

# **Huffer Fire Review of Management Actions**

**Lassen Volcanic National Park  
and  
Lassen National Forest**

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**National Park Service  
USDA Forest Service**

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# TABLE OF CONTENTS

TABLE OF CONTENTS.....	ii
EXECUTIVE SUMMARY .....	iv
INTRODUCTION.....	1
National Park Service Fire Review Objectives, Process, and Desired Products .....	1
Review Policy.....	1
Huffer Fire - Review Objectives .....	1
HUFFER FIRE CHRONOLOGY .....	5
BACKGROUND INFORMATION.....	6
Wildland Fire Policy Requirements and Implementation Procedures.....	6
Fire Use Management Team (Prescribed Fire Management Team) Program .....	12
LASSEN VOLCANIC NATIONAL PARK FIRE MANAGEMENT PROGRAM.....	17
HUFFER FIRE - FINDINGS AND RECOMMENDATIONS .....	18
Findings and Recommendations for Program Improvement: .....	18
Project Issues - Local Level (Identified as L-1 to L-7): .....	18
Functional Area L-1: Fire Management Plan ERC Risk Chart Process .....	19
Functional Area L-2: Recognition of Risk Rating .....	20
Functional Area L-3: Planning, FMP Amendments .....	21
Functional Area L-4: Long-Term Risk Assessment.....	21
Functional Area L-5: Interagency PNF Burn Plan - Plan Approval Timeframes and Completeness.....	25
Functional Area L-6: Daily Certification Delegation .....	26
Functional Area L-7: Fire Behavior Prediction Reliability .....	27
Programmatic Issues - Local Level (Identified as L-8 to L-9): .....	28
Functional Area L-8: Fuel Dynamics, Inventory and Vegetative Condition.....	28
Functional Area L-9: Wildland Fire Use Planning and Implementation .....	29
Programmatic Issues - Regional/Area Level (Identified as R-1 to R-2): .....	29
Functional Area R-1: USFS Regional Fire and Aviation Staff Support to Wildland Fire Use Program .....	29
Functional Area R-2: California Wildfire Coordinating Group (CWCG) and Regional Mobilization Guide .....	30
Programmatic Issues - National Level (Identified as N-1 to N-7): .....	31
Functional Area N-1: Cache Support .....	31
Functional Area N-2: AD Hiring Authority for Fire Use Actions .....	33
Functional Area N-3: Hazard Duty Pay for Fire Use Actions .....	34
Functional Area N-4: Emergency Equipment Rental Agreements (EERAs).....	35
Functional Area N-5: Coordination.....	37
Functional Area N-6: Federal Wildland Fire Management Policy .....	38
Functional Area N-7: Prescribed Fire Management Teams/Fire Use Management Teams .....	38
Commendations/Positive Outcomes.....	38
Positive Outcomes/Commendations - Local Unit Actions (Identified as P-1 to P-6):.....	39
Functional Area P-1: Local Cooperation.....	39



Functional Area P-2: Management Support for Wildland Fire Management Program	39
Functional Area P-3: Program Planning Status .....	40
Functional Area P-4: Voluntary Support of Unpopular Program .....	40
Functional Area P-5: Documentation Status .....	40
Functional Area P-6: Decision-Making.....	40
Positive Outcomes/Commendations - Other Organization Actions (Identified as P-7):	41
Functional Area P-7: IFFWU support .....	41
SUMMARY AND CONCLUSIONS .....	41
REFERENCES.....	45
APPENDIX.....	46
Appendix A: Federal wildland fire policies. ....	46
Appendix B-1: Review Team Members .....	47
Appendix B-2: Review Participants .....	47



## EXECUTIVE SUMMARY

This report summarizes the formal interagency review of the Huffer Fire, which occurred in Lassen Volcanic National Park during July 30 to August 20, 1997. This fire began as a prescribed natural fire, later to be converted to a wildfire with direct suppression taken to achieve control. The fire ultimately burned 2290 acres, and was suppressed for a cost of nearly \$2,200,000.

A national, interagency review was convened to assess the fire management operations, identify issues directly influencing the fire outcome, and to provide recommendations to the park and Lassen National Forest concerning improvements to the fire management program. The review was conducted on September 23 - 25, 1997, in Sacramento, California, with representatives from both affected administrative units, both agency Regional Offices, and both agency National Offices present as either review team members or participants.

The review identified issues surrounding the management and outcome of the Huffer Fire in the areas of: new Federal Wildland Fire Management Policy; understanding of the role and use of Fire Use Management Teams (formerly Prescribed Fire Management Teams); seven issues pertaining to local project planning and implementation; two local programmatic issues; two regional programmatic issues; seven national programmatic issues; and seven specific positive actions warranting commendation and special notice.

The specific purpose of the Huffer Fire Review was to examine park and cooperator natural fire management planning, decision-making, and implementation operations for the express purpose of developing recommendations to improve future operations. The findings of the review are presented in terms of a discussion of the situation that precipitated the issue, how it affected management of the fire, a statement of the issue, recommendations for improvement of the program, and a description of the current status of implementation.

Lassen Volcanic National Park and Lassen National Forest have undertaken a challenging and generally, unpopular program. This program seeks to use wildland fire to accomplish resource management goals and objectives. Wildland fire use is among the highest risk and highest consequence programs administered by federal wildland fire management agencies. This program must be planned, organized, staffed, and supported for success on a sustainable basis.

The Huffer Fire represents application of an operable strategy for accomplishing wildland fire use objectives and achieving compliance with the new federal fire policy. Because of the lack of understanding of the objectives of this program, the perception of a lack of management, and differences in operational activities from wildland fire suppression, the public, other organizations, and special interest groups may interpret this fire as a breakdown in or lack of management attention. However, the park and forest did not act irresponsibly, but in fact, fully complied with agency requirements, met planning prerequisites, and developed and implemented an operational plan. They followed the proper process to manage wildland fires for resource benefits in the face of many obstacles.



# INTRODUCTION

## National Park Service Fire Review Objectives, Process, and Desired Products

### Review Policy

National Park Service (NPS) policy states that all wildland fires, including prescribed burns, wildland fire suppression and/or use actions, and fire-related incidents, will be reviewed. The level of reviews will vary according to NPS and other agency involvement levels, fire complexity, magnitude of fire-generated impacts, media and political interests, desired organizational involvement, and applicability to Servicewide or national issues. Reviews are conducted for specific purposes and will focus on all or some of the following general objectives:

1. Examination of the progress of an on-going fire incident and to confirm effective decisions or correct deficiencies.
2. Identification of new or improved procedures, techniques, or tactics.
3. Compilation of consistent and complete information to improve or refine park, regional, or national fire management programs.
4. Examination of anomalous fire-related incidents in order to determine cause(s), contributing factors, and where applicable, recommendation of corrective actions. If negligence is indicated, the circumstances will be reported and investigated in accordance with applicable regulations, policies, or guidelines.

### Huffer Fire - Review Objectives

The Huffer Fire occurred from July 30 to August 20, 1997 in Lassen Volcanic National Park (LAVO), California. The park is located in northern California (Figure 1).

The Huffer Fire began as a wildland fire to be managed for resource benefits (a prescribed natural fire under old terminology), but was converted to a suppression action as a result of dramatic fire behavior and rapidly escalating management needs. Suppression activities were managed at the Type 2 level by a Type 2 Incident Management Team (IMT) and utilized crew, engine, and aircraft resources to achieve suppression objectives. By the conclusion of this fire, over 2290 acres had been burned with expenditures of approximately \$2,200,000. Figure 2 shows the perimeter of the Huffer Fire.

The need for a national level review of the Huffer Fire was clearly predicated by the magnitude and effects of this incident and multiple agency involvement.



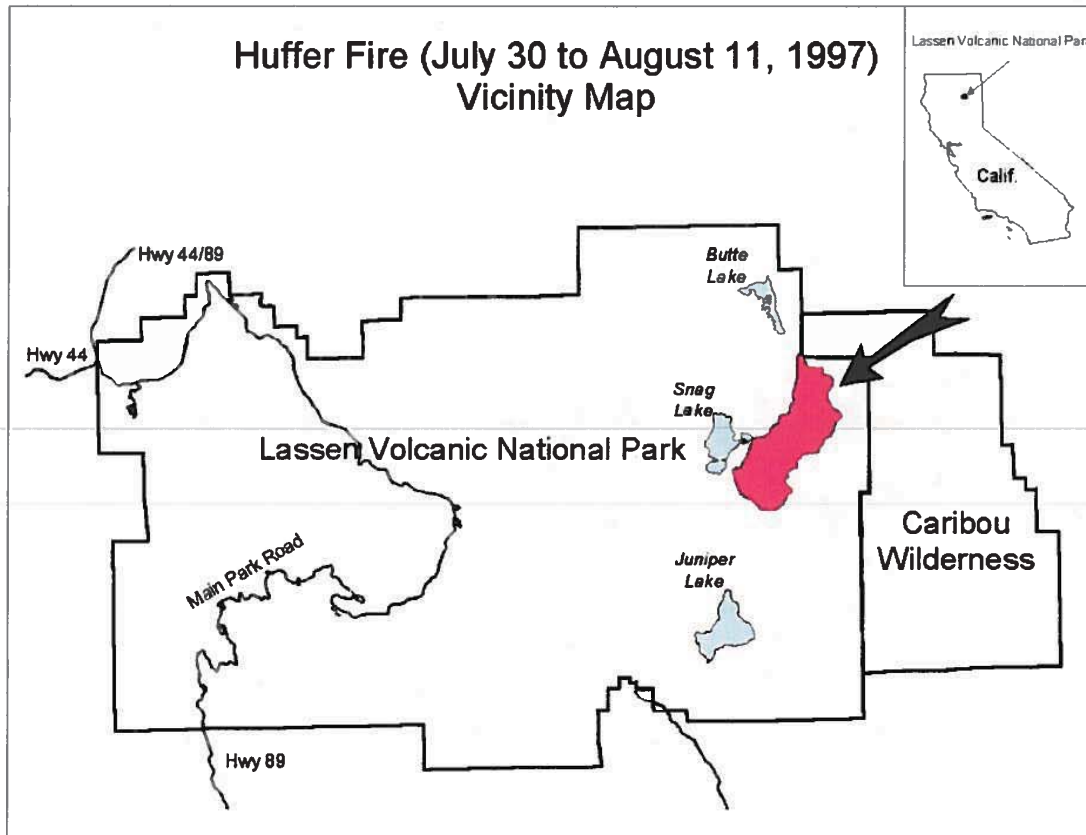


Figure 1. Location map of Lassen Volcanic National Park.





## Final Huffer Fire Perimeter - 8/11/1997 2290 Acres (GPS Flown at 1300)

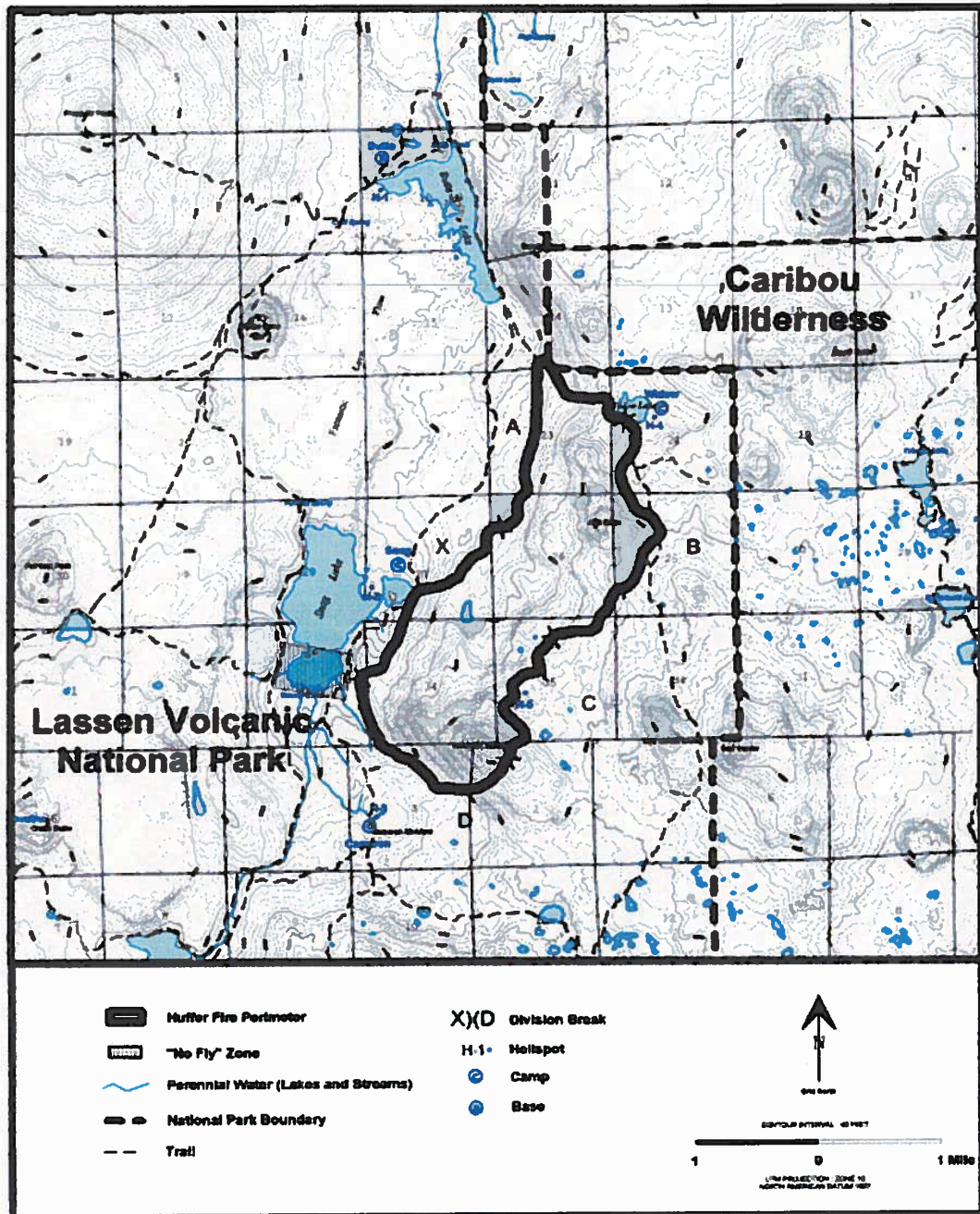


Figure 2. Huffer Fire final perimeter.



