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PYROARCHAEOLOGY: NPS FIRE MANAGEMENT AND ARCHAEOLOGY

by

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PYROARCHAEOLOGY: NPS FIRE MANAGEMENT AND ARCHAEOLOGY

"Pyroarchaeology - Those professional archaeological activities needed to inventory, evaluate, and study the archaeological sites and remains which have been impacted as a result of wild fires, fire suppression, controlled burns, and fire aftermath, rehabilitation, and follow-up activities."

Calvin R. Cummings, 1976

INTRODUCTION:

In any given year, dozens of wild-land fires occur in National Park Areas, and in some years, hundreds of wild fires occur. Each year the NPS conducts numerous Prescribed Fires. In each and every instance of both prescribed fire and wild-fire, archaeological resources (sites and remains) are affected. The fire itself, with all of its chemical and physical properties, is the first affecting agent. The second factor, most damaging to archaeological sites, is the direct effect of fire suppression activities. The third impact on archaeological resources are the fire aftermath rehabilitation activities: clean up, removal of fire breaks and fire roads, natural erosion resulting from loss of ground cover, the re-vegetation of burned areas, and follow-up studies.

In spite of many decades of NPS experience with both prescribed fire, wild-fire suppression, and fire rehabilitation activities in Park Areas, relatively little attention has been paid to the impact of fire and related Fire Management activities on archaeological resources.

There have been a few notable exceptions: The "La Mesa Fire" at Bandelier National Monument in 1978 and the "Long Mesa Fire" at Mesa Verde National Park in the 1980's. At both of these fires, Professional Archaeologists were used on the fire lines (both hand crews and heavy equipment crews) to identify and to AVOID the archaeological sites during the fire suppression activities. Both cases were unqualified successes, with almost no damage to the archaeological resources. This is especially striking when compared against damage done to archaeological sites in the numerous fires where archaeologists were not utilized.

The National Park Service has consistently stated [See quotes listed below] that the Agency will meet all legal mandates regarding preservation and treatment of archaeological resources (See: Appendix A). Various guidance documents, like the NPS Management Policies, NPS-28 Cultural Resources Guidelines, and the NPS-18 Fire Management Guidelines, are clear and specific

about the intent of the NPS to fulfill all archaeological requirements.

"The National Park Service will not take or allow any action that reduces the research potential of cultural resources without an appropriate level of research and documented data recovery." [NPS Management Policies, Chapter 5:3]

"The paramount considerations of each park fire management program will be:

- * The protection of Life, both employee and public.
- * The protection of property and cultural resources.
- * The perpetuation of natural resources and their associated processes.
- * The perpetuation of cultural and historic scenes,"
[NPS-18 Wildland Fire Management Guidelines,
Section I, Page 3]

However, the mechanisms for meeting these requirements have not been defined, implemented, and institutionalized in NPS Fire Management Programs. Specific funds and staff have never been requested or allocated for the identification, preservation, and treatment of archaeological resources in NPS Fire Management functions.

The NPS Wildland Fire Management Program (Structural Fire is a separate category) has four functional areas where the NPS Archaeological Program has MAJOR concerns. Each of the three "action" functions (Wildland Fire Suppression, Rehabilitation after Wild Fire, and Prescribed Fire) has the very high potential for damaging or destroying archaeological remains.

The practicality of including major archaeological elements into these three Fire Management functions appears to mostly be limited to the Western United States, including Alaska and Hawaii. This is due to the heavy vegetative cover in most of the Eastern Parks and the fact that most of the prehistoric archaeological remains in the East are not obvious. However, there is a much higher incident of Historic Archaeological remains in Eastern Parks.

The single most limiting factor in insuring the preservation and appropriate management of archaeological remains with Fire Management activities is the lack of archaeological surveys of park lands. Less than ten percent (some studies report only 2%) of the total acreage of the National Park System has been archaeologically inventoried and evaluated. In most cases, the

NPS does not know what archaeological resources exist on most NPS lands, or how many sites, or what those resources represent.

BACKGROUND

In the late 1970's the U.S. Archaeological Community began to express an interest in the effects of Wild-fire on archaeological remains. Most Federal and State Agencies did not include any kind of archaeological activity within their Fire Management functions. There were a few exceptions. Of note were two large forest fires in the Southwestern United States.

The "La Mesa Fire" at Bandelier National Monument which occurred in 1977. For the first time ever, archaeologists were used on the fire lines during the suppression activities to avoid archaeological sites. As a result only two sites were minimally damaged by the suppression activities, both before archeologist could arrive on the scene. A sad footnote, 18 sites were damaged by the rehabilitation efforts after the fire, when no archaeologists were present. The Southwest Cultural Resources Center, National Park Service, then conducted extensive post-fire studies.

