loan, forcing modules to travel under less than optimal conditions. Length of road trips was a factor during the season. Because MIPFs are not an emergency response, it was

important to use limited travel funds as efficiently as possible. This resulted in frequent trips of 4–6 weeks for three of the four modules.

One of the biggest concerns from 1995 was that demand for the program far exceeded the supply of personnel the PFSM could provide. One estimate shows there is sufficient work in the NPS alone to double the size of the program to 40 people. With growing interagency interest this could be on the conservative side. During September 1995, competition for the modules grew as many National Parks geared up for fall burning. Averaging around three simultaneous requests per module meant that not all orders could be filled.

This is both good news and bad news for the PFSM program. As federal agencies look to enlarge their prescribed burning programs, the demand for dedicated prescribed fire resources will become greater. The pressure to expand the program will grow along with demand. In the meantime, there will remain an uncertainty among requesting parks whether PFSM personnel will always be available. What the 1995 fire season showed is that a program of this nature is viable. The PFSM enabled all the NPS units they visited to accelerate or expand their burn programs. Program accomplishments and requests illustrate a sound need to continue with the PFSM as a permanent fixture in NPS fire management.

LOOKING TOWARDS THE FUTURE

Changes in store for the future include an array of ideas. The Saguaro module was moved to Zion National Park in Utah. This relocation was to an area with higher work concentrations, thereby reducing travel costs. The program was increased to 28 people. The Whiskeytown module will have nine individuals, Bandelier and Zion will have seven, with Yellowstone remaining at five. Each module will maintain a five-person crew leaving at least two people available for single resource assignments. On a trial basis, individual module members will be available for wildfire assignments on a rotating basis. This will keep suppression qualifications current and skills sharp, to better deal with possible MIPF escapes. Module expenditures were analyzed and a funding adjustment combined travel funds with operating budgets. The base 8-hour salary for PFSM personnel, travel costs, and per diem are now provided by each module's account. Requesting units are only responsible for paying overtime. This will enable small parks to use a module with minimal or no expense. Individual job skills will be increased through additional off-season training. Conversion of PFSM Module Leaders and Assistants to career appointments is under way to ensure a solid core of knowledgeable members. Vehicles are being purchased to provide dependable transport due to the long travel distances involved. Lastly, Coordination Centers and fire managers of all agencies are being made better aware of the existence of both the PFSM and Prescribed Fire Management Teams.

All prescribed fire programs must continue in an

interagency direction. If the forests of the United States are ever to return to their natural grandeur, fire management must evolve from strict fire control toward integrated fire management. Traditional political boundaries between government agencies must give way to more logical geographical boundaries. As catastrophic fires increase in response to fuel build up, down sizing of the firefighters work force, and urban interface problems, there is only one sensible course of action heading into the next century. Increased prescribed burning and increased resources dedicated to get the job done. Implementing the concept of highly mobile and experienced PFSM modules should enhance attainment of NPS fire management goals for years to come.

ACKNOWLEDGMENTS

The author wishes to acknowledge the assistance of Tom Zimmerman, National Park Service, National

Interagency Fire Center for providing background information on the development of current NPS policy regarding fire management; the input and review provided by Robert Jones, National Park Service, Sequoia-Kings Canyon National Park; the input and review provided by Steve Botti, National Park Service, National Interagency Fire Center; and the input and review provided by Dave Bunnell, U.S. Forest Service, National Interagency Fire Center.

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