This review was commissioned to:

- examine fire management and associated activities,
- identify improvements in wildland fire management procedures, techniques, and tactics, and
- compile information for enhancement of local, regional, and national wildland fire management programs.

The Huffer Fire Review was specifically designed to examine park and cooperator natural fire management planning, decision-making, and implementation operations for the express purpose of developing recommendations to improve future operations. Issues and recommendations have been developed for resolution at the local, regional (area), and/or national levels as appropriate. Because the Huffer Fire necessitated involvement of both NPS - LAVO, and the U.S. Forest Service - Lassen National Forest (LNF), the review was conducted by both agencies.

The Huffer Fire Review was conducted on September 23 - 25, 1997 in Sacramento, California. Review team members from NPS and USFS were in attendance as well as agency staff from both Lassen Volcanic NP and Lassen NF, the NPS and Forest Service Regional Offices, and other agency participants. Other individuals were invited but were not in attendance. At the conclusion of the review, a formal closeout de-briefing was conducted with the Agency Administrators (Park Superintendent, LAVO; and Forest Supervisor, LNF), and regional staff. Findings and recommendations were identified at this time.

This report describes recommendations, implementation actions, and responsible parties. It presents findings in the form of constructive criticism that will improve future operations and resolve operational issues. This report also identifies commendable actions, techniques, and decisions that can serve as models or guides for other units in future incidents. This report represents formal documentation of the findings and recommendations identified through the formal review.





## HUFFER FIRE CHRONOLOGY

Major events that occurred during the Huffer Fire are shown in the following table.

Table 1. Huffer Fire major event chronology.

Date	Fire Size/Time	Major Event - Huffer Fire
7/30/97	<.1 acre/1730	Huffer Fire ignited by lightning at 1630 hours, detected by Mount Harkness Lookout at 1730 hours. Fire burning at base of tree in sparse fuels. PNF decision analysis initiated.
7/31/97	<.1 acre/1700	On-site monitoring initiated, NPS Regional Office notified. Fire behavior minimal.
8/1/97	.25 acres/1700	USFS and NPS agree to manage fire as pnf, Burn Plan initiated, monitors report minimal - moderate fire behavior.
8/2/97	.5 acres/1600	Fire monitors report slow spread. Burn Plan and FARSITE work continues
8/3/97	.6 acres/1500	Fire monitors report moderate activity, high pressure continues to build over area.
8/4/97	1 acre/1630 hours	USFS and NPS review Burn Plan and discuss operations, fire monitors report minimal to moderate fire behavior. Begin planning holding actions for north MMA boundary.
8/5/97	35 acres/1700	High pressure continues to dominate, fire monitors report increased activity, fire spreading by spotting ahead of main front. Decision made to order Prescribed Fire Management Team (PFMT) and additional resources to assist with monitoring and holding actions.
8/6/97	58 acres/1400	Three crews assigned to duty, two released due to confusion over AD hiring issue, two replacement crews ordered. Fire monitors report increased activity; PFMT arrives and attends planning meeting.
8/7/97	198 acres/1200	Fire burning actively, Agency Administrator briefing with PFMT, PFMT meets with local County Supervisors. Reports indicate major run to north with spotting one mile ahead of main fire front, fire spreads to within 1/4 mile of MMA. PNF is converted to wildfire, IMT ordered and will report on 8/8. PFMT assists Park with planning meeting and preparation of next operational period action plan. Type III IMT in place continued management of the fire until Type II IMT arrives.
8/8/97	1300 acres/1700	Smokejumper order cancelled, finally able to obtain these resources. Agency Administrator briefing for IMT. Fire 5 % contained.
8/9/97	1870 acres/1900	Fire is 50 % contained
8/10/97	2000 acres/1900	Fire is 60 % contained, a 150-acre burnout is successful, Base Camp operations moved to Butte Lake.
8/11- 8/12	2290 acres	Fire is 80 % contained on 8/11. Fire is 100 % contained on 8/12.
8/13 - 8/18	2290 acres	Fire is transitioned to Type 3 incident, mop-up and patrol continues, fire controlled on 8/18/97.
8/19/97	2290 acres	Type 3 team released and fire management transitioned back to park.

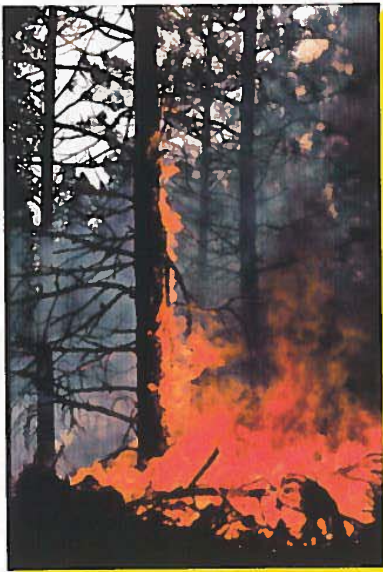


## BACKGROUND INFORMATION

Issues encountered during the Huffer Fire have implications at both project and programmatic levels. In addition, some implementation difficulties experienced during this fire were associated with confusion and controversy surrounding the new Federal Wildland Fire Policy, the use of dedicated prescribed fire resources such as Prescribed Fire Management Teams, coordination and support for natural fire management, and funding capabilities by various agencies for natural fire management. The following sections have been presented in this report to provide greater clarity of the new policy and Prescribed Fire Management Teams. Coordination and support for natural fires and agency funding capabilities and limitations are discussed later.

### Wildland Fire Policy Requirements and Implementation Procedures

The Federal Wildland Fire Management Policy has been derived from the Federal Wildland Fire Management Policy and Program Review approved by the Secretaries of Interior and Agriculture in December 1995 (USDI/USDA 1995). This new policy has been outlined for implementation in an Implementation Action Plan that identifies 84 action items. Full implementation of these items has been on going since the completion date, but to date has not been completed. Some difficulties experienced on the Huffer Fire are related to the lack of full endorsement and implementation by all federal wildland fire management agencies. At the time of the Huffer Fire, agencies were in different stages of manual preparation and field implementation.



Throughout the twentieth century, fire management policy has continued to evolve in response to land and resource management needs, growing knowledge of the natural role of fire, and increased effectiveness of fire suppression. During the earliest stages of wildland fire management, programmatic state-of-the-knowledge indicated aggressive, total suppression to be the likely solution to limit widespread, damaging fires. As knowledge, understanding, and experience expanded, it became increasingly obvious that complete fire exclusion was not the best-suited management direction to support a balanced resource management program. In fact, in many situations, this management direction was detrimental to ecosystem health and functioning.

The events of the 1994 fire season (South Canyon Fire) (USDI/USDA/USDC 1994) created a renewed awareness and concern among the Federal land management agencies and constituents about safety, the impacts of wildland fire, and



the integration of fire and resource management. As a result of those concerns and in response to specific recommendations in the report of the South Canyon Fire Interagency Management Review Team (IMRT) (Interagency Management Review Team 1995), the Federal Wildland Fire Management Policy and Program Review was chartered and completed in 1995. The Secretaries of the Interior and Agriculture convened this review to reaffirm and ensure that uniform Federal policies and cohesive and cooperative interagency and intergovernmental fire management programs exist.

This review of fire policy represents the latest stage in the evolution of wildland fire management and recommends policy changes that associate suppression and management of wildland fires into a single direction achieving multi-dimensional objectives. This policy directs federal agencies to achieve a balance between suppression to protect life, property, and resources, and fire use to regulate fuels and maintain healthy ecosystems. Most of the previous barriers and constraints to expanded fire use are removed through this policy.

The 1995 Report provides nine guiding principles that are fundamental to the success of the Federal wildland fire management program and implementation of review recommendations. It also recommends a set of thirteen Federal wildland fire policies (Appendix A) in the areas of: safety, planning, wildland fire, prescribed fire, preparedness, suppression, prevention, protection priorities, interagency cooperation, standardization, economic efficiency, wildland/urban interface, and administration and employee roles.

The success of these recommendations and policy implementation depends upon actions and expectations both internal and external to Federal Agencies. Agencies must ensure that wildland fire management is fully integrated into land management planning. Every Agency Administrator must ensure that these policies are incorporated into all wildland fire management actions. Managers and staff personnel must actively embrace and implement the recommendations. Every employee of every agency must be committed to fully carry out implementation at the ground level. **Agencies must change their expectations that all wildland fires can and should be controlled and suppressed.** The public will then have a better understanding of what we are doing, why it is important to them, and be more open to accept short-term inconveniences of some implementation impacts of the new policy. **Absolute protection is an expectation that is difficult, if not impossible to achieve, and based on federal workforce limitations, fiscal constraints, and environmental and fire behavior variables, is unrealistic.**

In the past, the five Federal wildland fire management agencies have maintained similar policies with distinct differences and interpretations. One of the central goals of the new Federal policy involves agency standardization. While unique agency missions may result in minor operational differences, having, for the first time, one set of "umbrella" Federal policies will enhance effective and efficient operations across administrative boundaries and improve management capability to meet challenges posed by current wildland fire conditions.



Some of the key points made in the 1995 Policy Report include:

- Protection of human life is reaffirmed as the first priority in wildland fire management. Property and natural/cultural resources jointly become the second priority, with protection decisions based on values to be protected and other considerations.
- Wildland fire, as a critical natural process, must be reintroduced into the ecosystem. This will be accomplished across agency boundaries and will be based on the best available science.
- Agencies will create an organizational climate that supports employees who implement a properly planned program to reintroduce wildland fire.
- Where wildland fire cannot be safely introduced because of hazardous fuel build-ups, some form of pretreatment must be considered, particularly in wildland/urban interface areas.
- Every area with burnable vegetation will have an approved Fire Management Plan.
- Wildland fire management decisions and resource management decisions go hand in hand and are based on approved Fire Management and land and resource management plans. At the same time, agency administrators must have the ability to choose from the full spectrum of fire management actions - from prompt suppression to allowing fire to function in its natural ecological role.
- All aspects of wildland fire management will be conducted with the involvement of all partners; programs, activities, and processes will be compatible.
- Agencies will develop and use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.

The nine guiding principles from the Federal Wildland Fire Management Policy are:

- Firefighter and public safety is the first priority in every fire management activity.
- The role of wildland fire as an essential ecological process and natural agent of change will be incorporated into the planning process.
- Fire management plans, programs, and activities support land and resource management plans.
- Sound risk management is a foundation for all fire management activities.
- Fire management programs and activities are economically viable.
- Fire management plans are based on the best available science.
- Fire management plans incorporate public health and environmental quality considerations.
- Federal, state, tribal, and local interagency coordination and cooperation are essential.





- Standardization of policies and procedures among federal agencies is an ongoing objective.

Interpretation of this policy and its implications to management has been confusing. What the new policy actually represents is:

- A more cohesive way of approaching wildland fire management.
- A foundation to facilitate more efficient operations.
- A program of action that promotes concurrent use of available management strategies.
- A program of action that does not automatically place priority on one strategy over another without analysis of specific information.
- A common planning process for all agencies, resulting in one plan.
- A process based on uniform budget and fiscal procedures.

Differences between the previous and current federal wildland fire management policy were typified by classification requirements that all fires were either wildfires or prescribed fires. This discrete classification of fires by types precluded maximum effectiveness. Under the new policy, all fires not ignited by managers for specific purposes are considered as wildland fires. All fires will then have the same classification and receive management actions appropriate to the conditions of the fire, fuels, weather, and topography to accomplish specific objectives for the individual fire. This concept is categorized as the appropriate management response. This type of response permits a sliding range of options that allows managers to continually operate in the most effective range. The following figure (Figure 3) provides a comparison of relative efficiency of the old and new policy and illustrates how the new policy permits managers to more effectively manage wildland fires economically and ecologically.