The "Radio Fire" on Mount Eldon in the Coconino National Forest near Flagstaff, Arizona occurred also in 1977. Forest Archeologist Peter Piles conducted aftermath studies of the impact of that fire on archaeological remains.

In the 1980's the number of "Pyroarchaeology" studies increased markedly, accomplished by professionals in both the U.S. Archaeological Community and with a number of Federal Agencies, including the National Park Service. The most comprehensive and extensive study accomplished to-date involved the "Long Mesa Fire" in 1989 at Mesa Verde National Park. For a second time archaeologists were used on the fire lines during the suppression activities to avoid archaeological sites.

During the period of 1987 to 1991, the Management Control Review of the Park Archaeology Program was conducted. In this study every aspect of NPS operations were analyzed to determine how effectively the various archaeological requirements were being integrated into the various functions and activities. The MCR included an evaluation of the NPS Fire Management Program, and the findings were very discouraging. There were almost no mechanisms in place to consistently provide for the protection of archaeological remains in the functions of NPS Wildland Fire Pre-Suppression Planning, Wildland Fire Suppression,

Rehabilitation after Wild Fire, and Prescribed Fire. (See: Appendix B)

While the Management Control Review of the Park Archaeology Program did result in a Budget Initiative for Archaeological Surveys of NPS lands, the amount finally appropriated fell far short of meeting all of the Service needs. As an example, no priority was given to survey of lands to be impacted by Prescribed Fire.

In the late 1980's and early 1990's, only Western Region seemed to be making a consistent effort to address Archaeology in NPS Fire Management activities and functions.

With requests for fire rehabilitation funds for archeological resources rehabilitation preservation following wildfire on the increase, it was necessary to assure these requests for are within the scope of the authorization for use of fire rehabilitation funds. Guidance was needed, and parameters required, to specifically identify valid archeological activities to be funded under the special fire funding authorization. Alternative funding sources need to be identified, to supplement or replace fire program funds from more appropriate other fund sources. Since "rehabilitation" is the tail end of the NPS Fire Management Program, planning is still needed to incorporate the archeological mandates into the entire program, starting at the front end.

This led to a request by the Associate Director, Operations (WASO), dated November 1992, for the development of Archaeological Standards and Guidelines in using emergency rehabilitation funds for protection and rehabilitation of cultural and archeological sites and remains after a wildfire. A December 2, 1992 meeting was held in Washington D.C. with archaeology being represented by Senior Archeologist Craig Davis. A Task Group of NPS Archaeologists and Fire Managers convened June 2-3, 1993 to develop the needed standards and guidelines for Emergency Archeological Rehabilitation after Wildfire.

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George Smith, Staff Archeologist, Southeast Archeological Center

Dr. Jack Smith, Archeologist, Mesa Verde National Park

Charisse Sydoriak, Resource Management Specialist, Bandelier

National Monument

Mike Warren, Fire Management Officer, Sequoia and Kings Canyon

National Parks

The Draft Archaeological Standards and Guidelines for Emergency Archeological Rehabilitation after Wildfire were turned over to the NPS Fire Management officials at the Boise Interagency Fire Center. Unfortunately, that entire effort died in the ensuing three years of massive effort to restructure, streamline, and reorganize the National Park Service.

FIRE MANAGEMENT FUNCTIONS:

Planning - Pre-suppression:

Planning is the most critical function within the NPS Wildland Fire Management Program to begin dealing with archaeological concerns. If all of the archaeological requirements are addressed in every Park Fire Management Plan, and in each Region's planning, the probable damage and destruction of archaeological site during fire management operations would be significantly lessened. Existing NPS guidelines for Fire Management Pre-suppression Planning do not insure that archaeological requirements are being adequately considered, if at all.

Wild-Fire Suppression:

Wild-Fire Suppression activities in areas of the NPS currently are conducted without any consideration to their effect on the Archaeological and Cultural Resources. Heavy equipment fire

breaks and hand lines frequently damage or destroy archaeological remains. In the "Archaeological Parks" in the Western United States this should never happen again - given the Bandelier and Mesa Verde examples.

Rehabilitation After Wild-Fire:

The function of Rehabilitation After Wild-Fire is more damaging to Archaeological and Cultural Resources than are the effects of Wild-Fire and Wild-Fire Suppression activities. The Rehabilitation efforts often expand the area covered by a narrow hand line or a bulldozer fire brake by many times. Again, most Rehabilitation After Wild-Fire activities in areas of the NPS currently are conducted without any consideration to their effect on the Archaeological and Cultural Resources.

Prescribed Fire:

"Prescribe Fire", in it's various forms, is a planned management activity. As such, it is possible to program appropriate archaeological survey and evaluation funds several years in advance of any given "Prescribe Fire".