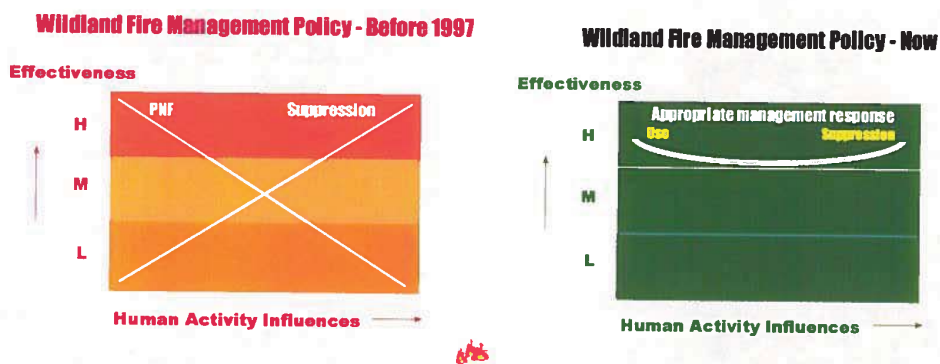


Figure 3. Comparison of wildland fire management policy before and after implementation of the 1995 Federal Wildland Fire Management Policy and Program Review recommendations.

Numerous misconceptions have developed about the new policy. The new policy is not:

- A less safe way of managing wildland fires.
- A significant change in management actions.





- A wholesale shift to "let burn" actions.
- A less efficient way of doing business.

The following flowchart (Figure 4) represents an interagency-approved diagram (National Wildfire Coordinating Group 1997) illustrating the broad framework that the new policy will be implemented within.

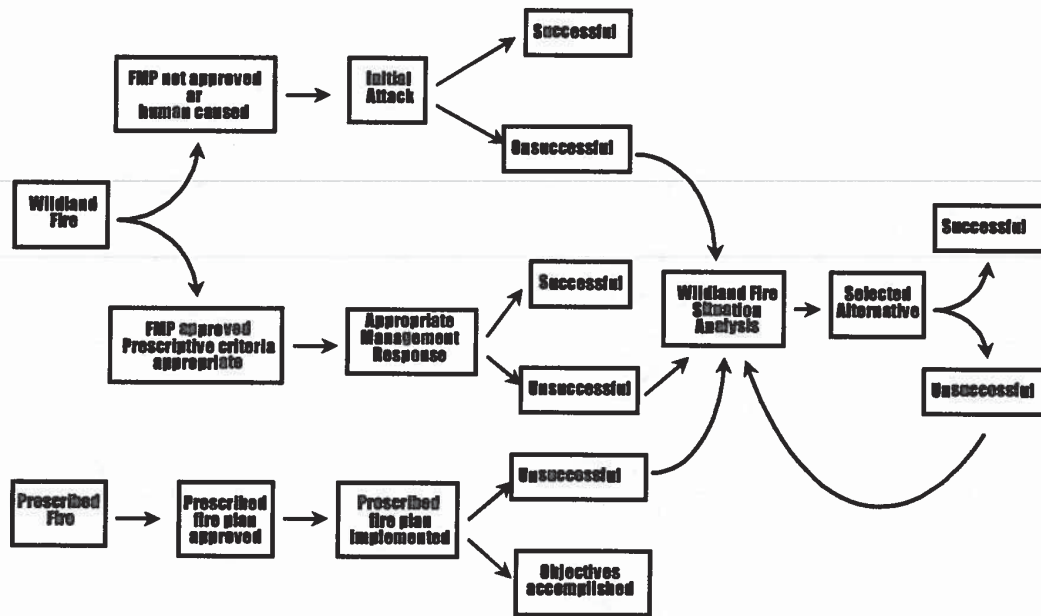


Figure 4. National Wildfire Coordinating Group (NWCG) Wildland Fire Management Policy Flowchart.

This flowchart defines all fires as either wildland or prescribed fires. Wildland fire management can follow one of two tracks, depending upon the level of land management planning completed or the cause of the fire. Administrative units without a completed Fire Management Plan or having a human-caused wildland fire, have limited management options available to them. In these situations, units may only implement initial attack strategies. When a Fire Management Plan has been completed and approved, and wildland fires are from natural ignition sources, the full extent of management options is available. These options range from monitoring with minimal on-the-ground actions to intense suppression actions on all or portions of the fire perimeter. The appropriate management response is developed from analysis of the local situation, values-to-be-protected, management objectives, external concerns, and land use. Appropriate management responses resulting in aggressive suppression actions on unwanted fires represent old policy actions taken to suppress wildfires. Appropriate management responses resulting in management of wildland



fires for resource benefits correspond to old policy actions of prescribed natural fire management.

The following figure (Figure 5) illustrates the development and full range of options available through an appropriate management response.

## Appropriate Management Response

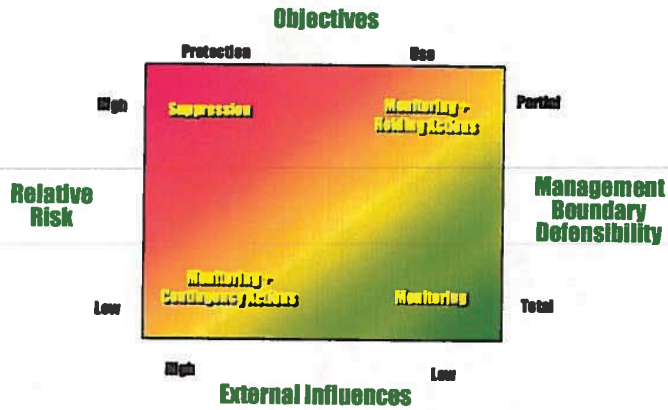


Figure 5. Ranges of appropriate management responses based on decision criteria, relative risk, external influences, and defensibility of management boundaries.

For those situations indicating a suppression-oriented response is necessary, a full range of responses is again available. The following chart (Figure 6) illustrates how the intensity of the suppression-oriented appropriate management response can vary.

## Appropriate Management Response

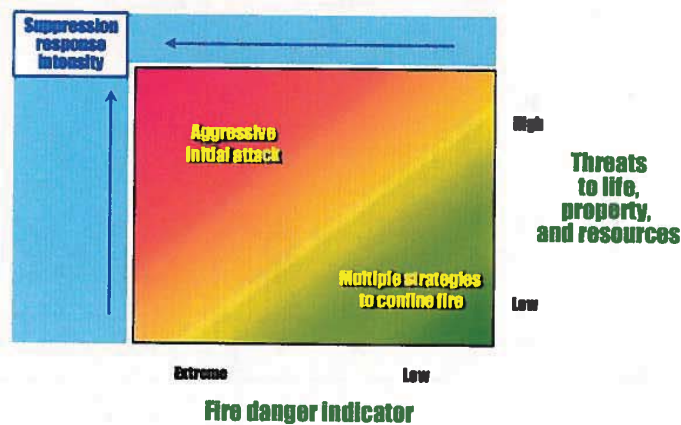


Figure 6. Variation of suppression-oriented appropriate management responses.



Prescribed fire management as represented under the new policy differs very little from management ignited prescribed fire under previous policy. A Fire Management Plan must be completed that identifies the need and objectives for prescribed fire. After specific areas are identified, Prescribed Fire Plans are prepared and approved and the actual burn is implemented under conditions identified in the plan.

For either situation, wildland or prescribed fire, if the desired objectives cannot be met, a new strategy must be selected through the Wildland Fire Situation Analysis (WFSA) process.

The new policy provides opportunities to dramatically increase fire use and accomplishment of resource management objectives. Funding authorities have been changed to support implementation of the new policy through the aggressive use of fire and mechanical fuels treatments, with goals of reducing uncharacteristically severe wildland fires and improving ecosystem health.

Decision-making is an integral part of wildland fire use and prescribed fire application. Decision-making must be made at the highest levels and is best when supported by as much factual information and prediction of the outcomes or consequences of the decision. Accepted models of decision-making describe outcomes in the form of good decisions, good outcomes (the desired scenario); good decisions, bad outcomes; bad decisions, good outcomes; and bad decisions, bad outcomes (only outcome possible in this event cascade). Good decisions, good outcomes are what is desired in wildland fire and prescribed fire management, although thorough planning does provide opportunities to retrieve some bad decisions and create good outcomes.

Decision-making is critical to managing wildland fires for resource benefits. Technology is emerging and evolving to support these decisions, to provide better information regarding potential outcomes, and to incorporate the best available science, consistent with direction in the new policy.

### **Fire Use Management Team (Prescribed Fire Management Team) Program**

Availability of resources necessary to support fire use has been a major deterrent to programmatic growth, consistent accomplishment of objectives, and was predicted to be a major programmatic constraint of the federal prescribed fire program (General Accounting Office 1990). Competition between fire management functional activities frequently has been a source of diminished fire use accomplishments. The 1995 Federal Wildland Fire Management Policy and Program Review (USDI/USDA 1995) advocates increases in fire use accomplishments and creates a foundation for implementing both fire use and suppression commitments concurrently. Available resources to support wildland fire management for both types of objectives may be insufficient, and consequently, allocated based on priority setting.



Large, complex prescribed natural fires in 1994 and 1996 illustrated the disparity in prioritization and resource allocation associated with wildland fire management under the old policy. Suppression efforts were supported by cooperative interagency activities and a sophisticated dispatch mobilization system capable of providing rapid necessary support. Conversely, fire use actions received a consistently low priority classification and consequently, did not receive necessary resources, even though time commitments for holding and support resources may have been well-defined, of short duration, and potential benefits of the fire were significant.

As a result, a Prescribed Fire Management Team program was established on an interagency basis in 1995. Four specific Prescribed Fire Management Teams (PFMTs) were created but did not receive any assignments in 1995. In 1996, however, the four teams filled seven assignments ranging from a programmatic assessment for initiating a PNF program to active PNF Burn Plan implementation, and included support of containment/confinement wildfires. In addition, several more fire assignments would have occurred if fiscal and mobilization concerns could have been clarified.

In 1997, the program was expanded to include six teams, and additional overhead to fully support necessary organizations. These interagency teams were available for wildland fire management support and designed to support goals that did not conflict with existing Incident Management Teams (IMTs). The PFMTs were designed primarily to support fire use projects as determined by requesting units. During 1997, four team orders were placed. One fire (Huffer Fire) was converted to a suppression action and managed by a larger management organization. The remaining three fires (Kibbie, Lummis, and Fireweed/Redoubt Fires) were managed as wildland fire use actions consistent with the new wildland fire management policy. Management actions on all three fires successfully accomplished the local unit's objectives for fire use.

For 1998, changes occurred in the program in response to full implementation of the Federal Wildland Fire Management Policy and Program Review. Team names were changed to reflect the accomplishment of beneficial objectives through wildland fire management rather than just through prescribed fire management. The name "PFMT" is no longer appropriate since the teams have a wider role than just prescribed fire. The team name effective January 1, 1998, is "Interagency Fire Use Management Team (FUMT).

The FUMTs provide a specialized management organization to fulfill the need for assigned resource support to fire use actions that exceed local units' management capability at activity levels experienced during long duration situations or when preparedness levels are high and high priority fires with protection objectives are requiring large resource commitments. The FUMTs bring unique risk assessment and fire growth projection capabilities to support decision-making and improve planning and implementation activities on fire use actions. The teams consist of an overhead configuration based around Incident Command System (ICS) command and staff positions.



The teams have been further identified in the National Mobilization Guide (NMG) beginning in 1997. In the 1998 NMG, they can be found in section 22.5.3, Interagency Fire Use Management Teams.

Roles and responsibilities of teams vary, but will include assistance and/or implementation tasks in the following areas:

1. Technical assistance in the planning, implementation, and evaluation of wildland fires managed for resource benefits (wildland fire use actions):
  - a) direct assistance in long-term programmatic preparation and decision-making for wildland fire use (could include historical weather analysis; input file preparation; fire management plan prescription; Wildland and Prescribed Fire Complexity Analysis; and decision criteria evaluation or formulation; Delegation of Authority preparation, etc.,
  - b) direct assistance or counsel in short-term wildland fire use preparation,
  - c) direct technical support in decision-making and developing appropriate management responses as part of the preparation of Wildland Fire Implementation Plans (WFIP),
  - d) complete management, oversight, and implementation of appropriate management responses as directed in Wildland Fire Implementation Plan,
  - e) assistance in evaluation of effectiveness and efficiency of specific fire implementation (in terms of periodic assessment and final fire assessment), and program implementation,
  - f) develop recommendations, as requested, designed to improve programmatic effectiveness.
2. Technical assistance in the planning, implementation, and evaluation of complex prescribed fire projects, as requested by an ordering unit:
  - a) direct assistance in planning and preparation, including, but not limited to, prescription development, input to Go/No-Go decision criteria checklist, fire behavior prediction and forecasts, design of fire weather, fire behavior, fire effects, and smoke monitoring schemes, evaluation of objectives, and development of implementation plans ,
  - b) direct assistance or management of complete implementation of a Prescribed Fire Plan for a prescribed fire project. This responsibility could involve management of pre-burn preparation, ignition, holding, monitoring, and post-ignition operations,
  - c) technical counsel or advisement involving prescribed fire accomplishment. Includes evaluation of objectives and recommendations.





3. Technical assistance and support for implementation of appropriate management responses to accomplish joint wildland fire use and suppression objectives for low-moderate complexity wildland fires (could include design and implementation of monitoring schemes, assistance to local staff or Fire Management Officer (FMO) in monitoring and evaluation of multiple fires, analysis of historical weather, and completion of situation assessments, probability calculations, fire behavior forecasts, rare event risk assessment, and implementation of limited holding actions).

Fire Use Management Teams are not designed to displace existing incident management teams. Instead, this program is intended to supplement and support existing teams by providing additional resources to facilitate concurrent fire use and wildland fire suppression accomplishments. Descriptions of various types of organized teams clearly show that each type of team has a definite role.

1. Type I IMTs represent the highest level of incident management expertise in the nation. Type I IMTs are staffed to be fully functional in all sections of ICS and to provide initial logistical support for two operational periods. Type I teams have expertise to manage complex air operations and can be expanded to support numerous divisions and groups for extended periods of time.
2. Type II teams are staffed to manage incidents which exceed the capability of forces on a local administrative unit but which are not so complex as to require a Type I team. Type II teams can be expanded to manage several divisions or groups, but have limited capability to manage complex air operations.
3. FUMTs represent some of the highest level fire use management expertise in the nation. These teams are comprised of overhead resources available to provide support for all phases of the management of complex, potentially long-duration wildland fires managed for resource benefits. They can also support Agency Administrators in the planning, implementation, and evaluation of complex prescribed fires and long-term management strategies for other low - moderate complexity wildland fires that exceed the capability of a local unit. FUMTs are not intended to expand to manage several divisions or groups for indefinite time periods and have limited capability to manage complex air operations. When involved in wildland fire management, they are best suited to fires requiring rapid expansion and subsequent management for a limited number of operational periods followed by achievement of objectives. In the event the fire escalates in complexity, a new strategy is required, or the management operations and necessary organization continue to expand over a number of operational periods, other management teams such as Type 2 or 1 IMT s should be considered. FUMTs are fully functional in all phases of planning, long-term risk assessment, fire behavior prediction, and operational implementation. They are unique to fire management organizations in that they possess significant expertise in planning, substantial skill associated with long-term risk assessment and large fire growth simulation, and high-level operational capability. Because of limited staffing analogous to their "short"



configuration, they will rely on the home unit for marked support during longer duration activities.

4. A Type III team may be set up within an administrative unit or the area of a local dispatch center to provide incident management expertise which can be quickly mobilized. Type III teams are not fully staffed in all sections of the ICS and have limited ability to provide initial logistical support for more than one operational period. They are best suited to an incident with one period of rapid expansion, followed by quick containment and control. Because of limited staffing, Type III teams will depend heavily on the local agency for logistical support. A typical Type III team will be comprised of a fully qualified Type III Incident Commander and individuals fully qualified at Unit Leader levels and performing in appropriate general staff positions. Type II teams or FUMTs should be considered and utilized to replace Type III teams in the event the fire escalates in complexity, continues to expand in size and scope beyond the initial operational period, or presents needs for greater organizational management than capable at the local level.

Figure 7 illustrates the interrelationships between Incident Management Teams and Fire Use Management Teams. Both types of teams (IMT, FUMT) are non-local and are mobilized from outside the unit to support the local unit's capability. Basing needs on categories of values to be protected, land use, and management objectives, there are definite roles for both team organizations.

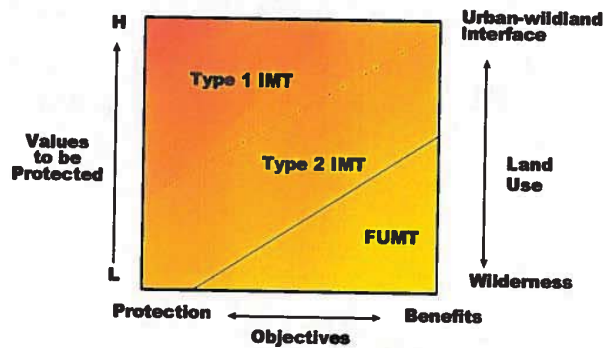


Figure 7. Interrelationships Between Fire Use Management Teams and Incident Management Teams.



The key differences between FMT's and IMT's are the objectives to be accomplished on the specific fire(s) of concern; temporal considerations; and the focus of management actions. The following table compares the types of teams:

Table 2. Comparison of Incident Management Teams and Fire Use Management Teams.

Team Attribute	Incident Management Team (IMT)	Fire Use Management Team (FUMT)
Objectives	Protection objectives - suppression actions	Resource benefit objectives - fire use actions
Temporal considerations	Short-term focus	Long-term focus
Management action focus	Tactical operations, development of operational plans and identification of control line locations, short-term fire-growth projection, support Wildland Fire Situation Analysis decisions, suppression implementation actions.	Strategic planning, development of implementation plans and ultimate acceptable fire areas, long-range assessment, long-term fire-growth projection, support fire use decision-making, fire use implementation actions.

## LASSEN VOLCANIC NATIONAL PARK FIRE MANAGEMENT PROGRAM

The Lassen Volcanic National Park (LAVO) Fire Management Plan (FMP) was initially prepared and approved in 1982. Following the 1988 fire season, all NPS FMPs were to be re-written or revised and the LAVO plan was re-written to comply with interagency review team findings. This revised plan was approved in 1993 and fully met all standards identified in NPS Wildland Fire Management Guidelines, NPS-18. This plan includes the full range of management responses from full suppression to use of naturally ignited fires to accomplish resource benefits. Environmental compliance with the National Environmental Policy Act (NEPA) is accomplished through an Environmental Impact Statement (EIS) completed for the Park General Management Plan (GNP). A specific Environmental Assessment (EA) was completed for the Fire Management Plan encompassing Lassen Volcanic National Park and the Caribou Wilderness Area.

The LAVO FMP is an interagency plan that encompasses both the national park and the Caribou Wilderness Area from the Lassen NF. This plan receives an annual review to determine if updates are needed. The annual review in February 1997 identified an action item to correct excessive restrictions from the 1993 plan. In response, an amendment to the FMP was completed in May 1997 and was approved by both agency administrators.

Fire management staffing at LAVO at the time of the Huffer Fire included a full-time Fire Management Officer, Fire Program Assistant, a shared Prescribed Fire Specialist (position shared with Whiskeytown NRA and Lava Beds National Monument), a permanent subject-to-furlough engine captain, and seven seasonal fire management positions.



# HUFFER FIRE - FINDINGS AND RECOMMENDATIONS

The Huffer Fire Review was conducted to uncover areas where improvements can markedly improve the fire management program at Lassen Volcanic NP and Lassen NF. During the course of the review, examination of the program and project information produced two types of findings: those where corrective or strengthening actions can result in program improvement, and those responsible for positive outcomes and warranting special mention. The following sections provide discussion of these two types of findings.

## Findings and Recommendations for Program Improvement:

Specific findings described in this section are accompanied by recommendations for improvement and are categorized into project and programmatic issues requiring resolution at the local, Area, and National levels.

### Project Issues - Local Level (Identified as L-1 to L-7):

During fire reviews, certain functional areas are discussed. As part of the Huffer Fire Review, the following functional areas were covered as part of the overall review. It was determined from the discussion that these issues did not develop as functions or concerns that directly affected the outcome of the fire. These issues were agreed upon to be very important and prerequisite to safe and efficient management of fire by these agencies and local agency administrators and staff will develop a work plan and modify the fire management plan as needed to address specific areas where they feel deficient.

As a result, the Issue section of this report will not address these specific areas. Information can be obtained from the park or forest office.

- Delegation of Authority to PFMT and IMT
- Escaped Fire Situation Analysis
- Safety
- PFMT/IMT Operations
- Strategy and Tactics
- Local Administrative Support
- Public Information
- Interagency Coordination
- Local Logistical Support
- Agency Administrator Representation
- Resource Advisor/Park Interaction with IMT
- Training Opportunities



The following functional areas are addressed as issues.

***Functional Area L-1: Fire Management Plan ERC Risk Chart Process***

**Discussion:** Risk charts included in FMP are based on Energy Release Component (ERC) (a dimensionless output from the National Fire Danger Rating System, Deeming, Burgan, and Cohen 1977). The FMP does not clearly describe which fire weather stations were used to determine thresholds for estimating risk. Values were stated to be based on average ERC for three stations, but the specific stations are not listed in the plan. The plan also states that the actual ERC will be compared to average values to rate relative risk in a matrix during the fire season. This is not described clearly in the plan. Fuel model basis for threshold ERC values is also not described in the plan.

**Issue:** Fire Management Plan does not clearly describe procedures for ascertaining relative risk of potential wildland fire use actions.

**Recommendation:** Amend FMP to clearly describe these procedures. Develop clear and easy to understand techniques.

**Status:** On-going. Annual reviews of FMP can accommodate these recommendations. In addition, completion of Wildland and Prescribed Fire Management Policy Implementation Reference Guide will provide approved interagency techniques for determining relative risk and initiating planning and implementation activities. The new Wildland Fire Relative Risk Rating Chart from this Guide is shown in the following figure and will be available to all units upon printing.

To use this chart, the top and bottom variable are connected and the left and right variables are connected and where the lines cross is read directly off the chart as the relative risk for the particular fire.





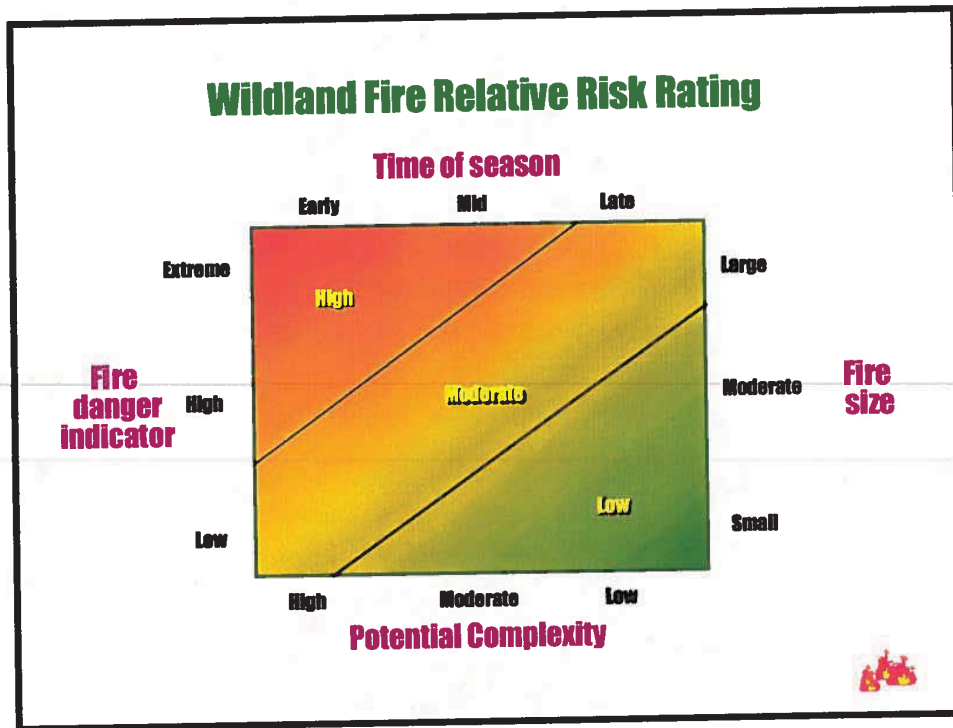


Figure 8. Wildland fire relative risk rating chart.

**Functional Area L-2: Recognition of Risk Rating**

**Discussion:** In the risk assessment process in the FMP, an average ERC value is used to determine relative risk. The review indicated that the Bogard fire weather station was used to provide the ERC value. This station gave a lower value than the average since over three inches of rain had been recorded at this station but not park-wide. The subsequent risk was described as low but in actuality would have been high.

**Issue:** Project relative risk may have been inaccurately judged.

**Recommendation:** Amend the FMP to provide a clear process to determine project relative risk.

**Status:** On-going. Annual FMP reviews will permit revision of FMP to reflect clear directions and procedures.



### ***Functional Area L-3: Planning, FMP Amendments***

**Discussion:** The Forest Service Regional Office was unaware of the content and completion of amendments to the interagency fire management plan. Their involvement in review of this document may have provided input regarding risk assessment procedures, etc.

**Issue:** FMP amendments were not transmitted to the Forest Service Regional Office for review and concurrence.

**Recommendation:** All future amendments to the FMP should be forwarded to the Forest Service and NPS Regional Offices for review, input, and concurrence.