Post Fire Research:

Post fire research is an Archaeological Program focus, not necessarily a responsibility of the NPS Wildland Fire Management Program. Most fire aftermath research extends far beyond the scope of the Fire Management activities of Wildland Fire Suppression, Rehabilitation after Wild Fire, and Prescribed Fire. Such studies should be funded from archaeological program accounts, not from "Fire Pro" funds.

RECOMMENDED CORRECTIVE ACTIONS:

PLANNING - PRE-SUPPRESSION

1. Draft specific Archaeological Standards and Guidelines to provide guidance for Fire Management functions in the areas of Pre-suppression and general Fire Management planning.
2. Revise the NPS-18 Fire Management Guidelines to completely and adequately address archaeological requirements.
3. Revise other appropriate specific NPS directives and management documents (eg: NPS Management Policies, NPS-28 Cultural Resources Guidelines) to modify functional and activity areas with corrective actions to be taken.
4. Draft specific guidance to insure that every Park Fire Management Plan adequately addresses the archaeological concerns.
5. Design and implement a System-wide program to Track the actions and activities in both General and Park specific Fire Management planning.
6. Design and implement a System-wide program to Monitor Regional compliance in addressing archaeological requirements

for General and Park specific Fire Management planning, and maintain a central documentation file.

7. Fund, design, and Institute a Service-wide Archaeological Survey program to locate and evaluate Archaeological Resources in Parks with a high Wildfire record, and in Parks with identified high risk to archaeological resources.

8. Establish a central Archaeological Emergency Response Center to provide coordination functions in Fire Management, and other park emergency situations.

WILD-FIRE SUPPRESSION

1. Draft specific Archaeological Standards and Guidelines to provide detailed guidance for the Fire Management functions in Wild-fire suppression.

2. Develop supporting professional Archaeological staff and infrastructure capabilities, including;

a. Fire training for NPS Archaeologists (Red Card) for fire suppression avoidance of Archaeological resources;

b. Command staff training for Supervisory level Archaeologists (Red Card) for fire suppression support functions (technical advice).

3. Establish a number of Fund sources to support the Archaeological functions in Wild-fire suppression activities.

4. Design and implement a System-wide program to Track the actions and functions of Wild-fire suppression activities.

5. Design and implement a System-wide program to Monitor Regional compliance in addressing archaeological requirements during Wild-fire suppression activities, and maintain a central documentation file.

REHABILITATION AFTER WILD-FIRE

1. Draft specific Archaeological Standards and Guidelines to provide detailed guidance for the Fire Management functions in Rehabilitation after Wild-fire suppression.

2. Develop supporting professional Archaeological staff and infrastructure capabilities to support Rehabilitation after Wild-fire suppression.

3. Establish a number of Fund sources to support the archaeological activities involved with Rehabilitation after Wild-fire suppression.

4. Design and implement a System-wide program to Track the actions and activities of Rehabilitation after Wild-fire suppression functions.

5. Design and implement a System-wide program to Monitor Regional compliance in addressing archaeological requirements during Rehabilitation after Wild-fire suppression activities, and maintain a central documentation file.

PRESCRIBED FIRE

1. Draft specific Archaeological Standards and Guidelines to provide detailed guidance for the Fire Management functions in Prescribed Fire.
2. Develop supporting professional Archaeological staff and infrastructure capabilities to support Prescribed Fire functions.
3. Establish a number of Fund sources to support the archaeological activities involved with Prescribed Fire functions.
4. Fund, design, and Institute a Service-wide Park Archaeological Survey program to locate and evaluate Archaeological Resources in areas designated for Prescribed Fire.
5. Design and implement a System-wide program to Track the actions and activities of Prescribed Fire functions.
6. Design and implement a System-wide program to Monitor Regional compliance in addressing archaeological requirements during Prescribed Fire activities, and maintain a central documentation file.

POST FIRE RESEARCH

1. Draft specific Archaeological Standards and Guidelines to provide detailed guidance for Post Fire Archaeological Research.
2. Develop supporting professional Archaeological staff and infrastructure capabilities for Post Fire Archaeological Research.
3. Establish a number of Fund sources to support Post Fire Archaeological Research.

END

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END

APPENDIX A

PARK ARCHAEOLOGY: MISSION STATEMENT AND PROGRAM OBJECTIVES

Reference: 1990 Control Evaluation Report: Service-wide Park System Archaeology Program, by Calvin R. Cummings and Douglas H. Scovill, Page 1, National Park Service, Anthropology Division, June 1990. (file reference ICR9 3-19-90)

PROGRAM MISSION: To insure that the Archaeological Resources in Areas administered by the National Park Service are Conserved, Protected, and Managed for appropriate Public enjoyment and long term Scientific Research.