**Status:** Unknown.

### ***Functional Area L-4: Long-Term Risk Assessment***

**Discussion:** Decision-making associated with managing wildland fire for resource benefits can have critical impacts. It is important to make the highest quality informed decisions as possible. Decision-making is facilitated by factual information and prediction of outcomes or consequences of the decision. Of particular importance is the ability to assess the degree of risk presented by the particular wildland fire.

An array of decision-making support aids is available to support wildland and prescribed fire risk assessment. The use of technological tools is appropriate when a specific tool can give the decision-maker information that reduces uncertainty associated with possible outcomes of the decision, reduces the risk of undesirable outcomes, and facilitates the best decision possible.

The choice of technique will depend on the information needed and the state of knowledge regarding that subject area. Techniques may range from a subjective, descriptive comparison to a very objective in-depth analysis using sophisticated mathematical models.

The importance of risk assessment is reinforced through the Guiding Principles from the Fire Policy Review Recommendations that state, "Sound risk management is a foundation for all fire management activities," and "Fire management plans are based on the best available science."

Technological advances in fire behavior prediction, fire spread estimation, fire effects prediction, smoke production and dispersal, rare event assessment, and fire area simulation now make it possible to obtain better information, reduce uncertainty, assess potential fire outcomes, evaluate consequences of failure, and determine probabilities of success more effectively than ever before. Using this type of information in decision-making promotes better management decisions and



ultimately, more desirable outcomes. As new technology becomes available for application in management situations, it must be utilized to improve operational actions to the greatest degree possible.

During the Huffer Fire, long-term risk assessments were completed using the Rare Event Risk Assessment Procedure (RERAP) and the Fire Area Simulator computer model (FARSITE). RERAP provides a calculation that indicates a probability of a rare weather event (most likely a frontal passage or other source of high winds) causing the fire to reach or surpass a point of interest (MMA boundary or other threat). FARSITE is a computer model that simulates the growth of a fire over a long duration. It can provide maps of perimeter growth over selected time increments. Neither of these tools is a fire behavior prediction technique, both utilize fire behavior predictive capability provided by the Fire Behavior Prediction System (FBPS), specifically using the BEHAVE computer program to predict fire intensity and rate of spread.

The RERAP output indicated that there was a 40 % probability of the Huffer Fire reaching the northern MMA boundary by mid-October. The FARSITE output after calibration indicated that the acreage at the end of 5 days would be 1500 acres. Neither technique accurately portrayed the probability of and actual fire movement that occurred.

The two techniques were limited in their ability to perform in that the fire behavior inputs to RERAP were based on inaccurate fuel models and FARSITE received inappropriate fuel layer inputs. Fuels data used for FARSITE were based on a 1966 vegetation map which had been converted to fuel models based on species and canopy characteristics. Application of the FARSITE model is extremely limited when fuels data are incomplete.

The review team believed that in LAVO, the fire behavior exhibited on August 7<sup>th</sup> between 1300 and 1530 hours was more representative of fire behavior in fuel model 10 than in fuel model 8. Few, if any combinations of weather and fuel moisture could be found to produce predicted rates of spread through BEHAVE for fuel model 8 that were comparable to those observed on the fire at this time. However, limitations of the fire behavior prediction system in terms of its inability to accurately depict fire spread resulting from long-range spotting and ignition may have contributed to the differences in predicted and observed fire behavior. During other periods of the fire, monitors confirmed rates of spread and flame lengths that corresponded predictions using fuel model 8. The presence of white fir with its crown growth pattern could have contributed to vertical fire movement through crown fuels in smaller trees that resulted in extensive torching and spotting.

The use of 30+ year old vegetation data in light of ecosystem health conditions, altered fuel regimes, and fire exclusion, can lower confidence in modeled outputs. This issue here is the need to update fuel model maps and vegetation maps. Under



many natural conditions over time, fuels represented by model 8 could easily change to a condition better represented by model 10. During 1998, preliminary analysis of fuels plots taken immediately adjacent to the Huffer Fire in fuels very similar to those burned in 1997, is indicating that structure, depth, and arrangement of fuels does correspond to fuel model 8 conditions. Additional analysis and review is needed to update the park and forest maps and to better define information to be used in future fire behavior predictions.

**Issue:** Long-term risk assessment techniques did not provide an accurate depiction of probable outcomes.

**Recommendations:** Inaccurate outputs are not the fault of the long-term risk assessment techniques. Use of these techniques is limited by quality of input data. Risk assessment is a vital component of wildland fire use and must continue to be used to support decision-making and planning. To do this, it is recommended that:

- LAVO and LNF need to cooperatively update fuels data layers for use in future long-term risk assessment, specifically FARSITE, so that more accurate predictions of fire spread can be achieved.
- LAVO and LNF and other units must avoid over-reliance on long-term risk assessment outputs. Both RERAP and FARSITE are not fire behavior prediction tools and managers must not lose sight of the Fire Behavior Prediction System and its capability. For example, a low probability output from RERAP does not necessarily mean that the fire will never reach the point of interest. A high probability over a long time period does not mean that the fire will not reach the point of interest in a shorter time period, fuel-driven scenarios can dominate and cause more rapid rate of spread. Once the output is derived, the decision still needs to be made, and additional factors must be considered.

The following chart (Figure 9) provides managers with an indication of possible interpretations of RERAP outputs.



**What is the Risk Assessment Implication Chart?** It is a tool to aid managers in decision-making by illustrating management options available based on a long-term risk assessment of historic weather data. It also provides an indication of possible decision consequences under different situations. This chart provides one measure of risk that helps to gauge specific inputs to the decision making process and suggest consequences.

**How to use the Chart:** Determine the current phase of the fire season and obtain the probability calculation from long term risk assessment (FERAP),  
 2. Connect the lines between the flame and tree corresponding to the appropriate probability and season inputs,  
 3. Determine the color region at the midpoint of the line between the dotted lines associated with this set of conditions,  
 4. Go to the Decision Considerations and Consequences section color region to assess potential management implications.

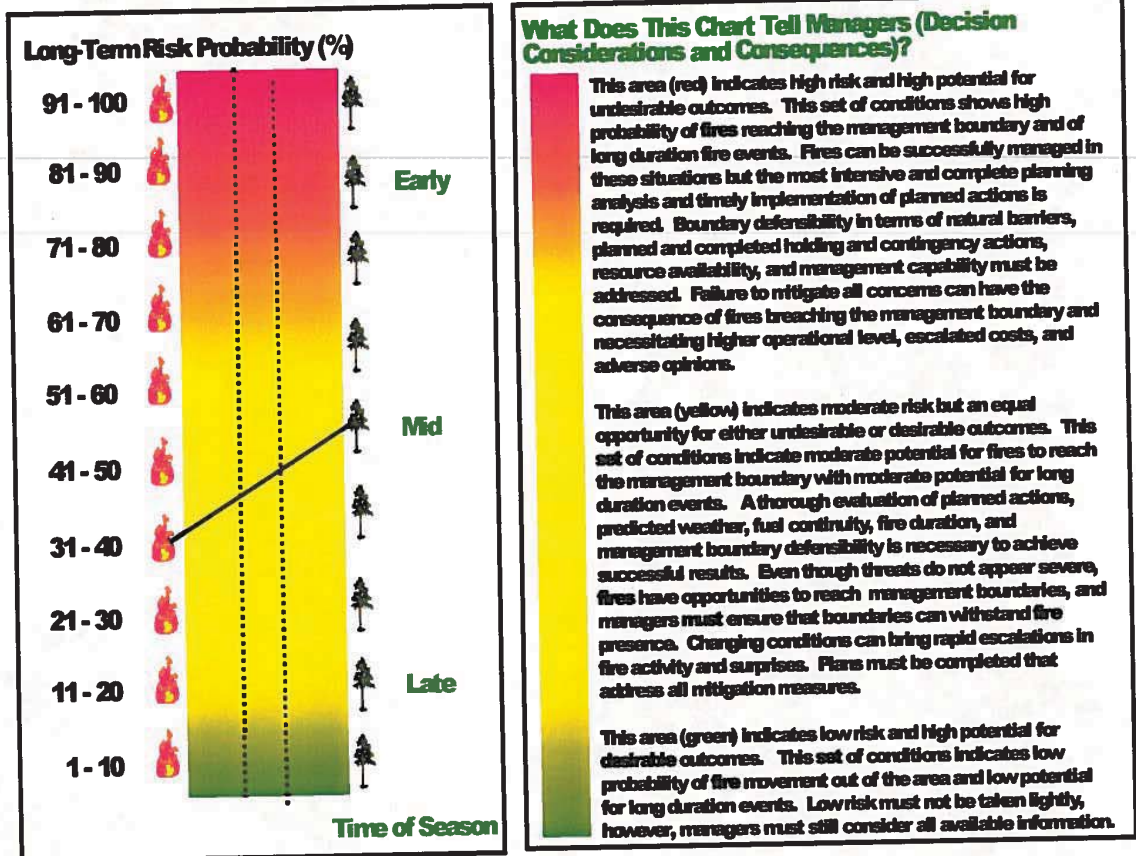


Figure 9. Risk assessment implications chart.

The long-term risk probability for the Huffer Fire was 40%. By reviewing the chart lower left portion; the probability can be connected to the time of season, which yields a line in the yellow portion of the chart. Moving to the lower right hand portion of the chart for considerations and consequences, it can be found that the yellow portion infers that moderate risk is involved but opportunity exists for undesirable outcomes. A thorough evaluation of planned actions and management boundary defensibility should be completed. Management boundaries must be





strengthened through mitigation or holding actions to ensure the ability to confine the fire within that boundary.

The Huffer Fire planning identified holding actions and trigger points that would initiate them. However, the fact that RERAP indicated the fire would reach the management boundary by October when in reality, it nearly did so in August, shows how this information alone cannot be solely relied on for decision-making.

On many fire reviews, it is continually stated that fire behavior "surprised" managers. The reasons for this surprise must be identified and possibly involve planning and implementation activities. Units must be prepared for the management requirements for implementing wildland fire use actions. Use of the best available science and support aids for decision-making must continue. Over-reliance on a single technique or portion of information must be avoided.

**Status:** On-going.

***Functional Area L-5: Interagency PNF Burn Plan - Plan Approval Timeframes and Completeness***

**Discussion:** The Interagency PNF Burn Plan for the Huffer Fire was completed by park staff on August 4, 1997. The plan followed approved formats and included required content areas. However, specific elements associated with the Burn Plan were not completed as timely as necessary or as thoroughly as needed. These include the time involved in completing and approving the Burn Plan by both agencies; detail included in Risk Assessment Considerations sections of Threats to MMA, Holding Actions, Contingency Actions, and Contingency Resources.

**Issue:** Interagency PNF Burn Plan not approved in a timely manner, and specific sections not completed is sufficient detail to fully describe management needs and actions.

**Recommendations:**

- Future Burn Plans should be completed in a more timely fashion. A mechanism needs to be developed between the two agencies to facilitate completion and approval within a shorter timeframe.
- Specific sections of Threat to MMA, Holding Actions, Contingency Actions, and Contingency Resources need greater detail to describe management actions. Specifically, if the MMA is not totally naturally defensible, the section on Threats to the MMA must describe each portion of the MMA that will require strengthening or holding actions to mitigate this threat. The Holding Action section will be developed on the basis of what is presented in the Threats to MMA and Threat to Life and Property sections. Each portion of the MMA that is identified as not naturally defensible and each threat to life and property must be carried forward into the Holding Action Section and have an action described that will mitigate or remove the



particular threat. These sections build throughout the plan, are based on each other, and are only as good as the previous information. The Contingency Action section can then be developed to identify actions that will be taken if all mitigation actions are unsuccessful. These actions will be taken if the fire breaches the boundary, poses additional threats to life and property or develops additional social, political, or economic considerations. Contingency actions should consist of on-the-ground actions to contain or control the fire. A contingency action described as completion of an EFSA is not acceptable except for those situations where additional Agency Administrator issues have developed (social, political, economic concerns, public health/smoke considerations, etc.). Contingency Resources must be identified to fully implement each contingency action, and not consist of a resource list.

**Status:** On-going. Park and forest staff can contact Regional Staff for more information or specific examples of Burn Plan development or more information concerning these recommendations.

#### ***Functional Area L-6: Daily Certification Delegation***

**Discussion:** During the Huffer Fire, two agencies were involved in coordinated management and two Agency Administrator signatures were on the Burn Plan, and consequently, on the Daily Revalidation Signature Page. To accomplish daily revalidation, both Administrators needed to be present on the units each day and faxing of signatures was the only instrument to work between multiple offices. Under the old policy, this daily revalidation authority could not be re-delegated.

**Issues:** This functional area actually represents two issues, one at the local level and one related to national policy. The local issue is that the two units need to establish an efficient mechanism to facilitate revalidation of wildland fire use actions. The national issue involves the need to be able to re-delegate daily certification authority.

**Recommendations:** LAVO and LNF need to build into the FMP a mechanism to permit required signatures for future wildland fire use actions. This could involve a delegation from one agency to the other to represent both and sign documents rather than requiring both agency signatures at all times. Obtain authority to allow re-delegation of certification for wildland fire use actions.

**Status:** On-going. LAVO and LNF can rectify their FMP during annual plan revisions. In terms of the issue of re-delegation of revalidation authority, an interagency document, *Increasing Programmatic Accomplishments Reducing Agency Differences in Prescribed Fire Management (USDI/USDA 1996)*, provided authority to delegate daily certification from the Agency Administrator to other personnel. This authority, however, was never incorporated into agency manuals because they have not, until now, undergone a revision. Completion of the



Wildland and Prescribed Fire Management Policy Implementation Reference Guide will provide a new system to replace the daily re-validation requirement. A Periodic Assessment process has been developed to allow the unit to set their assessment frequency (does not have to be daily), and instructions are provided to re-delegate this authority to other personnel on the unit.

The Periodic Assessment instructs, for each wildland fire use action, the Agency Administrator (or delegated individual) to periodically affirm the capability to continue management of the fire. This stage is intended to prevent the unchecked escalation of an individual fire situation or the total fire management situation without evaluation and adequate planning. A checklist of information must be completed that accomplishes two purposes. First, this checklist affirms the appropriateness of continued management of the fire for resource benefits. Second, this checklist confirms the decision pertaining to the need to develop and document the Wildland Fire Implementation Plan - Stage III. The Periodic Fire Assessment consists of three components: a re-validation of the appropriateness of continued management for resource benefits, an assessment of the need to escalate from WFIP Stage II to Stage III, and a signature table that affirms the Agency Administrator's (or delegated individual's) concurrence.

#### ***Functional Area L-7: Fire Behavior Prediction Reliability***

**Discussion:** Fire behavior observed on August 5<sup>th</sup> and 6<sup>th</sup> was not used to adjust predictions of fire behavior made for August 7<sup>th</sup>. Fire monitors observed torching and spotting on these dates but continued to use of fuel model 8 without spotting and torching subroutines included to predict fire spread. The weather on the 5<sup>th</sup> produced 4 chains/hour spread rates using fuel model 8. The observed spread rate was 10 ch/hr. Verification validation of predictions should have detected differences between what was predicted by fuel model 8 and what was being observed.

Forecasted weather conditions may have been incorrectly used in fire behavior predictions.

Weather observations and long-range weather forecasts may have provided indications of escalating fire behavior as conditions changed.

#### **Issues:**

- ❑ Modeling of fire spread underestimated the behavior of the Huffer Fire.
- ❑ Fire behavior forecast does not appear to have used the wind direction or the winds were adjusted too low to be accurate.
- ❑ Long-range weather forecasts not thoroughly evaluated for importance. The 30-day weather forecast issued on August 2<sup>nd</sup> indicated the next 10 days would be critical. Above normal temperatures were predicted with gradient winds for 15-20 mph.



- Observed weather may have provided indications of changing conditions. Poor nighttime humidity recovery starting on August 5<sup>th</sup> may have a marked effect on fire behavior.

**Recommendations:**

- Determine appropriate fuel models to represent on-the-ground fuel complexes for use in fire behavior prediction and large fire growth simulation. For example, use of the BEHAVE model and fuel model 10 would have moved the fire potentially one and one-half miles on August 7<sup>th</sup>.
- Utilize all available information (fire behavior and weather observations, short-, mid-, and long-range weather forecasts, computer predictions, etc.) in assessing conditions and developing management actions for all future wildland fire use actions.

**Status: On-going.**

**Programmatic Issues - Local Level (Identified as L-8 to L-9):**

***Functional Area L-8: Fuel Dynamics, Inventory and Vegetative Condition***

**Discussion:** Both LAVO and the Caribou Wilderness Area have fuels maps that may not be suitable with desired precision, for use in BEHAVE and FARSITE computer models. The only and most recent vegetation mapping completed in the park was gathered by regional foresters in the summer of 1966. Since the park has never had a fuel map completed, an interpolation was completed to classify the latest information of any accuracy to a fuels map. This translates to a fuels map representing 30+ year old data. Use of this data had substantial effects on the outputs from computer models and the subsequent outcome of the fire.

**Issue:** The most recent fuels data for LAVO is over 30 years old and not representative of altered fuel regimes. These data are not adequate for use in computer predictions or simulations and cannot adequately support decisions regarding potential wildfire use actions.

**Recommendation:** LAVO undertake a fuels mapping project to obtain current fuel information that can permit use of BEHAVE and FARSITE for support of wildland fire use actions. LAVO should pursue funding support as needed from Regional and National NPS offices. Ultimately, an accurate fuels data layer in the park's Geographic Information System (GIS) should be completed.

**Status: On-going.** LAVO has requested additional funding to begin fuels mapping of park. Regional Office should ensure this effort could be continued to completion.



### ***Functional Area L-9: Wildland Fire Use Planning and Implementation***

**Discussion:** The relatively small size of the natural fire unit encompassed by this FMP indicates that thorough planning is necessary to ensure preparedness for managing fires for resource benefits. In addition, the lack of continuous natural barriers compounds the difficulty in managing fires in this area (but does not preclude managing fires for resource benefits). These factors, as well as past fire activity/recent pnf history, need to be considerations in developing implementation plans for future wildland fires to be managed for resource benefits. The relatively small area of this natural fire unit also necessitates that advance planning consider substantial holding actions to contain fires.

The high profile nature of this type of management action indicates that there will be a large number of other issues and concerns (both external and internal) generated during management. This will be part of the standard business spectrum for these actions. Managers and staff need to be prepared to deal with these influences/issues while planning and managing the fire(s).

#### **Issues:**

- ❑ Past fire experiences indicated similar fire behavior and could have indicated likely pattern for Huffer Fire.
- ❑ Managers and staff were unprepared for magnitude of external influences.

#### **Recommendations:**

- ❑ Planning for wildland fire use needs to consider all past fire history and unit size in preparing for future fires.
- ❑ Managers and staff need to anticipate significant workloads associated with external influences and respond by staffing up quickly to deal with these activities as well as implementation actions. Regional Office assistance in the form of direct aid or support in obtaining additional help can facilitate park/forest needs.

**Status:** On-going.

### **Programmatic Issues - Regional/Area Level (Identified as R-1 to R-2):**

#### ***Functional Area R-1: USFS Regional Fire and Aviation Staff Support to Wildland Fire Use Program***

**Discussion:** During the Huffer Fire, the Forest Service Regional Fire and Aviation Staff were not physically represented at either of the two administrative units and telephone communication was periodic and incomplete in answering questions and providing support. Numerous issues affecting the two units could/should have been resolved or pushed to the national level for resolution by the Regional staff (i.e., AD hiring, EERAs, hazard pay, ordering/support, etc.). The park and forest appeared to





get more support in the form of questioning and answers to problems from the North Zone Operations than from the Regional Office. The NPS Regional Office did send a staff member to the park to provide assistance as possible during the fire.

**Issue:** The USDA Forest Service Regional Office Fire and Aviation Staff needs to provide greater support to the wildland fire use program in R-5. This program is identified for elevation by the new federal wildland fire management policy to higher levels that cannot be accomplished by denying the need, deferring implementation, and downplaying importance.

**Recommendation:** More intensive education on this program, it's requirements, it's objectives, benefits, and implementation processes is needed for the entire USFS Regional Fire and Aviation Staff so that necessary support can be provided. Education efforts must be carried out to coordination centers, dispatch centers, and field offices also. Cooperative efforts with other agencies is strongly advisable.

**Status:** On-going. Changes in personnel may affect this process, but if staff supervisors commit to this goal, it can be accomplished. A strong commitment needs to be established. Completion of the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide will greatly facilitate this effort. This guide is in press and expected to be available during fall 1998.

#### ***Functional Area R-2: California Wildfire Coordinating Group (CWCG) and Regional Mobilization Guide***

**Discussion:** Regional Preparedness Levels as reflected in the R-5 Mobilization Guide at the time of the Huffer Fire did not reflect changes in the National Mobilization Guide. Constraints on fire use actions at higher preparedness levels have been removed or lessened and concurrence with proposed actions is necessary from the respective agency regional or national level, at preparedness levels 4 and 5, respectively. Approval or concurrence is not required from coordination centers, dispatch centers, Geographic Area Coordinating Groups or Multi-Agency Coordination Groups.

**Issue:** California Area Mobilization Guide is not consistent with wording and procedures as stated in National Mobilization Guide. This is creating confusion in implementing wildland fire use actions.

**Recommendations:** CWCG needs to ensure that the regional mob guide is updated to reflect consistency with the National Mobilization Guide. Coordination centers and dispatch centers can then provide feedback/support to administrative units that is current, accurate, and constructive in facilitating achievement of objectives.

**Status:** Unknown.

## Programmatic Issues - National Level (Identified as N-1 to N-7):

National Level Programmatic Issues have significance to all wildland fire management agencies and need resolution at the national level. Many of these issues are related to agency policy and will be addressed through implementation of the new federal wildland fire management policy.

### *Functional Area N-1: Cache Support*

Discussion: Confusion occurred during resource ordering for the Huffer Fire. Information was provided to LAVO that resource orders could not be filled for non-wildfire incidents. Follow-up communication resulted in assurance that the North Zone Cache could fill orders for LAVO. Subsequent conversations again stated that the cache was closed to the Huffer Fire and the only recourse available to LAVO was to procure supplies and equipment on its own outside standard ordering channels. Finally, the Coordination Center Manager confirmed that the cache could support the fire provided there were established reimbursable account numbers to charge costs and re-supply the cache. Such confusion seriously affected the park's ability to implement the operational management plan and obtain necessary resources. Failure to respond to resource orders could have significant ramifications in the ordering unit's ability to respond to an escalating fire situation. Potential effects could even threaten firefighter and public safety.

Contributing to this problem are several key points.

- ❑ Interpretation of policy for supporting "wildfire emergency actions" versus "non-wildfire, non-emergency actions." Prescribed natural fires have been considered to be a component of prescribed fires and thus, not an emergency situation of equal value to wildfires. This automatic lower priority has in many cases, compromised ability to accomplish natural fire management objectives.
- ❑ Management code structures have not included well understood interagency non-reimbursable account numbers for prescribed natural fires that are comparable to wildfires (pnf codes are project accounts while wildfires utilize a "P" code in the Forest Service). The majority of dispatch centers and coordination centers are managed by the Forest Service and employees need to be aware that they may be called upon to support non-Forest Service incidents. They need to possess knowledge of other agency management code structures (NPS does not use "P" codes and pnf accounts are different than Forest Service or any other agency).
- ❑ Prioritization of wildfires and prescribed natural fires has not been equitable. In cases where wildfires threaten life and property, they are unquestionably the highest priority. However, situations develop where pnf's occur in the absence of wildfires, do not compete with other fires for resources, require resources for finite time periods, and may, in



fact, be the highest priority fire for that administrative unit and agency at that particular time.

- National Logistic Support Caches are currently set up with stocking levels adequate to meet needs of wildland fire management agencies during major emergencies. Caches do not maintain stocking levels to be responsive to long-term events such as wildland fire use (prescribed natural fires). Specific concerns involve water handling equipment (pumps, hose, nozzles, etc.) which represent a large volume of basic cache items and a major cost center. Thus, dispatch centers are reluctant to commit to long-term support to prescribed natural fires.

**Issues:**

- Interagency Support Caches are reluctant to support fire use actions as well as suppression actions,
- Management codes for both fire use and suppression actions are needed that are useable and understood by all agencies,
- Agency and administrative unit needs for fire use must be given fair consideration in wildland fire prioritization.

**Recommendations:**

- During implementation of new federal wildland fire management policy, develop guidelines for coordination and support of all wildland fires; establish new management codes that can be used for all wildland fire actions and/or establish and information all affected parties of reimbursable agreements/situations and procedures, and develop new prioritization criteria considering all wildland fires and disseminate this information to all coordination centers and administrative units.

**Status: Completed. Implementation process of new federal wildland fire management policy has resulted in completion of these recommendations.**

- Dispatch and coordination centers will be able to support all wildland fires concurrently depending on priority of each fire and available resources.
- Management codes have been established that provide account numbers for both suppression and fire use actions (see Table 3 below) and reimbursable and non-reimbursable situations have been defined and procedures developed (see information provided under N-4 below).
- The National Wildfire Coordinating Group established a task group to redefine wildland fire prioritization criteria for use by all agencies.

The following table displays Federal agency Accounting Code Definitions for the range of options involved in managing wildland and prescribed fires.



Table 3. Federal agency fire management accounting code definitions.

Agency	Fire Classification and Appropriate Accounting Code		
	Suppression action	Wildland fire use	Prescribed fire
BIA	92310 <sup>1</sup>	92310 <sup>1</sup>	92330
BLM	2821 <sup>2</sup>	2821 <sup>2</sup>	2823
FWS	9261 <sup>3</sup>	9261 <sup>3</sup>	9263
NPS	249	248	252
USFS	P	G	T

<sup>1</sup>The same BIA account code will be used for these fires, reporting differences will appear on the Individual Fire Occurrence Form, DI-1202.