PROGRAM OBJECTIVES:

1. To provide a systematic, Service-wide Archaeological Research Program to locate, inventory, identify, evaluate, and document the nature, extent, condition, threats, and significance of Park Archaeological Resources;
2. To protect Park Archaeological Resources from vandalism and looting;
3. To minimize any Adverse effects on the Park Archaeological Resources from NPS operational, development, visitor use, and resource management activities;
4. To preserve the Park Archaeological Resources in a stable condition to prevent the loss of research values or In-Situ exhibit potential;
5. To recover and document significant Archaeological Data that would otherwise be lost as a result of operational, development, maintenance, resources management, and visitor use activities, or as a result of natural processes;
6. To develop and monitor the implementation of NPS Policies, Laws, Regulations, Guidelines, Standards, and Directives for the conservation, protection, and management of Archaeological Resources;
7. To insure that Research involving physical intervention into Park Archaeological Resources is based on conservation principles and professional standards, and is essential to achievement of significant research goals;
8. To disseminate and communicate the results of NPS Archaeological Research to the National Park Service (operations, development, maintenance, resources management, and

visitor use activities), to the Professional Community, to Constituents, and to the Public;

9. To systematically monitor and document the condition of, and threats to, Archaeological Resources throughout the System;

10. To identify and document funding requirements for each NPS activity affecting the conservation, protection, and management of Park Archaeological Resources;

11. To promote cooperative relationships with recognized Educational and Scientific Institutions to encourage them to direct their research toward Park Management Objectives;

12. To develop, apply, and improve appropriate technologies and methodologies for discovering, documenting, monitoring, and protecting Park Archaeological Resources.

*** END ***

APPENDIX B

Reference: NPS Functions Analysis - Preliminary 1990 Control Evaluation Report: Service-wide Park System Archaeology Program, by Calvin R. Cummings, Pages 39-46, National Park Service, Anthropology Division, May 3, 1990. (file references: ICR9, ICR17 (B & C) and ICRFIRE.)

CONTROL EVALUATION REPORT

Bureau/Office: National Park Service, Anthropology Division
Component: PARK Archaeology
Responsible Official: Douglas H. Scovill, Chief Anthropologist
Date: May 3, 1990

IDENTIFIED CONTROL WEAKNESSES - IV. NATURAL RESOURCE MANAGEMENT

IV-5. Development, Review, and Revision of NPS-18 Fire Management Guidelines

Type of Weakness: Systemic and Compliance

1. The current Control Technique for development, revision, and promulgation of the NPS-18 Fire Management Guidelines do not provide reasonable assurances that requirements of the Park Archaeology Component will be incorporated into the Guidelines.
2. The current the NPS-18 Fire Management Guidelines, which are the principle Control Technique for the NPS Fire Management function, fails to provide reasonable assurances that the requirements of the Park Archaeology Component will be incorporated into all subsequent NPS Fire Management activities.
3. The expedience of obtaining functional review and comments on Planning and operational documents by using the "Central Office Review Table" form only works when an "affected office" has the staff, time, or interest.
4. There is No System-wide program for monitoring Regional compliance and a central documentation file does not exist.
5. No standards exist for assessing the efficiency or adequacy of archaeological data for inclusion into Park Fire Management Plans or Programs and there is no mechanism to insure that such data exists prior to starting the process.

PROPOSED CORRECTIVE ACTIONS:

Institute a new set of Control Techniques for development, revision, and promulgation of NPS-18 Fire Management Guidelines that meet the following requirements:

- * define when reviews and revisions should occur;
- * define what disciplines are relevant to the review and revision;
- * define standards for meeting the legal and regulatory Park Archaeology requirements in the NPS Planning process;
- * insure that the requirements of the Park Archaeology Component are incorporated into the Guidelines;
- * define which offices should be consulted, provide comments, and concur (clear) in the issuance of the Guideline;
- * insure that the Park Archaeology Program is a required reviewing office;
- * define standards for consideration of review comments;
- * define process for reconciliation of differences between commentors and originating office;
- * define system of recordation under which reviewer comments are accepted, modified, or rejected;
- * define recordation system for concurrence by "affected offices" for promulgation of Final Guideline.
- * insure that a System-wide program for monitoring Regional compliance is developed and functions, and that a central documentation file is maintained.

CONTROL EVALUATION REPORT

Bureau/Office: National Park Service, Anthropology Division
Component: PARK Archaeology
Responsible Official: Douglas H. Scovill, Chief Anthropologist
Date: May 3, 1990

IDENTIFIED CONTROL WEAKNESSES - IV. NATURAL RESOURCE MANAGEMENT

IV-6. Natural Resource Management: Park Fire Management Plan.