<sup>2</sup>The same BLM account code will be used for these fires, reporting differences will appear on the Individual Fire Occurrence Form, DI-1202.

<sup>3</sup>The same FWS account code will be used for these fires, reporting differences will appear on the Individual Fire Occurrence Form, DI-1202.

***Functional Area N-2: AD Hiring Authority for Fire Use Actions***

**Discussion:** Crews and miscellaneous overhead were ordered for the Huffer Fire and either filled as AD hires or not filled because of Forest Service interpretation of the AD Hiring Authority. The inability of the park to obtain resources limited their ability to adequately manage the fire. The use of AD personnel during a fire use action has raised concerns between cooperating agencies. It is obvious that there is a very different interpretation in these authorities between the U.S. Forest Service and Department of Interior agencies. It is also unclear whether there is one authority or if the two departments have distinct and separate authorities.

**Issue:** The use a AD personnel on fire use actions needs to be clearly defined and understood by all coordination center and ordering unit personnel.

**Recommendation:** National office staff from all agencies define AD Hiring Authority.

**Status:** Completed. Wildland Fire Management Policy implementation has resulted in definition of AD Hiring Authority. Administratively determined pay scales and personnel can be used on wildland fire use actions by all agencies. Interior agencies can utilize AD personnel on prescribed fires while Forest Service cannot. The following table (Table 4) lists emergency acquisition and personnel regulations and relationships to wildland and prescribed fire implementation responses.



Table 4. Emergency acquisition and personnel regulations for fire management activities.

Authority	Wildland Fire managed for protection objectives	Wildland fire managed for resource benefits	Prescribed fire
Emergency acquisition authorities	XX	XX	
Emergency equipment rental agreements	XX	XX	XX <sup>1</sup>
National suppression contracts	XX	XX	XX <sup>1</sup>
Spot change of duty	XX	XX	XX
Use of AD Plan to hire emergency workers	XX	XX	XX (Interior agencies)
Hazard duty pay	XX	XX	
Pay for meal periods	Use current rules	Use current rules	
Overtime without prior authorization	XX	XX	
Two days off per work week	Use R&R Regulations	Use R&R Regulations	XX <sup>2</sup>
Rest and recuperation on assignment	XX	XX	
Rest and recuperation upon return to home unit	If authorized by Incident Commander and approved by Immediate Supervisor	If authorized by Incident Commander and approved by Immediate Supervisor	N/A
Pay while in travel status	XX	XX	Emergency travel regulations do not apply, FLSA regulations do apply

<sup>1</sup>Interior agencies will reimburse USFS for use of USFS national contract resources.

<sup>2</sup>Standard work schedules will remain in effect, two days off per week is not a mandatory requirement and overtime can be authorized for prescribed fire duty on regularly scheduled days off.

**Functional Area N-3: Hazard Duty Pay for Fire Use Actions**

**Discussion:** During the 1997 fire season, agencies were in differing stages of implementation of the new policy. Hazard duty pay for wildland fire use was receiving different interpretations regarding its use. The Forest Service considered authorization of hazard duty pay for wildland fire use inappropriate while the National Park Service considered it appropriate for specific duties.





**Issue:** Clear definition and direction regarding use or non-use of hazard duty pay for wildland fire use actions is needed. This has been identified as an action item (#21) in the Federal Wildland Fire Management Policy Action Plan.

**Recommendation:** National office staff of all federal agencies need to clearly define the appropriate use of hazard duty pay and disseminate this information to all agency personnel.

**Status:** Completed. Wildland Fire Management Policy implementation has resulted in definition of Hazard Duty Pay Authority. Personnel assigned to line duties and exposed to extreme hazards on wildland fire use actions are entitled to hazard duty pay (see Table 3 above).

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#### ***Functional Area N-4: Emergency Equipment Rental Agreements (EERAs)***

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**Discussion:** During the Huffer Fire, LAVO personnel were informed that National EERA were not available as the Huffer Fire was not an emergency. Catering and shower units, and contract crews were ordered but were not filled and could not be used. Again, interpretation of the intent and appropriate use of these resources differed among agencies and this difference of opinion caused direct problems in the management of the Huffer Fire.

**Issue:** Lack of clear understanding and direction on use of EERAs exists and limits individual unit management effectiveness.

**Recommendation:** National Office staff from all agencies need to clearly define and inform agency personnel of intended use and limitations on EERA resources.

**Status:** Completed. Wildland Fire Management Policy implementation has resulted in definition of use of EERAs. Equipment covered by this type of agreement is available for assignment to wildland fire use actions. Since these agreements are completed and managed by the Forest Service, any use by Interior agencies on prescribed fires will result in reimbursement from the Interior agency to the Forest Service (see Table 3 above and reimbursement guidelines for fuels management activities listed below).

Although the general policy of cross-billing between agencies has been determined to be inappropriate and inconsistent with Congressional approval, special situations will occur that limit an individual agency's ability to support cooperative activities. The five agency Fire Directors concurred that some unique situations may develop where reimbursement (cross-billing) might be warranted. These situations are described in the following list:



### Guidelines for Interagency Reimbursement for Support of Fuels Management Activities

- ❑ Fuels management projects are considered regular planned land management activities as opposed to emergency activities; therefore offices have the right to turn down requests from other offices to assist in fuels management activities. Offices should not consider providing personnel and resources at the expense of their own target accomplishments, and no office should be placed in a position of subsidizing another office's fuels management activities.
- ❑ Offices in need of assistance in accomplishing their target should try to work out arrangements with neighboring offices where sharing personnel and or resources throughout the year will be offsetting and there will be no need for reimbursement.
- ❑ Where assistance cannot be fully offset by sharing personnel and resources between offices, arrangements should be made for the requesting office to provide as many prepaid services as possible, such as travel, lodging, food, and fuel, by covering these items on a blanket purchase order, credit card, or other appropriate means, thereby eliminating the need for reimbursement.
- ❑ Offices anticipating the need for assistance in accomplishing workloads should coordinate with their local fire management cooperators early in the planning of the project and ascertain if their Federal neighbors can assist. If not, consider tribal, state, local, and private sector resources for contract. It is very important not to overlook this source of personnel and resources.

When the above steps have been addressed, and reimbursement between the five Federal agencies is economically efficient and operationally effective, the Task Order process outlined in the master "Interagency Fire Management Agreement" of 1997, section VII, should be followed (see the National Mobilization Guide for the agreement and agency reference numbers). A general guiding philosophy for reimbursement is agency resources (goods, services, and personnel) that are planned and funded as part of an agency's program are not reimbursable items. Due to the costs of establishing and processing reimbursables, it is recommended that the reimbursable amount be at least one thousand dollars before initiating a Task Order.

Examples of items not reimbursable are:

- ❑ All personnel regular planned salary ("base 8")
- ❑ Minimal amounts of overtime (1-2 hours) on base-8 regular days
- ❑ Contract/lease availability for activated contracts
- ❑ Fixed operating rates (FOR)



- ❑ Incidental support costs associated with personnel and owned, leased or contracted equipment (e.g., fuel, supplies, normal maintenance and repairs, PPE)
- ❑ Administrative surcharges (disallowed as per the Interagency Agreement)
- ❑ Payments and hiring for emergency AD Pay Plan workers
- ❑ Units should plan overtime for dispatch centers and other support entities for services supporting prescribed fire

Examples of reimbursable items:

- ❑ Equipment and aircraft use rates
- ❑ Major repairs or equipment replaced
- ❑ Contract/lease availability for early activation or extensions
- ❑ National caterer, shower, and type I and II CWN helicopter costs
- ❑ Cache charges (e.g., shipping, refurbishment, replacement)
- ❑ Overtime for weekends and holidays
- ❑ Emergency workers (EFF) where the using office has no Assistant Disbursing Officer (ADO) means to pay crews

#### ***Functional Area N-5: Coordination***

**Discussion:** During the Huffer Fire there was some confusion regarding use of supplemental resources and what constituted initial and extended attack. Within the historical use of these terms and activities during suppression operations, tactical deployment of resources several days after ignition did not qualify as initial attack. On a wildland fire use action, the first direct application of resources to accomplish on-the-ground objectives other than monitoring may not occur until days or even weeks after ignition. The question then arises, does this qualify as initial attack and/or is it an appropriate use of initial attack resources?

**Issue:** There is unclear understanding within the coordination function of how wildland fire use and prescribed fires fit into traditional use and assignment of resources.

**Recommendation:** An internal education process needs greater emphasis to ensure that all Geographic Area Coordination Center personnel understand the new Federal



Wildland Fire Management Policy and specific terminology changes as they relate to mobilization/prioritization for wildland fires.

**Status:** *On-going.* A complete Implementation Guide for the Wildland and Prescribed Fire Management Policy (USDI/USDA 1998 in press) has been prepared and will be made available to all agency personnel as soon as printing is completed. National Office staff from USFS and NPS have conducted nearly two dozen policy presentations over the last 10 months to both federal agency and non-federal audiences. Internal presentations have included national and regional training courses; national, regional, and local meetings and workshops, including national and regional dispatch coordination workshops; regional incident management team meetings; and agency meetings and workshops, including wildland fire management agencies and air regulatory agency meetings. External presentations have involved local civic meetings, luncheons, and breakfasts (Kiwanis, Rotary, County Commissioners, etc.); private organizations, including The Nature Conservancy and Hunter/Outfitter organizations; and local and state governments, and congressional delegations.

This information dissemination process will continue and will be escalated after the Implementation Reference Guide is published.

#### ***Functional Area N-6: Federal Wildland Fire Management Policy***

**Discussion:** Confusion surrounding the implementation of the new wildland fire management policy arose during the Huffer Fire. This did not become an issue that directly affected the outcome of the fire. A complete discussion of this functional area is provided in the Background Information Section of this report.

#### ***Functional Area N-7: Prescribed Fire Management Teams/Fire Use Management Teams***

**Discussion:** Unfamiliarity with this program, roles and purpose of teams, and ordering processes became illuminated during the Huffer Fire. This situation did not directly affect the outcome of the fire. A complete discussion of this functional area is provided in the Background Information Section of this report.

### **Commendations/Positive Outcomes**

Positive outcomes must not be overlooked during this summation, since many sound decisions/actions occurred which contributed markedly to the achievement of objectives and safe management of the Huffer Fire. Commendable areas are separated into Local Unit Actions and Other Organization Actions.



## **Positive Outcomes/Commendations - Local Unit Actions (Identified as P-1 to P-6):**

### ***Functional Area P-1: Local Cooperation***

Cooperation between Lassen Volcanic NP, Lassen NF, and Susanville Interagency Fire Center (SIFC) appears excellent. These units offer each other unrestricted mutual support and cooperation. Wildland fire management operations do not appear to be hindered by personality problems, "turf" or ownership conflicts, or lack of support for cooperators' programs. Indeed, the cooperation exhibited by staff from these units is directly responsible for advancing wildland fire management operations to a very high and efficient level.

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**Wildland fire management, support, and managerial staff members should be commended for promoting such successful cooperation.**

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### ***Functional Area P-2: Management Support for Wildland Fire Management Program***

Management support for the wildland fire management program at LAVO and LNF is excellent. In many units, this advanced level of support is noticeably lacking. In particular, support of the wildland fire use program (prescribed natural fire) is admirable. To do the "right thing" is not always the most popular choice. The risk associated with wildland fire use also serves to discourage many managers from aggressively pursuing these objectives. Both the Park Superintendent and Forest Supervisor repeatedly stated their support and desire to implement this program. Their willingness to accept the uncertainty and risk associated with these activities is a highly admirable benchmark for this program and a model for other managers.

In light of new policy direction, managers must incorporate the role of fire as an essential ecological process and natural agent of change into management plans, must utilize risk management as a foundation for fire management activities, and plan, develop, and implement fire management programs and activities that are economically viable. Support for and inclusion of wildland fire use objectives are an essential part of implementing the new policy and support as exhibited by these managers is integral to successful program implementation.

One specific observation made by the review team that deserves special recognition is the fact that both agency administrators took time from their busy schedules to participate in the entire fire review, often managers take leave after making "an appearance" and do not fully participate. The review team wishes to commend both managers for their support of their staff, the program and especially, for their participation in the review process.





### ***Functional Area P-3: Program Planning Status***

The strong commitment to wildland fire use program is clearly evident in the cooperation by the two administrative units, managerial support of the program, and the degree of planning completed by the two units. The completion of a consolidated fire management plan for the national park and national forest wilderness is a significant accomplishment. The new policy provides the framework for increased interagency planning efforts and strongly encourages joint agency fire management planning. The Lassen Volcanic NP/Caribou Wilderness FMP represents a pioneering effort and staff members of both agencies should be commended and encouraged to expand and strengthen the plan.