Type of Weakness: Systemic and Compliance

1. The current Control Technique for the development or revision of Park Fire Management Plans do not provide reasonable assurances that requirements of the Park Archaeology Component will be incorporated.
2. The current NPS-18 Fire Management Guidelines, which are the principle Control Technique for the NPS Planning function, fails to provide reasonable assurances that the requirements of the Park Archaeology Component will be incorporated into all Park Fire Management Plans.
3. The Control Techniques stipulated in the September 11, 1981 Programmatic Memorandum of Agreement has not been uniformly implemented in procedures followed by the National Park Service in the development or revision of Park Fire Management Plans.
4. The expedience of obtaining functional review and comments on Planning and operational documents by using the "Regional Office Review Table" form only works when an "affected office" has the staff, time, or interest.
5. The Associate Director, Cultural Resources, WASO, is responsible for monitoring Regional compliance and for maintaining a central documentation file, but such a monitoring program does not exist and there is no central documentation file.
6. No standards exist for assessing the efficiency or adequacy of archaeological data for inclusion into Park Fire Management Plans and there is no mechanism to insure that such data exists prior to starting the process.

PROPOSED CORRECTIVE ACTIONS:

Institute a new set of Control Techniques for development or the revision Park Fire Management Plans that meet the following requirements:

- * insure reviews and revisions occur as specified;
- * define what disciplines are relevant to the review and revision;
- * define standards for meeting the legal and regulatory Park Archaeology requirements in the NPS Planning process;
- * insure that the requirements of the Park Archaeological Resources Component are incorporated into the Park Fire Management Plans;
- * define which offices should be consulted, provide comments, and concur (clear);
- * insure that the Stipulations of the Programmatic Memorandum of Agreement are met;
- * insure that the Component of Park Archaeology a required reviewing office;
- * define standards for consideration of review comments;
- * define process for reconciliation of differences between commentators and originating office;
- * define system of recordation under which reviewer comments are accepted, modified, or rejected;
- * define recordation system for concurrence by "affected offices" for promulgation of Final Park Fire Management Plans;
- * insure a System-wide program for monitoring Regional compliance and a central documentation file.

CONTROL EVALUATION REPORT

Bureau/Office: National Park Service, Anthropology Division
Component: PARK Archaeology
Responsible Official: Douglas H. Scovill, Chief Anthropologist
Date: May 3, 1990

IDENTIFIED CONTROL WEAKNESSES - IV. NATURAL RESOURCE MANAGEMENT

IV-7. Natural Resource Management: Wildfire Prevention and Suppression.

Type of Weakness: Systemic and Compliance

1. The current Control Techniques for Park Wildfire Prevention and Suppression programs and activities do not provide reasonable assurances that requirements of the Park Archaeology Component will be incorporated.
2. The current NPS-18 Fire Management Guidelines which are the principle Control Technique for the NPS Wildfire Prevention and Suppression programs and activities, fails to provide reasonable assurances that the requirements of the Park Archaeology Component will be incorporated into such Park functions.
3. The Control Techniques stipulated in the Programmatic Memorandum of Agreement has not been uniformly implemented in procedures followed by the National Park Service in the development of Wildfire Prevention and Suppression programs and activities.
4. The Major Control Techniques for all National Park Service activities, programs, and functions, as stipulated in NPS-28 Cultural Resource Management Guidelines, are not addressed in Park Wildfire Prevention and Suppression programs and activities.
5. Archaeologists are not being trained and "Fire Qualified" for use in Wildfire suppression activities to avoid archaeological sites and prevent damage and destruction of archaeological resources;
6. The expedience of obtaining functional review and comments on Planning and Operational documents by using the "Review

Table" form only works when an "affected office" has the staff, time, or interest.

7. There is No System-wide program for Tracking actions and activities in this program or function area.

8. There is No System-wide program for Monitoring Regional compliance and for maintaining a central documentation file.

9. No standards exist for assessing the sufficiency or adequacy of archaeological data for inclusion into Park Wildfire Prevention and Suppression programs and activities and there is no mechanism to insure that such data exists prior to starting the process.

PROPOSED CORRECTIVE ACTIONS:

Institute a new set of Control Techniques for Park Wildfire Prevention and Suppression programs and activities that meet the following requirements:

- * insure reviews and revisions occur as specified;
- * insure archaeologists are trained and "Fire Qualified" for use in Wildfire suppression activities;
- * define what disciplines are relevant to the program review and revision;
- * define standards for meeting the legal and regulatory Park Archaeology requirements;
- * insure that the requirements of the Park Archaeological Resources Component are incorporated into all Park Wildfire Prevention and Suppression programs;
- * define which offices should be consulted, provide comments, and concur (clear);
- * insure that the Stipulations of the Programmatic Memorandum of Agreement are met;
- * insure that the Stipulations in NPS-28 Cultural Resource Management Guidelines are met;
- * insure that the Stipulations in the Archaeology Technical Supplement of NPS-28 Cultural Resource Management Guidelines are met;
- * insure that the Component of Park Archaeology a required reviewing office;
- * define standards for consideration of review comments;
- * define process for reconciliation of differences between commentors and originating office;
- * define system of recordation under which reviewer comments are accepted, modified, or rejected;
- * define recordation system for concurrence by "affected offices" for promulgation all Park Wildfire Prevention and Suppression programs;
- * insure a System-wide program to Track the actions and activities in this program or function area;

* insure a System-wide program to Monitor Regional compliance and maintain a central documentation file.