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### ***Functional Area P-4: Voluntary Support of Unpopular Program***

The staff at both administrative units has undertaken a high risk and high profile program in a geographic area that does not fully understand or endorse these objectives and this program. The implementation of wildland fire use in this area is consistent with the new policy direction and a viable strategy to accomplish beneficial ecological objectives. The lack of universal support from both an internal and external perspective makes the decision to implement this program very commendable.

### ***Functional Area P-5: Documentation Status***

The documentation completed before, during, and after the Huffer Fire warrants special recognition. The completeness of the package delivered to the review team, the thoroughness of materials presented to the Prescribed Fire Management Team and Incident Management Team, and the inclusiveness and openness of presentations made at national meetings is deserving of commendation. The staff involved in preparation of such high quality products should be highly commended.

### ***Functional Area P-6: Decision-Making***

During any fire, workload requirements dramatically increase and stressful decisions are required with little time to contemplate outcomes. Fire management staff at LAVO and LNF made many sound decisions during the Huffer Fire that directly influenced the eventual outcome. Although the fire did not result in the specific outcome that was desired, resource objectives were accomplished. The safety record was exemplary and interagency cooperation at the local level was outstanding. Many sound decisions were made but some specific examples worthy of mention include:

- the ordering of a Prescribed Fire Management Team to manage the prescribed natural fire,



- ❑ the completion of a second Escaped Fire Situation Analysis (EFSA) to update cost projections (very proactive rather than waiting to be reactive),
- ❑ the identification of trigger points to initiate management actions,
- ❑ the conversion of the pnf to a wildfire prior to the fire leaving the Maximum Manageable Area (MMA) rather than after it breached the boundary.

### **Positive Outcomes/Commendations - Other Organization Actions (Identified as P-7):**

#### ***Functional Area P-7: IFFWU support***

The Interagency Forest Fire Weather Unit provided outstanding support to the local units in the form of weather forecasts and advance notifications. This support was timely, responsive, and accurate and contributed markedly to the management of the fire.

## **SUMMARY AND CONCLUSIONS**

Increasing knowledge concerning the role of fire as a natural process over the last 30 - 40 years is stimulating an advocacy to increase the beneficial use of fire. Further supporting fire use applications is the increasing importance of managing accelerated fuel complexes. Potential spread rates and intensity of future wildland fires are escalating with markedly greater proportions of wildland fires testing or exceeding initial attack suppression capabilities. Fire use applications can be administered to accomplish beneficial resource objectives and to reduce potential intensity and spread rates of unwanted wildland fires.

Management of wildland fire use (prescribed natural fire) is one of the highest profile and highest risk programs federal facing fire managers. Fires have been managed for these and similar objectives since the early 1970s, but this program has never received full support and endorsement by all federal employees and many of the general public. The long-term fire prevention campaign has generated a universally accepted thought that all wildland fires are bad. This concept has become so entrenched in our society that it can only slowly be changed. Our knowledge of fire effects and the role of fire as a natural process has rapidly expanded over the last 30 years. We now know that all fires are not "bad," and in many instances, fire is a necessary component of certain ecosystems, essential for continued existence of certain species and communities. Thus, we are moving away from a program of total fire exclusion to one that uses wildland fires to accomplish beneficial objectives, restore altered fuel regimes, and complements protection abilities by reducing future fire behavior. In addition, this program maintains a safe, strong, sophisticated, and efficient suppression capability to provide maximum protection where and when needed.

The creation of the Wilderness Act on September 3, 1964, "established a national Wilderness Preservation System to be composed of federally owned areas to be designated by Congress as 'wilderness areas'." This act further directed that these areas, "shall be



administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for gathering and dissemination of information regarding their use and enjoyment as wilderness." Wilderness areas are managed to maintain their natural state and allow nature and natural forces to continue to govern the landscape. Wilderness areas and National Parks serve to preserve wild places and are often viewed as counter to a culture of industrial exploitation of natural resources. Lassen Volcanic NP and the Caribou Wilderness Area are managed consistent with this act and the park enabling legislation.

Fire as a natural process is incorporated into the land and resource management plans for these areas. The Fire Management Plan designs strategies to permit fire to function as a natural process in conjunction with prescribed applications of fire and suppression as needed. Alternative management strategies to fire, such as timber harvesting/fuel removal are not compatible with wilderness area management and do not totally mimic the natural role of fire. In fact, these and other strategies can have detrimental effects to the environment. Studies indicate that while harvesting has similar effects to fire, they are not as complete. Moore (1996) describes the ecological comparison of timber harvesting and natural fire in a discussion of land use ethics in the northern Rocky Mountains by saying, "fires left an more natural aftermath. Thousands of snags remained to shade the earth and provide hosts for birds, insects, small mammals, and fungi needed to renew the forest. The soil was not compacted by skidding machines, nor did roads collect water and generate erosion. Ash and rotting timber released nutrients needed to sustain the productivity of the site."

Wildland fire use is a viable and proven strategy for restoring fire as a natural process in natural environments. This strategy has been applied in California since the early 1970s (Yosemite NP). The value of this program is obvious from the fact that since the 1988 fire season, two federal fire management fire policy reviews and one General Accounting Audit on the progress on restarting the prescribed fire program (GAO 1991) have been conducted, and all three of these evaluations have reaffirmed to value and benefits of natural fire management. Greater application of this strategy is supported and encouraged through the new Federal Wildland Fire Management Policy. The policy states that wildland fire, as a critical natural process, must be reintroduced into the ecosystem across agency boundaries. Furthermore, in the guiding principles upon which the policy is founded are several statements directly related to this topic:

- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process,
- Fire management plans, programs, and activities support land and resource management plans and their importance,
- Fire management plans must be based on the best available science,
- Fire management plans and activities incorporate public health and environmental quality considerations.



Lassen Volcanic National Park and Lassen National Forest Federal have undertaken a challenging and generally, unpopular program. This program seeks to use wildland fire to accomplish resource management goals and objectives. All federal land management agencies must accept new and increasingly more complex challenges pervasive to wildland fire management now and in the future. They must embrace the evolution of fire management to better respond to these challenges. These two administrative units are to be commended for their vision to accept resource management needs, however challenging, and their efforts to develop and implement a wildland fire program that can fulfill resource management and protection needs.

The Huffer Fire represents application of an operable strategy for accomplishing wildland fire use objectives and achieving compliance with the new federal fire policy. Because of the lack of understanding of the objectives of this program, the perception of a lack of management, and differences in operational activities from wildland fire suppression, the public, other organizations, and special interest groups may interpret this fire as a breakdown in or lack of management attention. However, the park and forest did not act irresponsibly, but in fact, fully complied with agency requirements, met planning prerequisites, and developed and implemented an operational plan. They followed the proper process to manage wildland fires for resource benefits. Close review of planning and implementation indicates areas that can be strengthened to promote greater probabilities of success in future endeavors.

This fire, while accomplishing marked resource benefits, did not completely fulfill the original Burn Plan. Although the fire exhibited extreme fire behavior for a short duration, it never breached the original MMA. This fire did meet resource objectives, but this alone is not an indication of success. While the Huffer Fire was unsuccessful in accomplishing the Burn Plan objectives, it is not a failure as a wildland fire or project.

The wildland fire use program in these administration units should not be curtailed or eliminated. This program should be continued and strengthened. Heightened preparedness for future wildland fire use actions will facilitate accomplishments.

The size of the planning area must be a consideration in development of operational actions and evaluation of cost expenditures. As wildland fire use is applied to smaller and smaller management areas, costs can be expected to increase as more mitigating/holding actions are required. It is difficult to compare costs of these actions to past activities due to differing objectives and scope of operations. Fires such as the Huffer Fire represent baseline data for future comparisons as the program expands.

Finally, the cooperation between the two agencies in this area is exemplary. Full collaboration among Federal agencies and between Federal agencies and State, local, and private entities is prerequisite to successful program implementation. The two units should pursue greater information dissemination to their cooperators and stakeholders regarding programmatic objectives.



The new Federal Wildland Fire Management Policy provides opportunities for Federal agencies to consolidate planning efforts, develop uniform procedures, and move toward more effective management. As consolidation and standardization increase, more and more policy and procedural barriers are being removed. Significant advances are occurring in workforce sharing, reducing inconsistency in funding authorities, and reducing management administrative constraints.





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## APPENDIX

### Appendix A: Federal wildland fire policies.

POLICY AREA	POLICY DIRECTION
<b>SAFETY</b>	Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
<b>PLANNING</b>	Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans must be consistent with firefighter and public safety, values to be protected and land and resource management plans and must address public health issues. Fire Management Plans must also address all potential wildland fire occurrences and include the full range of fire management actions
<b>WILDLAND FIRE</b>	Fire as a critical natural process will be integrated into land and resource management plans and activities on a landscape scale, across agency boundaries, and will be based upon best available science. All use of fire for resource management requires a formal prescription. Management actions taken on wildland fires will be consistent with approved Fire Management Plans.
<b>USE OF FIRE</b>	Wildland fire will be used to protect, maintain, and enhance resources and as nearly as possible, be allowed to function in its natural ecological role.
<b>PREPAREDNESS</b>	Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, and equipment.
<b>SUPPRESSION</b>	Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives
<b>PREVENTION</b>	Agencies will work together and with other affected groups and individuals to prevent unauthorized ignition of wildland fires.
<b>PROTECTION PRIORITIES</b>	Protection priorities are (1) human life and (2) property and natural/cultural resources. If it becomes necessary to prioritize between property and natural/cultural resources, this is done based on relative values to be protected, commensurate with fire management costs. Once people have been committed to an incident these resources become the highest value to be protected
<b>INTERAGENCY COOPERATION</b>	Fire management planning, preparedness, suppression, fire use, monitoring, and research will be conducted on an interagency basis with the involvement of all partners.
<b>STANDARDIZATION</b>	Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities
<b>ECONOMIC EFFICIENCY</b>	Fire management programs and activities will be based on economic analyses that incorporate commodity, non-commodity, and social values
<b>WILDLAND/URBAN INTERFACE</b>	The operational role of Federal agencies as a partner in the wildland/urban interface is wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical assistance. Structural fire protection is the responsibility of Tribal, State, and local governments. Federal agencies may assist with exterior structural suppression activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. (Some Federal agencies have full structural protection authority for their facilities on lands they administer and may also enter into formal agreements to assist State and local governments with full structural protection.)
<b>ADMINISTRATOR AND EMPLOYEE ROLES</b>	Employees who are trained and certified will participate in the wildland fire program as the situation demands; employees with operational, administrative, or other skills will support the wildland fire program as needed. Administrators are responsible and will be accountable for making employees available.



## Appendix B-1: Review Team Members

Name	Agency/Home Unit
Tom Zimmerman, chair	National Park Service, National Interagency Fire Center
Dave Bunnell	U.S. Forest Service, National Interagency Fire Center
Sue Husari	U.S. Forest Service, Pacific Southwest Region (R-5)
Craig Dorman	National Park Service, Lava Beds National Monument
Alice Forbes	U.S. Forest Service, North Zone Coordination Center

## Appendix B-2: Review Participants

### Tuesday, September 23, 1997:

Name	Agency/Home Unit
Tom Zimmerman	National Park Service, National Interagency Fire Center
Dave Bunnell	U.S. Forest Service, National Interagency Fire Center
Sue Husari	U.S. Forest Service, Pacific Southwest Region (R-5)
Craig Dorman	National Park Service, Lava Beds National Monument
Marilyn Parris	National Park Service, Lassen Volcanic National Park
Kent Connaughton	U.S. Forest Service, Lassen National Forest
Bryan Swift	National Park Service, Lassen Volcanic National Park
Ken Castro	National Park Service, Lassen Volcanic National Park
Walter Herzog	National Park Service, Lassen Volcanic National Park
Mary McCutcheon	National Park Service, Lassen Volcanic National Park
Judy Forbes	U.S. Forest Service, Lassen National Forest
Nancy Mann	U.S. Forest Service, Lassen National Forest
Rick Addy	U.S. Forest Service, Lassen National Forest
John Stauffer	U.S. Forest Service, Lassen National Forest
Daryl Stockdale	U.S. Forest Service, Lassen National Forest
Mike Madden	U.S. Forest Service, Lassen National Forest
Jeff Withrowe	U.S. Forest Service, Lassen National Forest
Mike Williams	U.S. Forest Service, Lassen National Forest
Pat Kidder	Bureau of Land Management, California State Office
Gary Cardoza	Bureau of Land Management,
Tom Nichols	National Park Service, Pacific West Region
John Kraushaar	National Park Service, Pacific West Region
Holly Bundock	National Park Service, Pacific West Region
Ed Duncan	National Park Service, Yosemite National Park
Willie Thompson	National Park Service, Lava Beds National Monument

### Wednesday, September 24, 1997:

Same participants as above with the following exceptions:

Absent - Gary Cardoza	Bureau of Land Management
Present - Alice Forbes	U.S. Forest Service, North Zone Coordination Center
Present - Garry Oye	U.S. Forest Service, Pacific Southwest Region (R-5)