CONTROL EVALUATION REPORT

Bureau/Office: National Park Service, Anthropology Division
Component: PARK Archaeology
Responsible Official: Douglas H. Scovill, Chief Anthropologist
Date: May 3, 1990

IDENTIFIED CONTROL WEAKNESSES - IV. NATURAL RESOURCE MANAGEMENT

IV-8. Natural Resource Management: Prescribed Fires.

Type of Weakness: Systemic and Compliance

1. The current Control Techniques for Park Prescribed Fire programs and activities do not provide reasonable assurances that requirements of the Park Archaeology Component will be incorporated.
2. The current NPS-18 Fire Management Guidelines which are the principle Control Technique for the NPS Prescribed Fire programs and activities, fails to provide reasonable assurances that the requirements of the Park Archaeology Component will be incorporated into such Park functions.
3. The Control Techniques stipulated in the Programmatic Memorandum of Agreement has not been uniformly implemented in procedures followed by the National Park Service in the development of Prescribed Fire programs and activities.
4. The Major Control Techniques for all National Park Service activities, programs, and functions, as stipulated in NPS-28 Cultural Resource Management Guidelines, are not addressed in Park Prescribed Fire programs and activities.
5. Prescribed Fire aftermath studies and recovery programs usually do not include investigation on the effects of fire on archaeological sites, nor consider archaeological resources during re-vegetative efforts;
6. The expedience of obtaining functional review and comments on Planning and Operational documents by using the "Review Table" form only works when an "affected office" has the staff, time, or interest.

7. There is No System-wide program for Tracking actions and activities in this program or function area.

8. There is No System-wide program for Monitoring Regional compliance and NO central documentation file.

9. No standards exist for assessing the sufficiency or adequacy of archaeological data for inclusion into Park Prescribed Fire programs and activities and there is no mechanism to insure that such data exists prior to starting the process.

PROPOSED CORRECTIVE ACTIONS:

Institute a new set of Control Techniques for Park Prescribed Fire programs and activities that meet the following requirements:

- * insure reviews and revisions occur as specified;
- * define what disciplines are relevant to the program review and revision;
- * define standards for meeting the legal and regulatory Park Archaeology requirements;
- * insure that the requirements of the Park Archaeological Resources Component are incorporated into all Park Prescribed Fire programs;
- * define which offices should be consulted, provide comments, and concur (clear);
- * insure that the Stipulations of the Programmatic Memorandum of Agreement are met;
- * insure that the Stipulations in NPS-28 Cultural Resource Management Guidelines are met;
- * insure that the Stipulations in the Archaeology Technical Supplement of NPS-28 Cultural Resource Management Guidelines are met;
- * insure that the Component of Park Archaeology a required reviewing office;
- * define standards for consideration of review comments;
- * define process for reconciliation of differences between commentors and originating office;
- * define system of recordation under which reviewer comments are accepted, modified, or rejected;
- * define recordation system for concurrence by "affected offices" for promulgation all Park Prescribed Fire programs;
- * insure a System-wide program to Track the actions and activities in this program or function area;
- * insure a System-wide program to Monitor Regional compliance and maintain a central documentation file.

APPENDIX C

FIRE MANAGEMENT PRINCIPLES AND STANDARDS

Reference: Wildland Fire Resource Advisor's Task Book, Pages 4 and 5, National Park Service, Western Region, San Francisco, 1992.

NPS-18 Fire Management Guidelines (1990) and the NPS Management Policies (1988) contain the principles and standards which are the foundation of the Service-wide Fire Management Program.

A. All wild fires (except structural) are to be classified as either a Wildfire or Prescribed Fire.

B. A Wildfire must have appropriate action taken to suppress it. Appropriate actions will be based upon the preplanning considerations within an Approved Park Fire Management Plan and must be commensurate with stated land management objectives and the threat to life and property. The National Park Service subscribes to three different fire suppression strategies (NPS-18, Section III, Chapter 8, Page 2):

1. Confine: To restrict a wildfire within determined boundaries, established either prior to, or during, the fire. These identified boundaries will confine the fire with no action taken to put the fire out.

2. Contain: To restrict a wildfire to a defined area, using a combination of natural and constructed barriers that will stop the spread of the fire under the prevailing and forecasted weather conditions, until out.

3. Control: To aggressively fight a wildfire through the skillful use of personnel, equipment, and aircraft to establish fire lines around the fire to halt the spread and to extinguish all hot spots.

C. Fire suppression actions must be planned and executed to minimize suppression costs and resource loss, consistent with management objectives.

D. All Burned Areas are to be evaluated and analyzed for rehabilitation needs as a critical element of the suppression process. General Rehabilitation Policy is stated in NPS-18, Section III, Chapter 8, Pages 6 and 7. Based on the rehabilitation objectives, there are two types of funding available:

1. Short Term Rehabilitation:

This rehabilitation is conducted in accordance with a rehabilitation plan prepared jointly by the Park Wildland Fire Resource Advisor and the Fire Management Officer, and is approved by the Park Superintendent. Typically, all rehabilitation is implemented and completed as a part of the fire suppression process and conducted under the supervision of the fire overhead team and/or Incident Commander. In general, most of these activities will be charged to the appropriate PWE 382 suppression account. All short term rehabilitation must be completed within two weeks of the date the fire is declared controlled.

2. Long Term Rehabilitation:

This rehabilitation is conducted in accordance with a rehabilitation plan prepared usually by a Rehabilitation Team dispatched to the Fire scene. These efforts should be started during the suppression phase on large fires to minimize the impacts by the suppression activities. Rehabilitation described in this plan is typically implemented and completed following immediate post-fire rehabilitation and the closure of the appropriate PWE 382 suppression account. Long term rehabilitation plans must be reviewed at the Regional level and approved by the Boise Interagency Fire Center (BIFC) in order to utilize emergency wildfire rehabilitation PWE 385 funds.

Long term rehabilitation plans are implemented under the park authority of the Park Superintendent, in conjunction with the Fire Management Officer, and supervised by the Park Wildland Fire Resource Advisor. The Park Wildland Fire Resource Advisor is to be a member of the Rehabilitation Team responsible for developing the Plan. Only under rare circumstances will long term rehabilitation be approved for a period to extend two full growing seasons following the fire. Actions extending beyond two growing seasons cannot be funded through PWE 385.

*** END ***

APPENDIX D

WILDLAND FIRE MANAGEMENT OBJECTIVES

Reference: NPS-18 WILDLAND FIRE MANAGEMENT GUIDELINE, Section II, Chapter 2, Page 1, National Park Service, Washington, D.C. Release Number 3, June 1 1990.

The objectives of the wildland fire management program are to:

1. Protect human life and property both within and adjacent to park areas.
2. Perpetuate, restore, replace or replicate natural processes to the greatest extent practicable.
3. Protect natural and cultural resources and intrinsic values from unacceptable impacts attributable to fire and fire management activities.
4. Manage all forms of wildland fire (wildfire, prescribed natural fire, prescribed fire) to achieve identified management goals.
5. Promote an interagency approach to managing fires on an ecosystem basis.
6. Employ strategies to suppress all wildfire which minimize costs and resource damage, consistent with values at risk.
7. Prevent unplanned human-caused ignitions.
8. Restore and rehabilitate facilities lost in or damaged by fire or suppression activities.
9. Minimize and, where necessary, mitigate human-induced impacts to resources or natural processes attributable to wildfire or suppression activities.
10. Promote public understanding of fire management programs and objectives.
11. Conduct fire management programs in a manner consistent with applicable laws, policies and regulations.
12. Organize and maintain a fire management capability which consistently applies the highest standards of professional and technical expertise.
13. Encourage research to advance understanding of fire behavior, effects, ecology, and management.
14. Integrate fire management with all other aspects of park management.
15. Manage all wildfire using the Incident Command System.

*** END ***

APPENDIX E

NPS POLICY - Applicable to NPS Fire Management Program

Reference: NPS Management Policies, National Park Service, Washington, D.C., December 1988.

"Adherence to Policy will be mandatory unless waived or modified by the appropriate authority. Service-wide Policy may be waived only by the Secretary, Assistant Secretary, or the Director." [NPS Management Policies, Foreword:ix]

"It is the NPS Policy to treat potential impairments in the same manner as known impairments. When there is thought to be potential for resource impairment, actions will be based on strategies that retain the resource in an unimpaired condition until such time as doubts are resolved. For example: if a development might impair a park resource, the development will be postponed or reconfigured until it can be established whether "might" is "will" or "will not", within reasonable limits of certainty. Absent that assurance, the action will not be taken." [NPS Management Policies, Chapter 1:4]

INFORMATION BASE. "Sufficient information will be available prior to initiating a plan. Each park will develop, gather, compile, store, analyze, and update information about natural and cultural resources and regional demographic, ethnographic and socioeconomic data relevant to planning and management. These data will serve as an information base for formulating proposals, evaluating alternatives, and making decisions during planning." [NPS Management Policies, Chapter 2:5]

"Acquisition of adequate information for planning and management decisions will be a prerequisite to the allocation of planning funds. Parks and Regions will work together to ensure that information gathering projects needed for plans scheduled to begin in two to five years are programmed and funded." [NPS Management Policies, Chapter 2:5]

PLANNING TEAM. "The Team will include specialists with the expertise to address the park specific planning concerns." [NPS Management Policies, Chapter 2:6]

RESOURCE IDENTIFICATION, EVALUATION, AND REGISTRATION. "The National Park Service will identify and evaluate the cultural resources of each park as required parts of the park's information base." [NPS Management Policies, Chapter 5:1]

EVALUATION AND CATEGORIZATION. "To assist in management decisions about the treatment and use of Cultural Resources, all resources will be professionally evaluated and categorized according to criteria of significance established by the National Park Service and listed in the NPS-28, Cultural Resources Management Guideline." [NPS Management Policies, Chapter 5:1]

RESEARCH. "Adequate research to support planning and legal compliance will precede any final decisions about the preservation or treatment of cultural resources, or about park development or operational activities that might affect cultural resources. Research needs will be identified and justified in an approved Park Resource Management Plan." [NPS Management Policies, Chapter 5:2]

PRESERVATION OF DATA. "The National Park Service will not take or allow any action that reduces the research potential of cultural resources without an appropriate level of research and documented data recovery." [NPS Management Policies, Chapter 5:3]

PLANNING AND PROPOSAL FORMULATION. "Any action that might affect cultural resources will be undertaken only if it meets ALL of the following criteria:

- * The action is consistent with the park's purposes and applicable NPS Policies and Guidelines."
- * Cultural resource specialists have participated in planning, and sufficient data have been gathered to assess the probable effects."
- * Relevant sections of the National Historic Preservation Act have been complied with in accordance with the regulations of the Advisory Council on Historic Preservation (36 CFR 800) and the Guidelines for Federal Responsibilities under Section 110 of the National Historic Preservation Act (FR 53:4728)." [NPS Management Policies, Chapter 5:4]

*** END ***

APPENDIX F

FEDERAL CULTURAL RESOURCE AND ARCHAEOLOGICAL LAWS

The Antiquities Act of 1906 (34 Stat. 225, 16 USC 431-433, P.L. 59-209) June 8, 1906.

The Historic Sites Act of 1935 (49 Stat. 666, 16 USC 461-467, P.L. 74-292) August 21, 1935.

Executive Order No. 11593 "Protection and Enhancement of the Cultural Environment" of 1971 (3 CFR 154, reprinted in 16 USC 470) May 13, 1971.

The Historical and Archeological Data Preservation Act of 1974 (88 Stat. 174, 16 USC 469, P.L. 93-291) May 24, 1974.

The National Historic Preservation Act of 1966 (P.L. 89-665, 80 Stat. 915, 16 USC 470) October 15, 1966. As amended by: P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, P.L. 96-199, P.L. 96-244, P.L. 96-515 (94 Stat. 2987), P.L. 98-483, P.L. 99-514, P.L. 100-127, and P.L. 102-575 (1992).

The National Environmental Policy Act of 1969 (83 Stat. 852, 42 USC 4321-4347, P.L. 89-665) January 1, 1970.

The Archeological Resources Protection Act of 1979 (93 Stat. 721, 16 USC 470, P.L.96-95) October 31, 1979.

Associated Federal Regulations:

43 CFR, Subtitle A, Part 3 - The Preservation of American Antiquities: Regulations supporting the Antiquities Act of 1906, (19 FR 8838, Dec. 23, 1954).

43 CFR, Part 7 - Protection of Archaeological Resources: Uniform Regulations, supporting the Archeological Resources Protection Act of 1979, (49 FR 1027, Jan. 6, 1984, 49 FR 5923, Feb. 16, 1984).

36 CFR, Part 800 - Protection of Historic Properties: Regulations of the Advisory Council on Historic Preservation Governing the Section 106 Review Process, effective October 1, 1986.

Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines as published in the FEDERAL REGISTER, Vol. 48, No. 190, pages 44716-44740, Thursday, September 29, 1983, effective September 29, 1983 (48 FR 44716).

Guidelines For Federal Agency Responsibilities Under Section 110 of the National Historic Preservation Act as published in the FEDERAL REGISTER, Vol. 53, No. 31, pages 4727-4746, Wednesday, February 17, 1988, (53 FR 4727).

*** END ***